

Birmingham

Health Economic Assessment & Natural Capital Accounts

Revealing the True Value of Council-managed Parks and the city's
Green Estate

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By

Oliver Hölzinger¹
& Nick Grayson²

¹ Consultancy for Environmental Economics & Policy (CEEP), oliver.h.ceep@live.com

² Birmingham City Council, nick.grayson@birmingham.gov.uk



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I. Executive Summary & Key Messages

In this report, we present a health economic assessment and natural capital accounting exercise to reveal the true value of Birmingham's parks and greenspaces. Birmingham City Council manages an area of over 4,700 ha of parks, greenspaces and allotments. Our assessment reveals that **the benefits provided by these valuable natural capital assets have an indicative value of £11.4 billion** (gross asset value); calculated over a 25 year assessment period. This includes **£4.6 billion in health benefits**. The **total annual benefits add up to £619 million**. The value of Council-managed parks and greenspaces to each resident¹ is approximately £542 every year.

The total net-value (benefits minus costs) of Council-managed natural capital assets is in the order of £11 billion over 25 years or £594 million annually. This means that **each £1 the Council spends on parks and greenspaces returns more than £24 to society**.² Please note that the biodiversity value stated below only represents a small fraction of the total biodiversity value. **Biodiversity underpins all other services and benefits which means that they all depend, at least to some extent, on biodiversity.**

The assessment also shows that, from a Council finance perspective only (excluding wider benefits to society), natural capital is a net-asset worth £270 million over 25 years. This is because the presence of Council-managed parks and greenspaces increases annual Council Tax income by approximately £28 million (in addition to direct parks income of £13 million). In contrast, the Council only spends about £26 million on its Parks Services every year. **For every £1 the Council spends on parks and greenspaces, it gains a return of £1.60 in Council Tax and direct parks income.**

This assessment contributes greatly to our understanding of the value of Council-managed parks and greenspaces because it reveals the very significant, but far too often hidden, benefits they provide. Conventional financial accounts only tell part of the story because many 'external' benefits provided by parks and greenspaces are not usually included. This is because a monetary flow is often not observed as one usually does not have to pay for a park visit with all its attached health and wellbeing benefits, for example. And indeed, based on Birmingham City Council's conventional accounts (Parks Budget 2018/19), Council-managed parks and greenspaces are accounted for as a net-liability rather than a net-asset with each £1 spent only returning about £0.50. This shows just how important it is to account for the full value of these important natural capital assets.

If the area of and investment in the City's natural capital declines, overall benefits to society as well as Council Tax income may well decline over-proportionally. Hence, purely relying on

¹ Averaged. The figure includes a limited benefit to residents outside Birmingham such as from climate change regulation and from visits to Council-managed parks and greenspaces by non-residents. The calculation is based on the annual net-value divided by Birmingham's population of 1.14 million (mid-2018 estimate).

² Based on stock/capitalised value.

conventional accounting when informing budget decisions affecting parks and greenspaces could easily result in unintended outcomes such as a net-decline in Council finances. This means that other Council services may need to be reduced as well. This is in addition to significant health and wellbeing benefits to society that could be lost when reducing investment in these valuable assets. In light of our findings, green infrastructure of which Council-managed parks and greenspaces form part, should be seen as **critical infrastructure** rather than just a 'good to have'.

Figure I.1 Birmingham Parks & Greenspaces Natural Capital Accounts: Total Asset Value Over a 25 Year Assessment Period

<i>Capitalised/stock values stated in £billions; 2018 prices; central estimates</i>	Adjusted values for aggregation (to avoid double-counting)			
	Total Natural Capital Value	Health Benefits	Direct & Indirect Council Income	Conventional Accounts
Assets				
Property value uplift	£4.75			
Council Tax uplift	£0.48		£0.48	
Physical health benefits	£4.06	£4.06		
Mental health benefits	£0.20	£0.20		
Air quality regulation	£0.30	£0.30		
Recreation	£1.03			
Global climate regulation	£0.22			
Food production from allotments	£0.07			
Biodiversity (non-use benefits only)	£0.04			
Flood risk regulation	£0.03			
Direct parks income	£0.23		£0.23	£0.23
Adjustments	-£0.01		-£0.01	-£0.01
Gross asset value	£11.41	£4.56	£0.70	£0.22
Liabilities				
Parks services expenditure	£0.44	£0.44	£0.44	£0.44
Net-Value	£10.97	£4.13	£0.27	-£0.22
	to society	in health benefits	to the Council	as per books
Benefits-Cost Ratio	26.2 : 1	10.5 : 1	1.6 : 1	0.5 : 1

Source: *Author calculation*

The Office for National Statistics set out a strategy to incorporate natural capital into UK Environmental Accounts by 2020. Birmingham City Council has already taken on a pioneering role when assessing the benefits and value of natural capital. This started with assessing the value of ecosystem services provided by Birmingham's green infrastructure as part of Birmingham's Green Living Spaces Plan (Birmingham City Council, 2013; Hölzinger et al.,

2013). Developing natural capital accounts for the parks and greenspaces it manages is the next step to strengthen the evidence base and to inform decisions affecting Birmingham's valuable natural capital assets.

Figure I.2 Birmingham Parks & Greenspaces Natural Capital Accounts: Annual Accounts

<i>Annual(ised) values stated in £millions; 2018 prices; central estimates</i>	Adjusted values for aggregation (to avoid double-counting)			
	Total Natural Capital Value	Health Benefits	Direct & Indirect Council Income	Conventional Accounts
Assets				
Property value uplift	£279			
Council Tax uplift	£28		£28	
Physical health benefits	£193	£193		
Mental health benefits	£10	£10		
Air quality regulation	£14	£14		
Recreation	£61			
Global climate regulation	£13			
Food production from allotments	£4			
Biodiversity (non-use benefits only)	£2			
Flood risk regulation	£1			
Direct parks income	£13		£13	£13
Adjustments	£0		£0	£0
Annual service/benefit value	£619	£218	£41	£13
Liabilities				
Parks services expenditure	£26	£26	£26	£26
Annual net-value	£594 to society	£192 in health benefits	£16 to the Council	-£13 as per books
Benefits-Cost Ratio	24.2 : 1	8.5 : 1	1.6 : 1	0.5 : 1

Source: Author calculation

When conducting this assessment, particular attention has been paid to government guidance as well as an urban natural capital accounts scoping study produced for Defra (Eftec, 2017; ONS and Defra, 2017). Due to uncertainties, values presented here should be regarded as essentially indicative of the magnitude of the benefit. But already the great British economist John Maynard Keynes said that “*it is better to be roughly right than precisely wrong.*” And that was exactly the aim of this assessment – to be roughly right by getting as close to the true natural capital value of Council-managed parks and greenspaces as possible rather than being precisely wrong by ignoring their wider health and wellbeing value altogether.

Birmingham Health Economic Assessment & Natural Capital Accounts

Key Findings & Messages

- **Investment in Birmingham's natural capital assets provides good value for money!**
- **Each £1 the Council invests in its parks and greenspaces returns over £24 to society** and £1.60 directly to the Council through direct parks income such as fees and Council Taxes.
- Parks & greenspaces managed by Birmingham City Council have a **total net natural capital asset value in the order of £11 billion** (over 25 years).
- The **annual net-benefit** of Birmingham's parks and greenspaces to society is nearly **£600 million**.
- On average, **each resident receives a benefit from Council-managed parks and greenspaces worth £520 each year**.
- **Physical and mental health benefits provided by Birmingham's Parks and Greenspaces are estimated to add more than 3,300 Quality Adjusted Life Years (QALYs) each year** (83,000 over 25 years).
- The **total health benefits** provided by Council-managed parks and greenspaces are valued at nearly **£4.6 billion** over 25 years.
- **Council-managed woodlands capture more than 350 tonnes of pollutants each year**, avoiding approximately 133 hospital admissions, 28 deaths, and adding 489 life years.
- **Parks and greenspaces managed by Birmingham City Council store more than 573,000 tonnes of carbon**, equivalent to 2.1 million tonnes of CO₂ with a value of £221 million.
- Nearly 7,300 Council-managed **allotments are estimated to produce 2.9 tonnes of food each year** with a value of approximately £4.3 million.
- **This investigation shows just how important it is to account for the true natural capital benefits parks and greenspaces provide.** It also shows how limited and insufficient conventional accounting is in measuring natural capital benefits to society and human wellbeing.

Natural Capital & Natural Capital Accounting

Natural Capital is the sum of our ecosystems, species, freshwater, land, soils, minerals, our air and our seas. These are all elements of nature that either directly or indirectly bring value to people and the country at large. They do this in many ways but chiefly by providing us with food, clean air and water, wildlife, energy, wood, recreation and protection from hazards (HM Government, 2018, p. 19).

Natural Capital Accounts are a series of interconnected accounts that provide a structured set of information relating to the stocks of natural capital and flows of services supplied by them. (ONS and Defra, 2017, p. 3)