Transport for London

DEVELOPING A NATURAL CAPITAL ACCOUNT

Summary of TfL's Baseline Natural Capital Account

1 INTRODUCTION

This report summarises the Baseline Natural Capital Account produced for TfL.

The purpose of Natural Capital Accounting (NCA) is to understand the value of the natural capital assets that an organisation owns, manages, or depends on over the future time period. The process used should be repeatable in successive years to provide data that shows changes in natural capital value over time.

NCA is a specific output of a natural capital approach. It contains a structured and linked set of information relating to the stocks of natural capital, the flows of services and benefits they provide, and the positive and negative impacts of the operations of the organisation and its value chain. NCA uses qualitative, quantitative, and monetary information about impacts and dependencies. The final account tables tend to be in monetary units. However, all information should be made available to avoid insights from the account to unduly focus on what can be monetised.

The full NCA has been developed in alignment with the British Standard on Natural Capital Accounting for Organizations – BS 8632:2021[1]. BS 8632 provides specifications and guidance for the process of preparing natural capital accounts including minimum requirements for defining the scope of an account and the material impacts and dependencies; and documenting the data and process used to prepare the NCA.

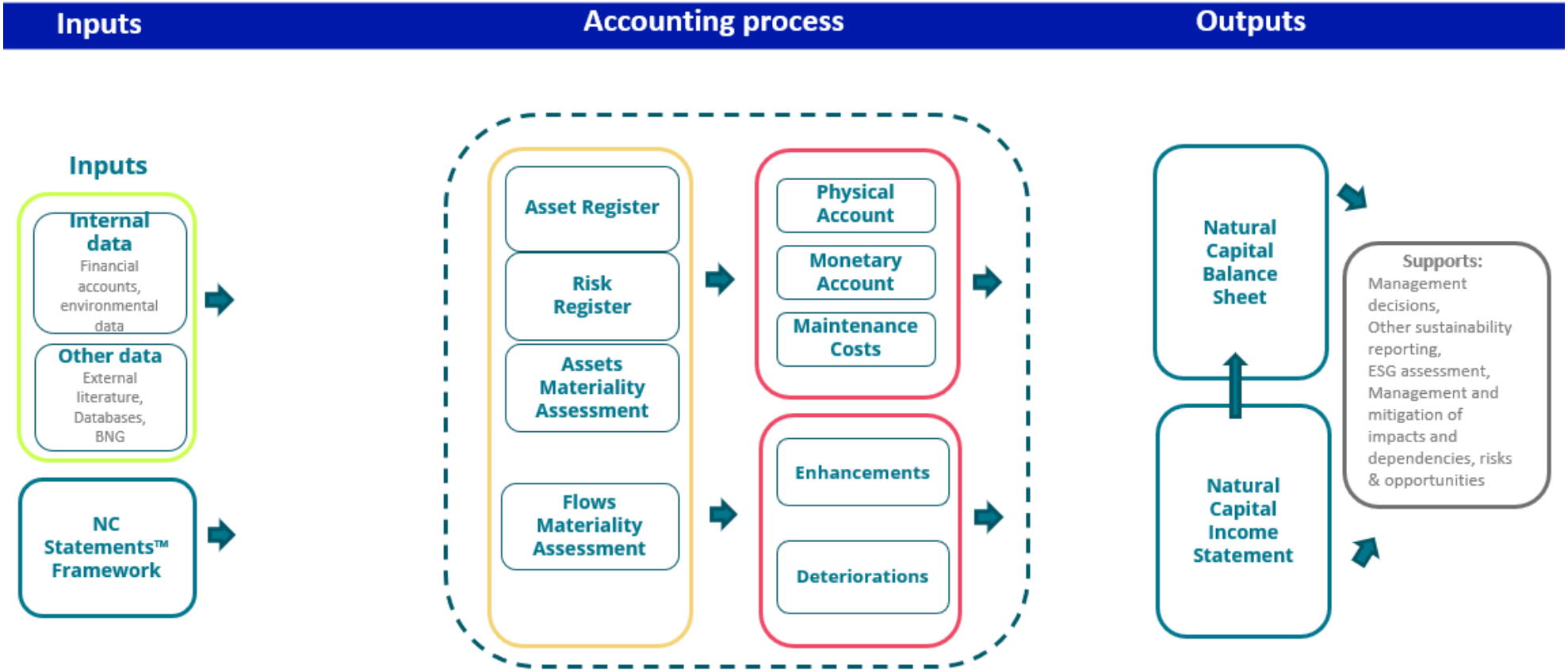
Due to commercial sensitivity, details of TfL's liabilities are not disclosed in this summary report.

1.1 ELEMENTS OF THE NATURAL CAPITAL ACCOUNT

The process for developing an NCA is depicted in Figure 1-1.

[1] Available at: BS 8632:2021 Natural Capital Accounting for Organizations. | BSI (bsigroup.com)

Figure 1-1 - Natural Capital Accounting Process



2 TRANSPORT FOR LONDON BASELINE ACCOUNT

This section presents the data in TfL's accounts supporting schedules. The baseline year is 2020, making use of data for that year where possible. All monetary values are reported in 2021 prices. The account covers key natural capital assets of TfL's landholdings. This reflects TfL's land management and operational boundary, including assets that TfL either own or are responsible for managing. As such the scope of the full account is Scope 1 of the natural capital balance sheet, in line with the BSI standard (BS 8632).

An assessment timeframe of 60 years is used, in line with Green Book appraisal guidance (HM Treasury, 2020). Monetary values are presented as present values over that timeframe (i.e., discounting) is applied in line with the Green Book appraisal guidance.

2.1 ASSET REGISTER

The asset register is a registry 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 the assets.

NATURAL CAPITAL EXTENT

The extent account records the size and location of the areas of natural capital assets, based on identifiable habitats and land uses. This account is based upon the biodiversity baseline data set collated by WSP as part of a previous project. Further information about how the biodiversity baseline data was gathered is located in TfL's Biodiversity Baseline Study (WSP, 2018). The construction of the asset register for the TfL Estate NCA aligns the baseline dataset, classified in Phase 1 Habitat, to the UK Habitat Classification (UKHab), utilising data from several sources. By combining data from multiple sources, the mapping provides a detailed understanding of land cover area in the asset register.

2.2 BENEFITS VALUE

The physical and monetary estimates for each benefit are given a confidence rating which is described in Table 2-3.

Table 2-3 – Accessing data quality

Level of confidence	Symbol	Description
Low	L	Evidence is partial and significant assumptions are made so that the data provides only order of magnitude estimates of value to inform decisions and spending choices.
Medium	M	Science-based assumptions and published data are used but there is some uncertainty in combining them, resulting in reasonable confidence in using the data to guide decisions and spending choices.
High	H	Evidence is peer reviewed or based on published guidance so there is good confidence in using the data to support specific decisions and spending choices.
No colour		Not valued

The accounts identify a wide range of benefits from the natural capital within the TfL management area. Table 2-4 shows significant values for regulating (e.g., carbon sequestration) and cultural (e.g., recreation) services, as well as significant health benefits in relation to physical activity. Overall, there is medium to high confidence for most benefits.

The estimated annual physical and monetary values are summarised in Table 2-5. Total gross annual benefit value for TfL is approximately, £11 million in 2021 prices. This comprises both public (e.g., carbon sequestration) and private impacts (e.g., flood risk management) from monetised benefits. The main benefit values in the TfL account arise to beneficiaries in London (approximately 94% of total value). Other key benefit values include volunteering at the Highgate Bat Tunnel, and non-monetised benefits (e.g., biodiversity units, visual screening, shading). However, the key question is whether maintenance activities that are undertaken are sufficient to maintain the desired level of benefits in the future.

Table 2-4 – Summary of benefits value in the TfL benefits account

Key monetised benefits												
Produced at: March, 2022	**Physical flow (Unit/yr)**	Value to TfL	Value to London	Value to global society	**Total**	**Confidence**	**Monetary value (£m/yr)**	Value to TfL	Value to London	Value to global society	**Total**	**Confidence**
Carbon sequestration	CO_2e sequestered by woodland, semi-improved grassland, and shrub (tCO_2e/yr)			1,986	**1,986**	M	Value of CO_2e sequestered by woodland, semi-improved grassland, and shrub			0.5	**0.5**	M
Air quality regulation	PM2.5 removal by woodland (kg/yr)		1,809		**1,809**	H	Value of PM2.5 removal by woodland		2		**2**	H
Flood risk and water management	Avoided runoff by woodland (m^3/yr)	6,335			**6,335**	H	Avoided volumetric charge, energy cost and greenhouse gas emissions from water treatment	0.01			**0.01**	H
Recreation	Total recreational visits (visits/yr)		1,594,777		**1,594,777**	M	Welfare value of recreational visits		5		**5**	M
	Number of rental properties (no.)	6			**6**	H	Income from property rents	0.1			**0.1**	H
Physical health	Total active visits (active visits/yr)		821,310		**821,310**	M	Avoided medical treatment costs		3		**3**	M
Volunteering	Number of volunteer hours at Highgate Bat Tunnel (hours)	60			**60**	H	Value of volunteer time at Highgate Bat Tunnel	0.001			**0.001**	H
	Number of TfL volunteers of garden projects (no.)	600			**600**	L						
							Total value	**0.1**	**10**	**0.5**	**11**	M

Key non-monetised benefits												
Produced at: March, 2022	**Physical flow (Unit/yr)**	Value to TfL	Value to London	Value to global society	**Total**	**Confidence**	**Monetary value (£m/yr)**	Value to TfL	Value to London	Value to global society	**Total**	**Confidence**
Biodiversity	Biodiversity score of natural capital assets (BUs)			8,171	**8,171**	H						
	Hibernating bat species (count)			44	**44**	H						
	Area of wildflower verges (ha)			7	**7**	H						
Visual screening	Potential visual screening provided by trees (ha)		147		**147**	L						
Shading	Potential shading of passengers at TLRN transport nodes provided by trees (ha)		0.08		**0.08**	L						
Other material unquantified benefits												
Mental health												
Education												

Table 2-5 – Extract from TfL natural capital balance sheet, PV60 £m

Asset values (monetised)					
Produced at: February, 2022	**Valuation metric**	**Value to TfL**	**Value to London**	**Value to global society**	**Total**
Carbon Sequestration[1]	Value of CO_2e sequestered by woodland, semi-improved grassland, and shrub			18	18
Air Quality Regulation[1]	Value of PM2.5 removal by woodland		65		65
Flood risk and Water Management	Avoided volumetric charge, energy cost and greenhouse gas emissions from water treatment	0.25			0.3
Recreation	Income from land rents	2.5			2
	Welfare value of recreational visits		130		130
Physical health	Avoided medical treatment costs		112		112
Volunteering	Value of volunteer time	0.03			0.2
Total gross asset value	**Mix of values**	**2.8**	**307**	**18**	**328**

Asset values (non-monetised)	
Biodiversity	Biodiversity score of natural capital assets: 8,171BUs
	Number of hibernating bats species: 44
	Area of wildflower verges: 7 ha
Visual screening	Potential visual screening provided by trees: 147 ha
Shading	Potential shading of passengers at TLRN transport nodes provided by trees: 0.08ha
Unquantified material benefits	
Mental Health	
Education	

Liabilities					
Production costs					
Natural capital maintenance costs					
Total gross asset maintenance costs					
Total net asset value (monetised)					