

# Accounting for Nature Corporate Natural Capital Account

January 2024

# Contents

	<b>Introduction</b>	<b>1</b>
<b>1</b>	<b>The North West environment</b>	<b>2</b>
<b>2</b>	<b>A natural capital journey</b>	<b>5</b>
	North West Regional Natural Capital Account 2021	<b>6</b>
	Natural Capital North West Governance Group	<b>8</b>
	Task Force on Nature-related Financial Disclosures (TNFD): Risk and opportunity	<b>8</b>
<b>3</b>	<b>Natural capital balance sheet</b>	<b>9</b>
<b>4</b>	<b>How we use natural capital accounting</b>	<b>12</b>
	<b>Climate resilience</b>	<b>13</b>
	Carbon sequestration and air quality regulation	<b>13</b>
	Timber	<b>15</b>
	<b>Resilient water supply</b>	<b>16</b>
	Water supply	<b>16</b>
	<b>Serving the community</b>	<b>20</b>
	Recreation, tourism and physical health	<b>20</b>
	Food provision	<b>21</b>



# Introduction

## Our purpose is to provide great water for a stronger, greener, and healthier North West.

As a water company, managing the natural capital we depend upon is particularly important. This is our first published natural capital account report for land owned and managed as part of our operations, capturing the key benefits supported by our land assets and the costs associated with maintaining these. To produce this report we worked with an environmental economics consultancy, eftec, which leads in natural capital accounting. Our report demonstrates how learning from natural capital accounting influences our business decisions and through case studies, we have presented how our investments into environmental improvement have an impact on the value of natural capital.

The natural capital account report is broken down into the following sections:

- **Asset register** – a register of all natural capital assets within the boundary of the account. It forms the foundation of the account and records both the extent and condition of our owned land assets.
- **Physical flow account** – quantifying the benefits that the assets deliver in physical terms. The changes in the quantity and/or quality of the assets and their benefit provision over time are also shown.
- **Monetary flow account** – which estimates the economic value of the benefits in monetary terms and discounts the projected future flow of these benefits to provide the present value for the assets. This uses data from actual markets and other (non-market) values. The value of the benefit is the net of the cost of producing the benefit, where possible.
- **Natural capital balance sheet** – a breakdown of benefits and costs, and their distribution to different beneficiary groups.

We first produced a Corporate Natural Capital Account in 2018, to baseline natural capital value of the land we own in the North West region. This account assessed several ecosystem service benefits such as water supply, timber, renewable energy, carbon sequestration, and recreation. Over the past five years there have been many advances in the methodology of assessing natural capital, this is reflected in our 2023 Corporate Natural Capital Account where we expanded our analysis to include additional ecosystem services such as water quality, physical health, and tourism.

As a water company nature is at the heart of our business. We are wholly reliant upon the environment beyond our own natural assets. To obtain a full picture of our impacts and dependencies on natural capital assets across the region, we commissioned a North West Regional Natural Capital Account in 2021. We worked in collaboration with representatives from local government, land owners, regulators and NGOs.

Each of our natural capital account reports will be utilised to support future decision making and to monitor and track the value we deliver through our activities. We will continue to seek to evolve our methodologies across the board in line with best practice.

As recommended by the British Standard 8632:2021 Natural Capital Accounting for Organizations, the scope of the account was evaluated to consider the flow of benefits and aimed to answer five main questions.

1. **What sites do we own and/or manage?**
2. **What benefits do they provide and to whom?**
3. **What are those benefits worth?**
4. **What does it cost to maintain the assets?**
5. **How do costs compare to benefits over time?**

# 1 The North West environment



# 1. The North West environment

We manage over 56,000 hectares of land in the North West Region. In order to optimise the use of this land to protect water quality and quantity we must understand the extent and condition of our natural assets. The asset register forms the foundation of the account and is an inventory of all natural capital assets within the land boundary.

Much of our land has important statutory designations related to the habitat. 22,500 hectares of this land is classified as Sites of Special Scientific Interest (SSSIs), which are protected conservation areas that are considered to best represent our natural heritage, and are special interest habitats for biodiversity. 91% of SSSIs on our land now meet favourable or unfavourable recovering condition status, in part because we pioneered the use of nature-based solutions to address raw water quality risks when

we started our Sustainable Catchment Management Programme (SCaMP) in 2005.

Blanket bog is the most significant habitat type in terms of area (around 30% of our land) and its potential to store carbon. Blanket bog is a critical asset for UUW due to the water and carbon that is stored and the positive impact this habitat can have on the quality of water if it is in good condition. We recognise our role as a steward of our land and we make decisions based on the benefits and impacts our operations have on the natural environment.

## Extent and condition accounts

The assets within the account are classified by land-use and habitat types. The type and size of benefits provided by natural capital assets are determined by the extent (quantity) and condition (quality) of those assets.

## Total areas under statutory designations

	Reporting year (2021/22)	
	Area (ha)	% of total UU area
Sites of Special Scientific Interest	22,522	41%
RAMSAR	1	<0.1%
Special Area of Conservation	10,981	20%
Special Protected Area for Birds	14,363	26%
Areas within National Parks	25,616	46%
Area of Outstanding Natural Beauty	11,159	20%

## Total area of SSSI by condition

	<b>Total SSSI area</b>	<b>22,523</b>
Condition of SSSIs	% in favourable condition	8%
	% in unfavourable recovering condition	83%
	% in unfavourable declining	3%
	% in unfavourable no change	6%
	% in part destroyed	0%
	% in destroyed	0%

## An overview of our account

Our natural capital assets bring a total £4.5 billion worth of benefits to UU, our tenants, and the rest of society. Our core purpose is to supply water to our customers across the North West, we have valued water supplied from our land at £6.3 billion. The land we own and manage brings many advantages beyond our business-as-usual activities, from the welfare value associated with recreation and tourism to climate regulation and removing carbon from the atmosphere.

Our estate is spread widely across the North West. Almost half of our land assets are located in Lancashire where we are guardians to large portions of important biologically significant landscapes like mountain, moorland and heath. Lancashire hosts over 12,000 hectares of our Sites of Special Scientific Interest (SSSI).

Cumbria is home to our largest areas of grassland, lakes, and ponds – providing 15,000 hectares of areas within National Parks and well known as a popular tourist destination.

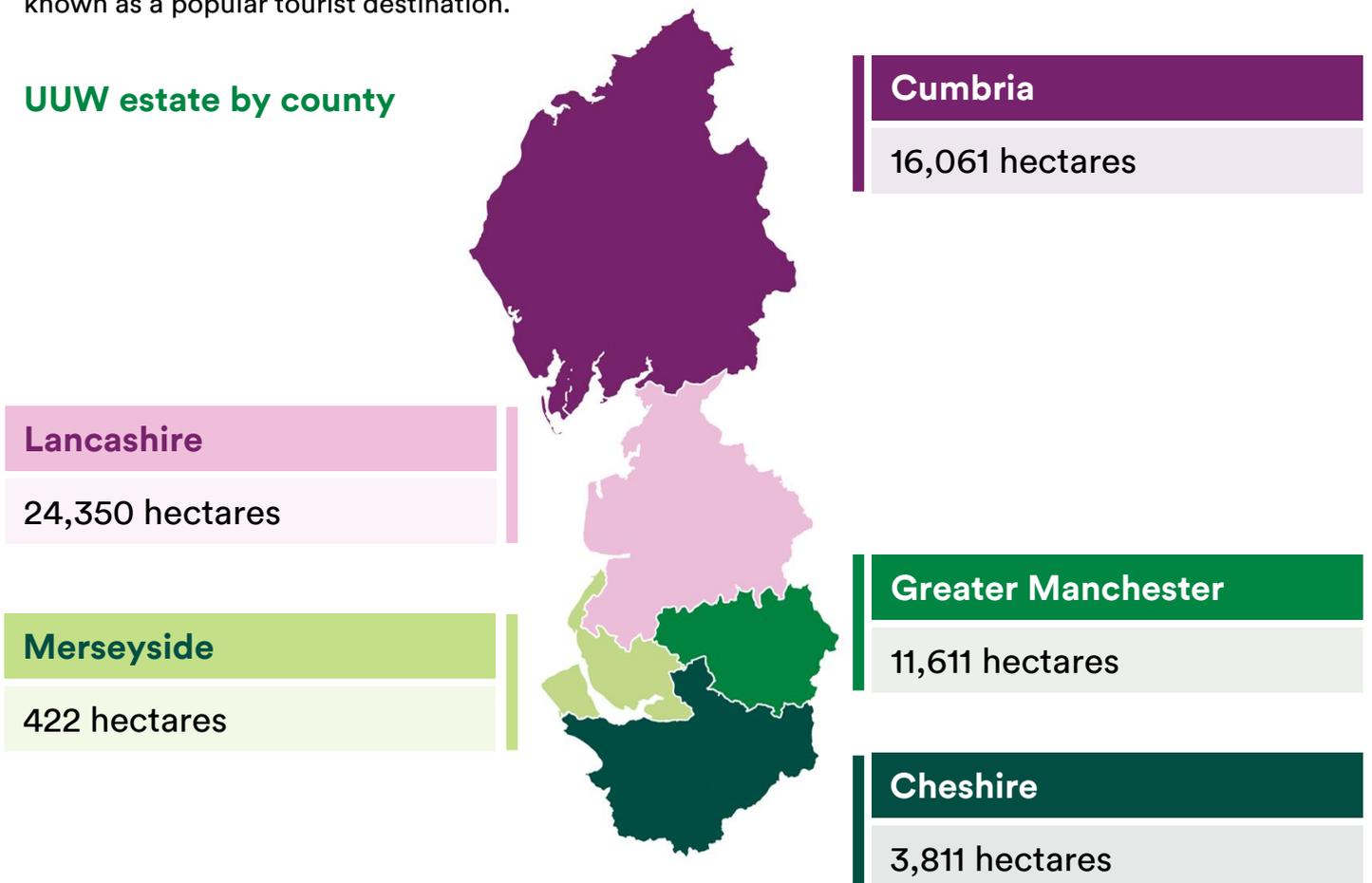
The Greater Manchester area has over 7,000 hectares of our land which is under a statutory designation (National Parks, SSSI, Special Area of Conservation, and Special Protected Area for Birds).

Cheshire is our second smallest area in terms of natural assets we own, however, 77% of this land is within an area of designated national park; the Peak District.

Just over 400 hectares of our estate is in Merseyside; 20% of this is woodland and grassland area spread across the counties.

Much of our land is recognised as important for biological diversity and protection. Understanding the extent and condition of our land gives us the best opportunity to consider where our investments into the natural environment would be most beneficial for the North West region and our customers.

## UUW estate by county

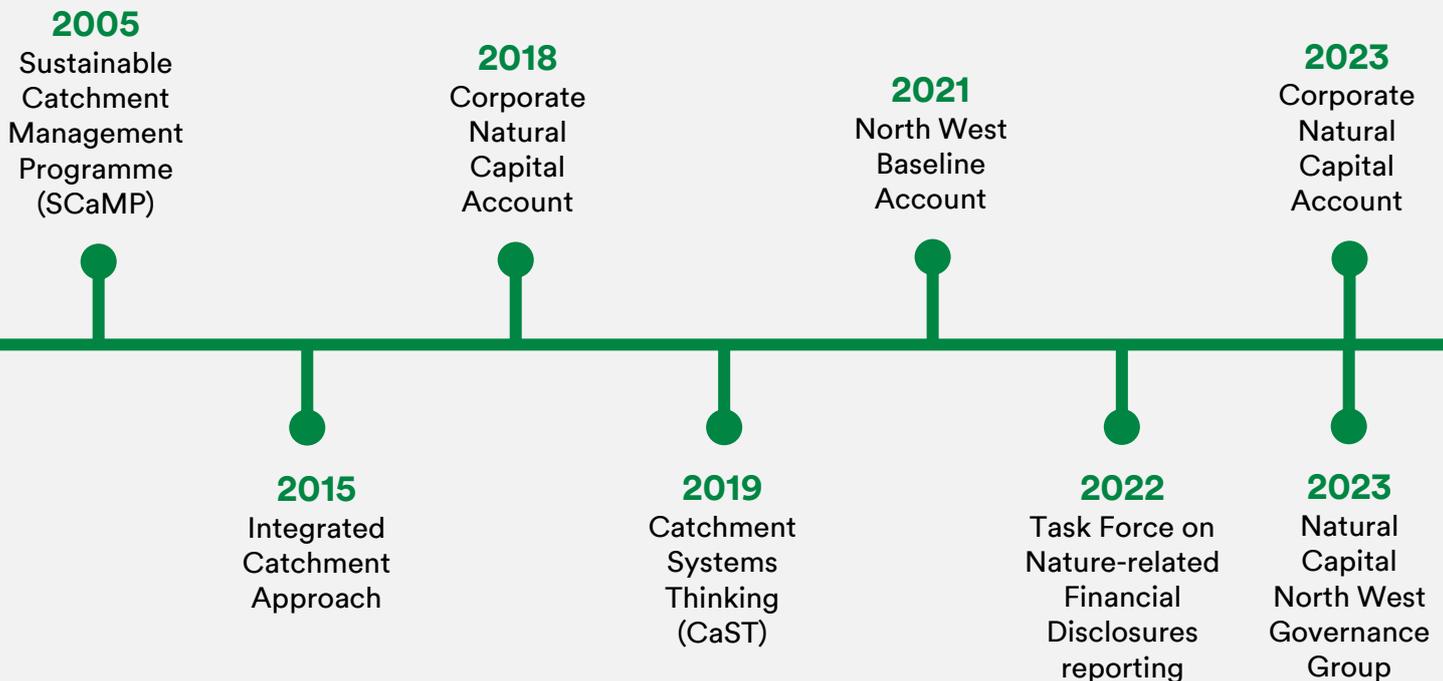


# 2 A natural capital journey



## 2. A natural capital journey

### Timeline of natural capital activity



### North West Regional Natural Capital Account 2021

The environment in the North West region is contrasting and unique. Over 12% of the land has an important European designation related to the habitat and 66% is covered by a landscape designation (National Park or Area of Outstanding Natural Beauty). This highlights the importance of the land for the provision of ecosystem services, and the fundamental link between people and the environment. The protected ecosystems include habitats such as blanket bog, upland heath, acid grassland, reservoirs, rivers, streams, woodland and grassland. These habitats provide a home for many species of plant, animal and insects. Of particular significance are red deer, red squirrel, red grouse, hen harrier, curlew, golden plover, dunlin, short eared owl, mountain hare and water vole.

Natural capital provides a common metric to measure benefits across multiple stakeholders and all of society. Our operations span across the North West region; we depend on the environment for both our water and wastewater processes. Whereas our Corporate Natural Capital Accounts assess the benefits provided by land we own, the North West Regional Account considers our owned land and land beyond this. This means that the development of a North West baseline was not something we could complete alone as it would need to be a key tool recognised and used across many organisations. To deliver this aspiration we formed a stakeholder group with representatives from local government, land owners, regulators and NGOs to support the development of this baseline. This group provided steer and feedback on the account and have supported in its dissemination. The reports and resources are now freely available to wider audiences through our CaST collaboration portal, meaning all stakeholders in the North West can benefit from this work.



Find out more: [North West Regional Natural Capital Account final report](#)

The analysis completed has also proved useful to us and has led to some key insights into the value of natural capital in the North West. The graphic below was produced from the analysis in the report to help share and disseminate the key data and engage stakeholders with this work.

The North West Regional Natural Capital Account (2021) alongside this Corporate Natural Capital Account (2023) shows a detailed picture of the value of the benefits that the natural environment provides the North West.

## Key natural capital values from the North West baseline

### Monetised Benefits

	Physical Flow (Unit/yr)	Monetary Value	Quality of Data	
Value to Society	1,053,704 kg PM2.5 removal by woodland	£173m	★★★★	
	1,537,838 tCO <sub>2</sub> e CO <sub>2</sub> e sequestered in habitats	£115m	★★★★	
	267,481,356 adult recreation visits <3 hours	£893m	★★★★	
	137,752,898 active visits	£469m	★★★★	
	8,015 km length of WFD* rivers	£146m	★★★★	
	100 km <sup>2</sup> area of WFD* lakes	£0.8m	★★★★	
Value to Business	934,939 tonnes arable food production	£92m	★★★★	
	2,798,514 no. of heads livestock production	£293m	★★★★	
	114 tonnes landings by vessels <10m	<£0.01m	★★★★	
	483,885m <sup>3</sup> vol of softwood removals	£12m	★★★★	
	31,491 MWh hydropower electricity	£0.3m	★★★★	
	60,682,837m <sup>3</sup> tidal and surface water abstraction for public water supply	£25m	★★★★	
	8,562,785m <sup>3</sup> groundwater abstraction for public and private water supply	£4m	★★★★	
	3,863,000 tonnes vol of sand and gravel extracted	£54m	★★★★	
	14,575,500 tonnes vol of crushed rock extracted	£177m	★★★★	
	77,742,870 day visits and overnight trips attributed to natural capital	£2,673m	★★★★	



Projected value over 60 years	In excess of £136 billion
Society	£51 billion
Business	£85 billion

### Non-Monetised Benefits

Flood Risk Management	Water Supply	Recreation	Biodiversity
37,184,896 m <sup>3</sup> /yr Annual average additional woodland soil water storage capacity ★★★★	657,919,205 m <sup>3</sup> /yr Total water abstraction at source ★★★★	67,817,370 Total children recreation visits (under 3 hours) ★★★★	217,451 Total SSSI* area (ha) ★★★★

\*WFD: Water Framework Directive  
\*SSSI: Sites of Special Scientific Interest

## Natural Capital North West Governance Group

To ensure the long term sustainability of the North West Regional natural capital account, achieve buy in and dissemination across the region and to delegate the ongoing ownership and maintenance of this, we developed the Natural Capital North West Governance Group (NCNWGG). We invited a range of regional stakeholders – from regulators and local combined authorities to key land owners with an interest in environmental resilience. The ambition of the group is to drive the continual enhancement and maintenance of the regions natural capital. The group will also drive collaboration with a focus on environmental and natural capital improvement, supporting the goals to deliver at landscape scale and working across catchments as a system to maintain and enhance the regions natural capital.

The group's key focus is to improve natural capital across the region and to provide opportunities for partnership working to drive ecosystems into long-term resilience. Improving the condition of the region's natural capital assets will ultimately improve the condition and quality of the ecosystem services that it provides. Increasing environmental resilience and protecting and enhancing the value of ecosystem services helps to protect our operational services into the future and doing so in conjunction with other key stakeholders protects the wider services that customers value.

## Task Force on Nature-related Financial Disclosures (TNFD): Risk and opportunity

Our history of natural capital accounting has put us in a strong position to understand and value the dependencies we have on nature. In turn, we are well placed to incorporate disclosure reporting into our work. This is reflected in the fact that we were the first water company to join the TNFD forum as an early adopter and have

reported on the TNFD early recommendations in our integrated climate and nature annual report for the past two years with the intention to continue our reporting each year. We have learnt a lot from four years of climate-related disclosure reporting and have recognised that we cannot consider the climate in silos when considering our environmental impacts. Climate is only one of the five drivers of the nature crisis, we must also report on our impacts and dependencies relating to; invasive species, changes in land and sea use, pollution, and direct exploitation of natural resources. Recognising our interactions with the wider environment is a crucial element of understanding the risks and opportunities that arise from our investment decisions.

The results from our Corporate Natural Capital Account will feed into our disclosure reporting. Understanding the condition and extent of our land allows us to adopt adaptive planning where we can test a range of future scenarios to account for uncertainty and sets out how we might adapt programmes in the future to meet long-term ambitions under different circumstances. Through scenario testing, we have been able to prioritise low regrets activities in the short term, preparing ourselves for future needs without investing unnecessarily or prematurely but taking action where it is clearly necessary and good value. Innovation is embedded in our approach to solving environmental challenges. Our Catchment Systems Thinking (CaST) approach enables project decisions to be made in the context of the catchment, or system, in which they are situated. This encourages goals and targets to be set in a collaborative way, maximising the benefits that can be achieved and delivering ecosystem resilience through improvements to water quality, flood risk reduction, access to green space, nature recovery, and carbon sequestration.

## 3

# Natural capital balance sheet



### 3. Natural capital balance sheet

The natural capital of our land holding in the North West provides a wide range of significant benefits to us as a business but also to our tenants and the rest of society, this account shows that the natural assets on our land provide a total value of £6.6 billion over 60 years, predominantly driven by the gross value of water supply (£6.3 billion). In addition to this, our land assets provide natural capital benefits to tenants through agricultural output (£28.5 million) and wider society through carbon sequestration and recreation (£4.3 billion in total). The gross natural capital asset value of our land assets equates to approximately £388 million each year and £11 billion in 60 year present value terms.

These benefits are compared to the cost of maintaining the natural capital assets reflecting current estimated spend on maintenance activity. This includes costs associated with managing our land assets in productive condition and include the costs of delivering legal obligations (e.g., complying with water quality standards), and discretionary spending (e.g., supporting recreational activity beyond the company's statutory duties).

When we compare the benefits of our natural capital assets to the costs of maintaining these assets over 60 years, there is an overall positive asset value of £4.5 billion for our business, our tenants, and the rest of society. This account intends to highlight the level of maintenance required to maintain the productivity of our natural assets and therefore inform business decisions in the direction of long-term environmental improvement.

As is to be expected from a water service provider, water supply (£6.3 billion PV60) and water quality (£1.7 billion PV60) provide the greatest gross asset value. In order to maintain this supply we depend on natural capital to store and clean water that we take to treatment and then supply to customers. Looking after the condition of the land we own and influence can directly impact on raw water quality, therefore, the efficiency of our operations and ultimately the natural capital value of water. In AMP8, we aim to deliver water that is resilient to challenges, such as climate change, asset health

and potential risks from emerging contaminants and associated new water quality standards, so that we can continue to deliver excellent water quality. Keeping rivers and lakes clean and beautiful is hugely important for ecologically important areas. Our investment will ensure great river water quality, protecting biodiversity. Beyond our own operation, we'll support sustainable agricultural practices, through our work with partners to maximise benefits for river water quality.

Providing natural open space to our customers is our next largest benefit with a combined gross value of £2.3 billion (PV60) split over recreation (£884 million), tourism (£864 million), and physical health (£546 million). Protecting and enhancing catchments provides multiple benefits for the environment and creates spaces where people want to visit. Much of our land is open to the public, supporting regional tourism and offering communities health and wellbeing benefits through access to relaxation and recreation spaces. Cumbria supports a thriving tourism industry. Population fluctuates throughout the year, as 47 million tourists visit the area. Water and wastewater services, need to be flexible to meet changes in demand. We're managing sites to ensure they are freely accessible in some of Cumbria's most beautiful countryside: Haweswater, Thirlmere and Ennerdale. In AMP8, we have placed the environment at the very centre of our decision making because delivering great water and wastewater services is fundamentally dependent on the health and resilience of the natural environment. We will invest to benefit bathing water sites along the coast and invest in many green and recreational spaces across our five counties, which could improve our public access natural capital asset value.

Natural capital accounting is highly dependent on spatial data, this is why it is important that that we frequently review the data we hold for key assets like peatland, grassland and woodland which drive several benefits such as carbon sequestration and air quality regulation and contribute to £367 million of our total net asset value.

## Detailed 2021/22 Natural Capital Balance Sheet (PV60 £m)

Produced at: February 2023	Valuation metric	Value to United Utilities	Value to Tenants	Value to the rest of society	Total
<b>Asset values (monetised)</b>					
	Livestock gross margins	-	7	-	7
Agricultural output	Agri-environment scheme income	-	21	-	21
	Rents paid by tenants	61	-	-	61
Timber	Value of timber production	19	-	-	19
Water supply	Revenue value of water production	6,310	-	-	6,310
Renewable energy	Value of energy production	203	-	-	203
	Value of CO <sub>2</sub> e sequestered by woodland, grassland and saltmarsh	-	-	386	386
Carbon sequestration <sup>1</sup>	Value of CO <sub>2</sub> e emitted by habitats	-	-	(470)	(470)
	Value of CO <sub>2</sub> e emitted by livestock	-	-	(89)	(89)
Air quality regulation <sup>2</sup>	Value of PM2.5 removal by woodland	-	-	451	451
	Welfare value of recreation	-	-	883	883
Recreation	In-hand income from recreation activities	1	-	-	1
Physical health	Avoided medical treatment costs	-	-	546	546
Tourism	Domestic tourism spend attributed to natural capital	-	-	864	864
	Welfare of avoiding deterioration in rivers	-	-	1,702	1,702
Water quality	Welfare of avoiding deterioration in lakes	-	-	7	7
<b>Total gross asset value</b>		<b>6,595</b>	<b>29</b>	<b>4,280</b>	<b>10,903</b>
<b>Liabilities</b>					
	Water supply	(5,943)	-	-	(5,943)
Production costs <sup>3</sup>	Other production costs <sup>4</sup>	(84)	(94)	-	(178)
<b>Total natural capital maintenance costs<sup>5</sup></b>		<b>(254)</b>	<b>-</b>	<b>-</b>	<b>(254)</b>
<b>Total gross liabilities</b>		<b>(6,281)</b>	<b>(94)</b>	<b>-</b>	<b>(6,375)</b>
<b>Total net asset value (monetised)</b>		<b>314</b>	<b>(65)</b>	<b>4,280</b>	<b>4,528</b>

Table notes produced by eftec 2023:

<sup>1</sup> Value of carbon emissions increase over time in line with BEIS (2021).

<sup>2</sup> Underlying modelling factors in changes in population and pollution density (eftec et al., 2019).

<sup>3</sup> Costs that are necessary to produce existing benefits (e.g., water supply, agricultural output).

<sup>4</sup> Includes agricultural output and renewable energy.

<sup>5</sup> Costs associated with activities that are required to maintain natural assets, including legal obligations such as conservation of designated sites.

# 4

## How we use natural capital accounting



## 4. How we use natural capital accounting

### Climate resilience

Weather is fundamental to how we deliver water and wastewater services, and so climate change will always be of strategic and operational importance to us. Already, we are seeing the effects of climate change on the region's weather, with increasing summer temperatures, wetter winters and more extreme rainfall events. With these trends set to continue, unless we take action there will be increasing impact on the services we provide to the communities we serve. The climate crisis threatens the ecosystems on which we rely in order to provide reliable, affordable, essential services to customers. Recognising this challenge, we are committed to mitigating our contribution to further climate change and to adapting iteratively to the changes we experience.

### Carbon sequestration and air quality regulation

#### Peatland

Peatlands, also known as blanket bog on our upland catchments, are one of the most valuable ecosystems on the planet. Healthy peatlands are carbon sinks capturing CO<sub>2</sub> from the atmosphere through photosynthesis and providing long term storage for this carbon in the soil. The importance is that the plants that grow on peatlands do not fully decompose under wet conditions, they do not release carbon which would otherwise be returned to the atmosphere as CO<sub>2</sub>, and it is instead trapped in the peat. However, when peatland is in a degrading state this stored carbon can be released and it becomes a source of carbon emissions.

Much of the peatland across the UK, including here in the North West, has been damaged and some of it even destroyed. These areas were either drained, burned, over-grazed or mined, as well as suffering from air pollution and recreational damage. Restoration and maintenance of these areas are essential if we are to create a low-carbon future, not only here in the North West, but across the globe.

We have been working hard since 2005 to improve the condition of our peatlands and our AMP8 plan targets the improvement of a further 4,764 hectares but there is still a long way to go and some of our peatland is still not in the condition we aspire it to be in.

Around 30% of our land is blanket bog calculated to be emitting 52,400 tCO<sub>2</sub>e per year. We have been working with specialist partners like Moors for the Future to deliver landscape scale peatland restoration work since 2003, striving to return our peatlands to their natural state and reduce their carbon emissions.

We are signatories to the UN Race to Zero campaign and are proud to be contributing to the UK water industry's commitment to be net zero from 2030. In 2020, we made six carbon pledges as part of our commitment to tackling climate change. One of our pledges is to restore 1,000 hectares of peatland by 2030. As we go further into the future, our ambition is to improve this to 4,764 hectares. We have peatland restoration activities across the North West at different stages of maturity, including the 2000 hectares improved through our 2005–15 SCaMP projects. We have 585 hectares currently under restoration towards meeting this pledge.



**We have been working with specialist partners like Moors for the Future to deliver landscape scale peatland restoration work since 2003, striving to return our peatlands to their natural state and reduce their carbon emissions.**

## Moors for the Future

Since 2003, we have been a partner in the Moors for the Future Partnership, which brings together ten organisations, and was established to protect damaged blanket bog habitats across the Peak District and South Pennines. In October 2015, Moors for the Future Partnership began work on MoorLIFE 2020, an ambitious project that has seen €16 million invested in bringing life back to the South Pennine Moors Special Area of Conservation.

Blanket bogs are large areas of peatland, usually found in upland areas, where high rainfall and cool temperatures encourage the growth of bog mosses and plants that absorb water and capture carbon from the atmosphere. Other benefits of a healthy bog include, high levels of water retention resulting in reduced flood risk to communities below peatland areas, improved water quality, increased moorland biodiversity and protection against moorland wildfires.

The peat moorlands of the Peak District and South Pennines have experienced long-term decline, due to industrial pollution, draining of blanket bogs, and other human-related factors. Amongst other adverse effects, this has resulted in carbon being eroded from the unprotected peat and released into the atmosphere. MoorLIFE 2020 has played a vital role in Moors for the Future Partnership's ongoing efforts to restore this huge area of blanket bog back to health.

The ambitious scheme, principally funded by the EU LIFE Programme and additional funding from three water companies: United Utilities, Severn Trent and Yorkshire Water, has been a resounding success, bringing life back to a vast area of active blanket bog and demonstrating how healthy peatlands can make a huge difference to moorland ecology, local communities and the environment at large.

Among its many achievements, MoorLIFE 2020 has seen:

- **54 hectares** of bare, unprotected peat revegetated
- **2.9 million** plugs of highly absorbent sphagnum moss planted by hand
- **3,500 hectares** of invasive plant species removed
- **Over 16,000** mini-dams, or gully blocks, built to reduce peat erosion and slow water run-off
- **A 30% reduction** in peak water discharge from restored moorland sites, reducing flood risk
- **A significant increase** in moorland biodiversity, including the first bats ever to be recorded on Kinder Scout
- **12,000** people made aware of the dangers of moorland wildfire in the MoorLIFE Bogtastic Van



**MOORS**  
FOR THE FUTURE  
PARTNERSHIP



## Woodland and grassland

Peatland is not the only habitat that has an impact on greenhouse gas emissions. We also own significant woodlands and grasslands which support carbon sequestration. Carbon sequestration is a vital ecosystem service that captures and removes atmospheric carbon dioxide. Our land assets sequester over 43,000 tCO<sub>2</sub>e from the atmosphere through over 7,000 hectares of woodland and 4,400 hectares of grassland, using our natural capital account we have calculated that this provides a benefit value of over £386 million over 60 years (PV60 yrs). Our woodlands are also essential for air quality regulation removing 41,600 of fine particulate pollution from the air (PM2.5) which can increase the risk of health problems. This is calculated to have a natural capital asset value of over £451m (PV60 yrs). We are committed to protecting and enhancing habitats and wildlife across our operations to have a positive impact on the natural environment and the people who benefit from using these areas.

## Timber

Along with climate regulation benefits, we also manage our trees in a sustainable way to protect water quality, conservation, access, recreation and timber. On average we produce **17,000m<sup>3</sup>** of timber each year. We have been Forest Stewardship Council® (FSC®) certified since 2003. The FSC-UK forest management standard endorses the UK Woodland Assurance Standard (UKWAS) and this certification covers all 7000 hectares of our woodland estate, ensuring that we are maintaining our resources responsibly and sustainably. FSC certification lasts for five years and we undergo annual surveillance through our external auditors SGS.

## CASE STUDY

## Woodland creation

We are committed to creating 550 hectares of woodland by 2030. We can look at what this would do to the potential value of atmospheric carbon absorbed.

The current asset value of CO<sub>2</sub>e sequestered by woodland, grassland and saltmarsh is £386 million over 60 years. This value will increase by £25 million when we replace 550 hectares of grassland with woodland, bringing the new potential total of £411 million over 60 years.

We are well on the way to meeting our target with 37 hectares of woodland planted by 2023. Weather and tree disease slowed our planting progress but we have two well established nurseries and plans for more in the future.

This theoretical example represents how we can model the value of our decisions, we can use this technique along with other valuation methods, like biodiversity net gain, to determine where we can transform the landscape to achieve the most benefit for both society and the environment. Hundreds of sites for new and natural regeneration woodlands have been identified.

### Summary of potential benefits

- Hectares of woodland targeted: **550**
- Hectares delivered: **37**
- Potential increase in carbon sequestration: **3,150 tCO<sub>2</sub>e**
- Potential increase in natural capital value over 60 years: **£25 million**

## Resilient water supply

The water supply system in the North West is dominated by surface waters (lakes, reservoirs, and rivers) and is reliant upon seasonal rainfall patterns to ensure supply resilience. We have key reservoir sources in the Lake District, Pennines and North Wales. Water quantity and quality is protected by the careful management of over 56,000 hectares of owned land and many thousands of hectares of non-owned land. Ecosystem resilience in these catchments is fundamental to securing plentiful water supplies and excellent water quality. Our water treatment and distribution system is extensively integrated, meaning that water can be moved around our region to provide resilience to water sources, asset outages (planned and unplanned) and higher than usual demand for water.

All water companies are highly susceptible to climate change. It effects not only the reliability of our raw product but also modifies customers' use patterns, with droughts impacting source replenishment and increasing demand. This susceptibility is more acute where companies have a high dependency on surface waters which are more quickly impacted by prolonged dry weather periods compared to ground water sources. We recognise and are adapting to the challenge of a changing climate. To provide a reliable supply of water now and in the future, we must address the threat of increasing temperatures, evaporation, and demand for water (population and consumption) compounded by decreasing summer rainfall, and stresses on our assets.

### Water supply

We are stewards of large areas of this land, much of which is managed by tenant farmers or in partnership with environmental NGOs such as the RSPB. We ensure it is well managed to improve water quality, quality and to help protect habitats. We abstract an average of around 750,000ML of water from the environment each year. Our integrated supply zone allows us to move water efficiently around

the region – 31% of the water we abstracted in the last five years originated from water sources on UU-owned land. Using the resource rent method of water valuation, our account shows that the natural assets we own are providing quality water with a net annual value of £12.67 million and a net 60 year present value of £367.33 million. This value can increase or decrease depending on where our water abstraction sources are located and how efficient our services are. In future accounts, we seek to consult our colleagues in the water industry to improve this methodology and provide a more accurate way of calculating the natural capital value of water.

### Natural Capital Asset Value: Water

- Water abstracted from our estate: **31%**
- Five-year average of water abstracted from our land: **233,000 ML/yr**
- Gross water supply sales (PV60): **£6.31 billion**
- Gross water supply costs (PV60): **£5.94 billion**
- Net value of water supply (PV60): **£367.33 million**

Since 2010, we have worked collaboratively with owners of non-UUW land for the protection of water quality within catchments for rivers, reservoirs and groundwater. This work has comprised a mix of advice, partnership working, investment, incentive schemes, benefits in kind (e.g. targeted hire of weed wipers to reduce pesticide use) and joint catchment activities. We will continue to work collaboratively with third party landowners, regulators (Environment Agency, Natural England) and stakeholders (e.g. National Trust, rivers trusts etc.) to support activities that benefit the quality of raw water, helping them to deliver outcomes aligned with our objectives. Between 2025 and 2030 this work will focus particularly on the catchment of the Rivers Dee, Eden, Lune, Wyre, Eden, Upper Duddon and Poaka Beck.

We recognise that awareness and education is pivotal to achieving our ambitions to maintain and protect raw water quality. Building on the success of our engagement with farmers through the employment of catchment advisers, we have expanded our reach to the equine community in 2020–25 – particularly in Cheshire, where the catchments are predominantly groundwater and impacted by the use of fertilisers and animal manure management practices. Through a series of events, educational talks about the risks to water quality and best practice demonstrations, in partnership with local equine centres, we have created a bespoke series of guidance leaflets endorsed by the British Horse Society. We also promote best practice land management for the

benefit of water quality by organising and sponsoring competitions such as the ‘The Great Farm Challenge’, which in the North West is a partnership between Natural England, the Environment Agency and U UW.

Using natural capital accounting methods to understanding the value of water supplied by our land, can inform investment decisions in catchment management, as the restored ecosystems become fully functioning and producing high quality raw water, where reasonable to do so, we can increase the percentage of water abstracted from land we own and therefore increasing our total natural capital asset value.

## CASE STUDY

### Thirlmere catchment resilience

The resilience and health of catchments in the North West is critical to the delivery of water services. However, catchments also offer many more services to society; they hold water and slow the flow to reduce flooding, provide land for access and recreation as well as benefits to human health, they intercept pollutants in the air, land and water environments, they are a significant carbon sink and sustain biodiversity. As a result we have a Catchment Systems Thinking (CaST) approach which looks at the whole catchment system and aligns interests across U UW services and beyond to identify interventions in the catchments, both urban and rural, that can be aligned to meet the needs of stakeholders.

One of the main lessons learned from the more frequently occurring storms experienced in the last five years is the susceptibility of upland catchment systems to significant high consequence but infrequent storm events. For instance, Storm Desmond in 2015, which at

Thirlmere had a return rate of approximately 1 in 1,300 years, caused significant damage to the catchment. This resulted in a significant deterioration in raw water quality, which exceeded the treatment envelope of the water treatment works (WTW) and resulted in a net reduction in the resilience of supply to customers. The net consequence caused by these types of events appears to be increasing. To address this issue we have reviewed the resilience of our catchments and will undertake work over the next 25 years to improve catchment resilience to these types of events.



Find out more:  
[CaST Collaboration Portal](#)

Working across water catchments with stakeholders, the overarching purpose is to restore natural processes to improve the resilient

functioning of the catchment hydrology and vegetation.

Since 2020 we have kick-started long-term activity in the 4,000 hectare catchment in Cumbria, including:

#### 1. Catchment intervention and management:

- Ongoing Dissolved Organic Carbon (DOC), turbidity and flow monitoring
- Vegetation, peat and mineral soil surveys to inform revegetation and restoration works
- Creating leaky dams and improving vegetation condition across the catchment to reduce DOC and turbidity

#### 2. Forestry and woodland management:

- Felling non-native, damaged and diseased trees, regeneration, restocking and seed scattering to provide areas for establishment of native and shrub species that will stabilise soils and prevent sediment run-off
- Testing methods of attenuating sediment run-off from torrents (leaky dams)
- Establishing nursery sites as a source of local hardy upland species for future planting projects

#### 3. Farming and tenancy:

- Managing the iconic Herdwick flocks at West Head Farm, balancing heritage with nature recovery
- Diversification and innovation in farming activities to support a sustainable income for the tenant
- Woodland and nursery creation at West Head Farm to stabilise soils and prevent sediment run-off

#### 4. Geomorphological and hydrological studies to:

- Identify key sources of sediment from landslides to prioritise areas for physical interventions
- Identify the level of storm events that compromise water quality to inform operational responses in the future.

Whilst work at Thirlmere commenced in 2020, our experience of catchment schemes is that commitment and investment is required over the long term to achieve long-term sustainable improvements. We are therefore planning a long-term strategy to continue the delivery of works in the catchment. This approach is being extended to other catchments at risk of high consequence storm events.



## RSPB partnership

We have collaborated with the RSPB on many joint ventures over the years at Bowland in Lancashire, Dove Stone reservoir near Oldham and with Hafren Dyfrdwy at Lake Vyrnwy in North Wales. Our combined aim of improving the natural environment by protecting ancient habitats, restoring upland plants and returning the area back to their natural processes.

Two examples of this are the Wild Haweswater partnership in the Lake District Nation Park and Swindale Valley Restoration Project.

### Wild Haweswater partnership

By improving rivers and restoring peat bogs, we're restoring natural solutions to improve the behaviour and quality of drinking water flowing into Haweswater reservoir. Haweswater provides thousands of visitors the benefits of many vital ecosystem services each year, such as carbon sequestration, air quality regulation, biodiversity, recreation and tourism.

Our 2023 Corporate Natural Capital Account shows that we see over 400,000 visitors to Haweswater each year; this has an annual welfare value of around £140,000. As one of our top 16 largest and most popular sites, Haweswater plays a large part in contributing to the total natural capital value of tourism and recreation.



Find out more:  
[Wild Haweswater website](#)

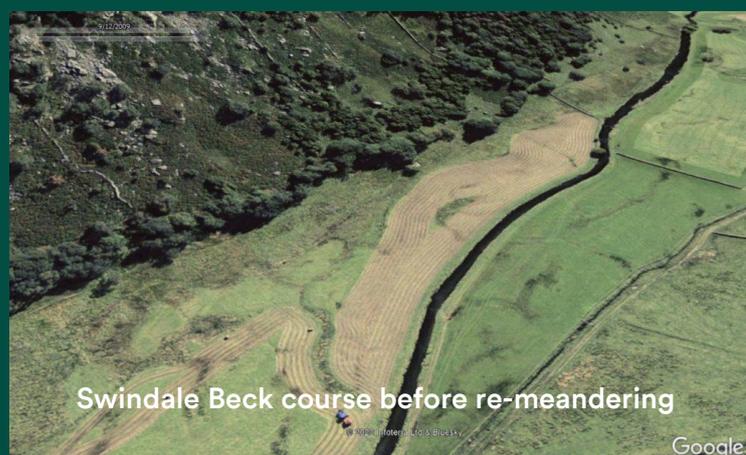


### Swindale Valley Restoration Project

The multiple award-winning Swindale Valley Restoration Project began in 2016, working collaboratively with UUW, the RSPB, the Environment Agency and Natural England to restore watercourses, bogs, meadows and woodlands, transforming the valley for the benefit of water, wildlife and people. It recently won the 2022 UK River Prize Project Scale Award and is a CIEEM award winner.

### Benefits achieved:

- Re-meandering of Swindale Beck; slowing the flow, providing benefits to wildlife and water quality and reducing the risk of downstream flooding
- Restoration of blanket bog, blocking 29 miles of moorland, increasing carbon storage, raising the water table, naturally purifying the water and providing home to a wide range of specialist wildlife



## Serving the community

### Recreation, tourism and physical health

Aside from delivering water and treating wastewater, we maintain a place that people can use for recreational activities. Whether it be the open moors, the vast woodland, or our lakes and reservoirs, the areas we look after play a considerable role in ensuring communities across the North West are able to improve both their mental and physical health.

Over the course of a year, we estimate that more than 13 million people visit our land across the region, providing a combined natural capital welfare value of £80 million per year. This welfare value is directly relating to wellbeing improvements that derive from visiting outdoor recreational sites and also from avoided medical costs associated with physical activity. We strive to achieve a balance between encouraging public access and protecting water quality,

wildlife and habitats. Understanding who uses our sites is important to us because we want everyone to have access to enjoy the benefits of nature.

### Average number of visits to our 16 most popular sites across the UU estate

- Recreation (visits under three hours): **8 million visits**
- Physical health (number of active visits): **4 million visits**
- Tourism (domestic day visits and overnight trips): **1 million visits**

**Combined natural capital value of £80 million per year.**

### CASE STUDY

## Better Rivers 2023

We want to encourage use of and access to rivers and reservoirs for recreational, leisure and sports activities where these can be enjoyed in a safe and controlled environment. Following an increase in the take up of water-based activities, recreational clubs approached us wanting to include stand-up paddle boarding (SUP) as part of their water sports licence on our reservoirs.

Our current approach permits the use of SUPs at five reservoirs, awarded following a detailed risk assessment and including all appropriate health and safety controls. In response to demand for more activities, UUW, with support from British Canoeing and Royal Yachting Association (RYA), commissioned a three-month trial at six sites to review safety elements of SUPs.

The trial came to a conclusion in October 2022 and as a result, stand-up paddle boarding is now a firm part of our access and recreation proposition, delivered through collaboration with the RYA and our licenced recreation clubs.



## Food provision

We own over 60 working farms in the North West and encourage our tenant farmers to consider farming in a Catchment Systems Thinking context to ensure a thriving rural economy alongside nature conservation. Food provision is a significant sector in the North West Region. Our tenants have in excess of 38,000 sheep and cattle, providing a natural capital service value of £3.2m per year. This value includes rent paid by tenants, income from agri-environment schemes and livestock gross margins. Understanding how our tenants utilise the land they manage is important to consider their interactions with the surrounding environment. In many areas across the region,

water quality is dependent on catchment land activity such as phosphorous pollution caused by run off from livestock farms. Working closely with farmers on and off our land gives us the opportunity to improve raw water quality and overall health of the environment while providing a valuable resource in food production for the UK.

Our relationship with farmers across the North West goes beyond our own tenants, we have worked closely with a range of partners such as the National Farmers Union, Local Authorities, NGOs, and other land owners to co-create and co-deliver a number of interventions for environmental improvement across our catchments.

### CASE STUDY

## Transforming the River Petteril through farm interventions

The River Petteril is a tributary of the River Eden, located in Cumbria. The Petteril is impacted from nutrient inputs which cause a failure to meet the Water Framework Directive (WFD) good ecological status. There are a range of phosphorus inputs into the river including wastewater discharges but also a significant amount of agricultural load.

In order to address the phosphorus issue in the River Petteril, we needed to not only look at our own processes but also work alongside partners and fellow contributors to transform the ecological status of the river.

In 2016, we worked alongside the Environment Agency, the Eden Rivers Trust and local stakeholders to carry out a 17-week catchment wide monitoring survey. The survey revealed that in order to positively impact the amount of phosphorus in the River Petteril, we needed to not only look at our own processes but also work alongside partners and fellow contributors to

transform the ecological status of the river through a catchment-wide approach. As a result, the UK's first Catchment Nutrient Balancing (CNB) trial was initiated at Calthwaite wastewater treatment works in 2019. This trial aimed to achieve 9% phosphorus reduction through integrated catchment and treatment works solutions.

The three-year trial proved to be a success. In 2022, it achieved a 63% reduction in the phosphorus level in the catchment. This evidences the enhanced benefit that can be achieved with the integrated catchment approach. We worked with other sectors such as agriculture, businesses, and environmental NGOs, to deliver greater value for customers, communities, and the environment beyond regulatory obligations.



**United Utilities Water Limited**  
Haweswater House  
Lingley Mere Business Park  
Lingley Green Avenue  
Great Sankey  
Warrington  
WA5 3LP

[unitedutilities.com](http://unitedutilities.com)



**Water for the North West**