NATURAL CAPITAL ACCOUNTING IN POLICY-MAKING AT DIFFERENT SCALES

WAVES Forum, The Hague, November 17
INTRODUCTION

eftec: economics for the environment consultancy, 25 years old! - a leader in Natural Capital Accounting:

- Developed organizational method (CNCA) for UK Natural Capital Committee
- Leader/contributor to many of the UK’s asset/service natural capital accounts
- An author of Natural Capital Protocol
- Corporate natural capital accounting method (CNCA) is for a defined spatial asset:
  - Flows and values of benefits and maintenance costs are compared in a balance sheet
  - Provides managers with evidence quantifying the benefits from its green infrastructure
  - Helps show return on management and demonstrates cost savings to other departments
- Accounts in UK at different scales examine physical health and recreation benefits
  - Methods use similar physical data
  - Monetary valuations vary depending on decision-makers’ needs
UK Urban Account valued the following benefits:

- Food provision, global and local climate regulation, air quality regulation, noise regulation and physical health from outdoor recreation

- Physical Health from Outdoor Recreation

<table>
<thead>
<tr>
<th>Monetary Flow</th>
<th>Asset Stock Value (PV, 100 years, 3.5% D.R.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Avoided Health Costs</td>
<td>£900m p.a.</td>
</tr>
<tr>
<td>Welfare Value</td>
<td></td>
</tr>
<tr>
<td>(base on QALYs)</td>
<td>£1,480m p.a.</td>
</tr>
</tbody>
</table>

Source: UK National Ecosystem Assessment Report
CITY - MANCHESTER, UNITED KINGDOM

- Manchester account values benefits from tree cover and green space through
  - Noise regulation, global and local climate regulation and physical health from outdoor recreation

- Physical Health from outdoor recreation

<table>
<thead>
<tr>
<th>Monetary Flow</th>
<th>Asset Stock Value (PV, 100 years, 3.5% D.R.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided direct and indirect Costs to Society</td>
<td>£38m p.a.</td>
</tr>
<tr>
<td>Welfare gain (base on QALYs)</td>
<td>£63m p.a.</td>
</tr>
</tbody>
</table>

A suburban borough in North London

- 890 ha of open space provision (approx. 10% of area)

- CNCA examined:
  - Recreation (£41m/yr welfare value)
  - Physical health (£19m/yr avoided costs)
  - Property premium
  - Climate regulation
  - Maintenance costs

**Barnet Parks Balance Sheet, 2016**

<table>
<thead>
<tr>
<th></th>
<th>Total Value PV¹ (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Capital Assets</strong></td>
<td></td>
</tr>
<tr>
<td>Asset Value</td>
<td>1,944</td>
</tr>
<tr>
<td><strong>Gross Asset Value</strong></td>
<td>1,944</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
</tr>
<tr>
<td>Maintenance Costs</td>
<td>(134)</td>
</tr>
<tr>
<td><strong>Net Asset Value</strong></td>
<td>1,810</td>
</tr>
</tbody>
</table>

¹ PV= present value of future benefits in perpetuity discounted to 2016 prices

Asset Value is PV of all future benefits

Liability is PV of all future maintenance expenses

SITE - BEAM PARKLANDS, LONDON

- Urban greenspace in the London Borough of Barking and Dagenham
  - Delivers a range of benefits to the local community such as Flood water storage, Recreation and Health
- CNCA considers a broader perspective of the amenity value of Beam Parklands
  - Reflected by a residential and non-residential property price ‘uplift’ in the site vicinity
  - Estimates impact of NC assets on property value
- Key Results for Local Community Benefits:
  - Total net local community benefits: £796,000
  - Net present Value (over 99 years): £26m

### SUMMARY AND COMPARISON OF CASE STUDIES

<table>
<thead>
<tr>
<th>SCALE</th>
<th>LOCATION</th>
<th>SERVICE(S) VALUED</th>
<th>VALUATION METHOD</th>
<th>VALUES (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>UK</td>
<td>Physical health from outdoor recreation</td>
<td>QALY based welfare value</td>
<td>£1.48bn (£44bn)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total avoided current health costs (= exchange value?)</td>
<td>£0.9bn (£27bn)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(over 100 yrs)</td>
</tr>
<tr>
<td>City</td>
<td>Manchester</td>
<td>Physical Health</td>
<td>QALY based welfare value</td>
<td>£63m/yr (£1.1bn)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total avoided indirect and direct costs to society</td>
<td>£38m/yr (£0.8n)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(over 100 yrs)</td>
</tr>
<tr>
<td>Local</td>
<td>London Borough of Barnet</td>
<td>Recreation and Physical Health</td>
<td>Welfare value of visits</td>
<td>£40m/yr (£1.94bn)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total avoided health costs</td>
<td>£19m/yr (£1.81bn)</td>
</tr>
<tr>
<td></td>
<td>Site</td>
<td>Local community benefits (recreation, amenity and health)</td>
<td>3% property price uplift (residential and non-residential)</td>
<td>£0.8m/yr (£26m)</td>
</tr>
</tbody>
</table>

**Site**

- Beam Parklands, London

- Local community benefits (recreation, amenity and health)

- 3% property price uplift (residential and non-residential)

- £0.8m/yr

- NPV: £26m
FINAL REMARKS

- SDG 3: Good Health and Well-Being: Maintenance and enhancement of green infrastructure delivers natural capital benefits in the urban environment, contributing to the well-being of local communities
- SDG 11: Sustainable Cities & Communities: Enable the protection of cultural and natural heritage, and local disaster risk reduction strategies
- SDG 13: Climate Action: Methods illustrated here can be added to other benefits of green spaces such as improved resilience to climate change (e.g. flood water storage)
- SDG 15: Life on Land: Promote the integration of ecosystem and biodiversity values into planning across all levels of government

Organise environmental and economic data for decision-makers
Different valuations give most relevant information to scale of decisions
Can produce a balance sheet (asset values and liabilities) or support CBA
CONTACT

Ian Dickie
ian@eftec.co.uk

eftec
www.eftec.co.uk