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Green Investment Plan - Cumbria

Living and Natural Resources
Roundtable

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eftec

**The Cumbria NC Baseline Account
Answers these questions**

...generate these natural capital accounting outputs

What natural capital assets are owned, or managed, or depended on?

- **Natural Capital Asset Register** - Registry of all natural capital assets owned / managed / dependent on

What flows of benefits do the assets produce?

- **A statement of physical flows** - Benefits, both for the organisation and for wider society, in physical metrics

What is the value of the benefits and to whom do they accrue?

- **A benefit valuation statement** - in monetary terms where possible

Investments

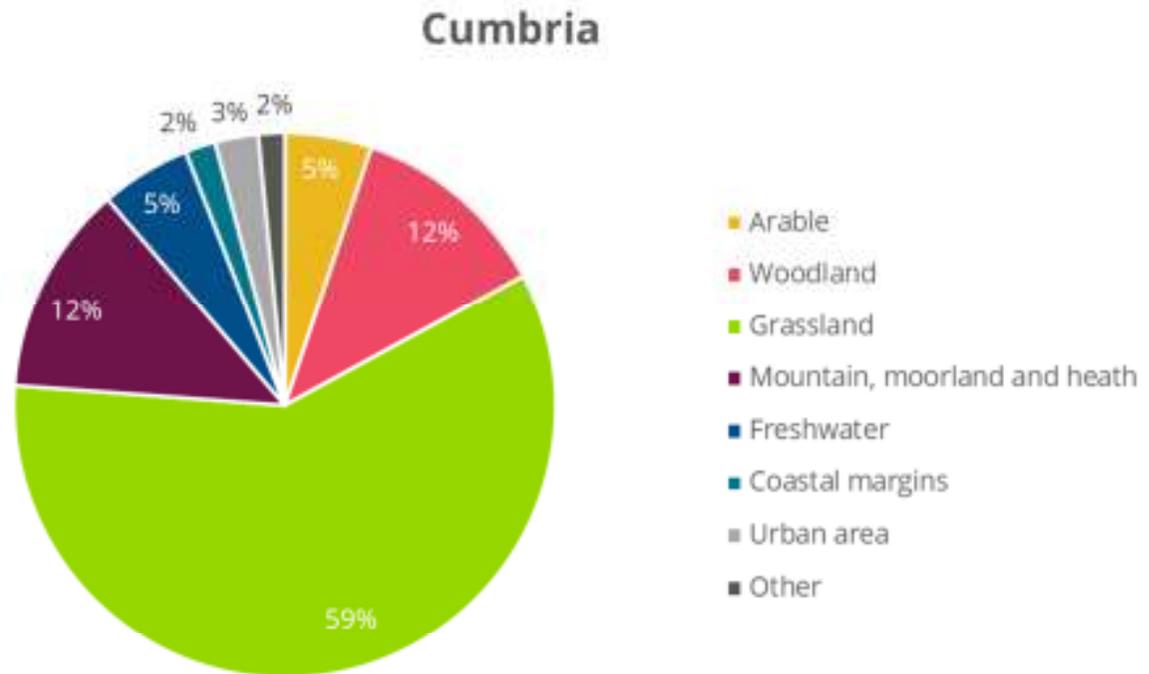
- Investment option - the idea of what can be invested in and how it could generate a return
- Finance mechanism - a specific arrangement, including governance and delivery, to make an investment happen
- Investability - when the scale, risk and returns of an investment are attractive to investors under current conditions

Cumbria Natural Capital Baseline



Asset Register

- Full coverage of analysis area
- 5m resolution map grid



Source: eftec & Countryside (in prep) NW Region Baseline Natural Capital Account. Produced for United Utilities.

Present value 60-years, £m	Valuation metric	Value to businesses	Value to the rest of society	Total
Asset values (monetised)				
Food provision	Arable income	470		470
	Livestock income	3,265		3,265
Fishing	Value of landings by vessels 10m and under	0.00		0.00
Timber	Value of softwood removals	191		191
Renewable energy	Resource rent value of hydropower	5		5
Water availability	Resource rent value of tidal and surface water abstractions for public water supply	52		52
	Ecosystem provision value of groundwater for public and private drinking water and agriculture benefits	8		8
Minerals	Ex-works sales value of sand and gravel	99		99
	Ex-works sales value of crushed rock	804		804
Tourism	Domestic tourism expenditure attributed to natural capital	9,392		9,392
Air quality regulation	Value of PM2.5 removal by woodland		961	961
Carbon sequestration	Value of CO ₂ e sequestered in habitats		3,144	3,144
Recreation	Adult recreation welfare value (under 3 hours)		1,624	1,624
	Sporting income	-		
Physical health	Avoided medical treatment costs		839	839
Water quality	Welfare of avoiding deterioration in rivers		1,602	1,602
	Welfare of avoiding deterioration in lakes		11	11
Total gross asset value		14,287	8,181	22,467
Asset values (non-monetised)				
Water Supply	Water abstraction at source (i.e., production): 238 million m ³			
Flood risk management	Annual average additional woodland soil water storage capacity: 24 million m ³			
Recreation	Children recreation visits (under 3 hours): 5 million visits			
Biodiversity	Total SSSI area: 106,600 ha			
Education				
Volunteering				
Mental health				

Interpretation

- The account measures and values a wide range of benefits
- It is one of the most detailed natural capital accounts developed in the UK, in terms of:
 - Fine scale spatial mapping
 - Large regional area covered
 - Range of benefits valued
- The largest benefits are tourism expenditure, and other key business benefits are agricultural production and minerals
- The largest benefits to wider society are recreational welfare, carbon sequestration and physical health

Cumbria Natural Capital Baseline



Natural Capital Investment Options - Livestock

- Livestock sector has potential to change land management to reduce carbon emissions and provide other environmental benefits
- Investment is needed to support transition and revenues from environmental goods
- The briefing note described land use change on 50,000 ha:
 - Compared to the conventional scenario, the low-carbon scenario **emits 20,000 (over 80%) less tonnes of CO2e per year**, but **provides only 25% of the income**.
 - A pessimistic displacement assumption gives **reduction by 8,500 tonnes of CO2e per year**.
- Other potential revenues:
 - Value of public benefits - potential be funded through ELMS.
 - Other private markets, such as biodiversity units for biodiversity net gain, or catchment management (e.g. for water quality).

Natural Capital Investment Options – Community Forest

- A Community Forest Concept is under development for West Cumbria
- Scenario analysis using the Cumbria natural capital account baseline suggests this would provide a range of benefits
- An investment mechanism is needed to secure investment, local governance and community benefits

2020 prices		£million, PV60		
Asset values (monetised)	Valuation metric	Value to Businesses	Value to the rest of society	Total
Food provision	Arable income	(7)		(7)
	Livestock income	(26)		(26)
Timber	Value of softwood removals	3		3
Air quality regulation	Value of PM2.5 removal by woodland		1	1
Carbon sequestration	Value of CO2e sequestered in woodland		136	136
	Value of CO2e emitted by livestock		25	25
Recreation	Adult recreation welfare value (under 3 hours)		179	179
Physical health	Avoided medical treatment costs		59	59
Total gross asset value	Mix of values	(30)	400	369

Natural Capital Investment Options – Peatland & Woodland Carbon

- Future carbon credit prices are increasing – with an average of around £50 per tonne for the last month
- Flows of green house gases (GHG) in and out of habitats in Cumbria are significant:
- Woodland
 - Existing woodland in Cumbria sequesters an estimated 474,000 tonnes of CO₂e per year
 - New woodland creation can generate carbon credits under the woodland carbon code
- Peatland
 - Degraded peatlands are significant emitters of GHG, but restored can become a net sequester
 - More information is needed on the extent, depth and condition of peatlands, to assess potential carbon credits under the peatland carbon code

Thank you

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