

# Treework Environmental Practice

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*Managing Director*

## Treework Environmental Practice

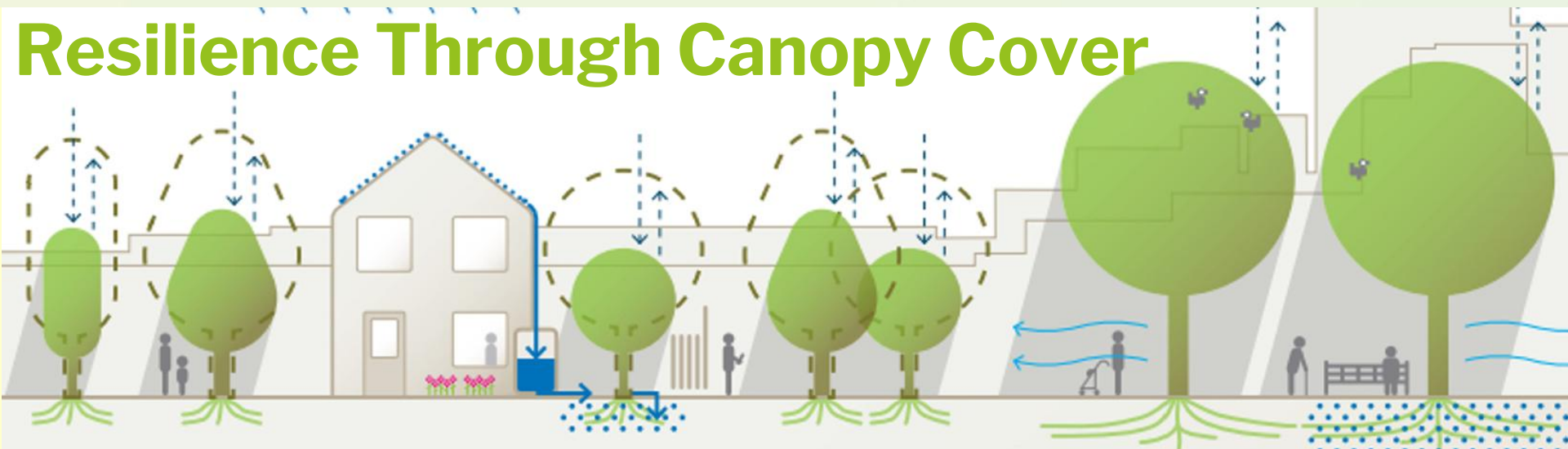
How accurately can we predict canopy cover projects?

What are the uncertainties and how much does accuracy matter?



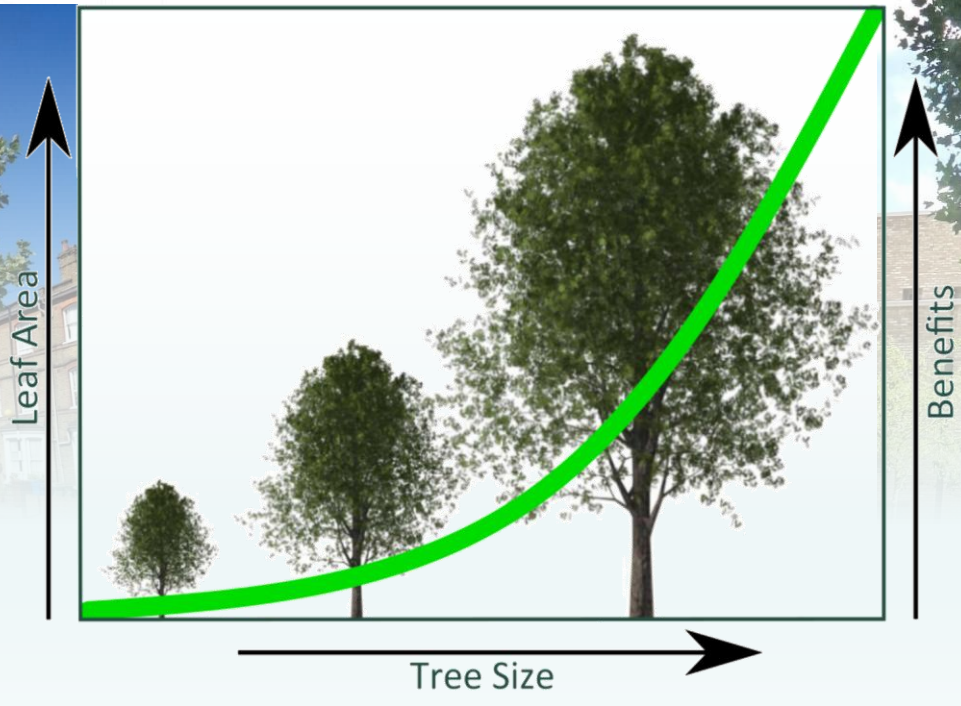
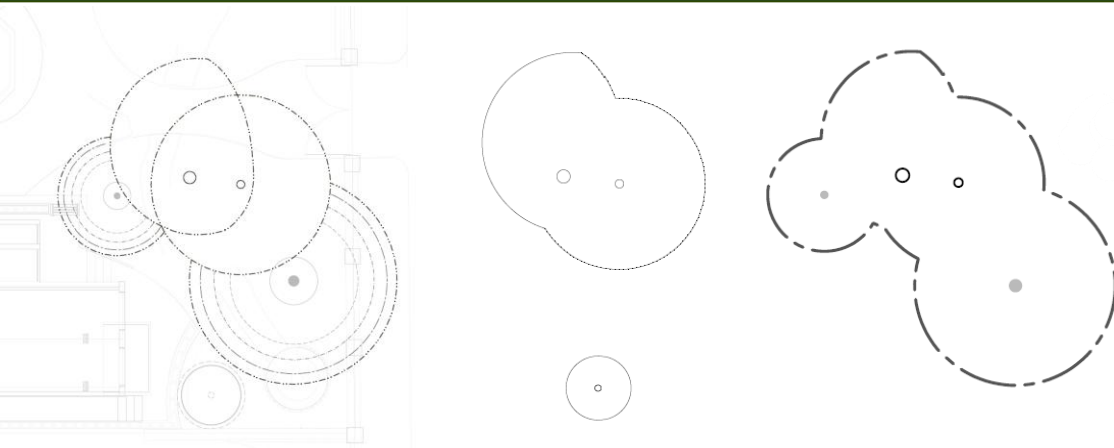
**Trees & Design  
Action Group**

## Resilience Through Canopy Cover





# What Do We Want to Achieve?



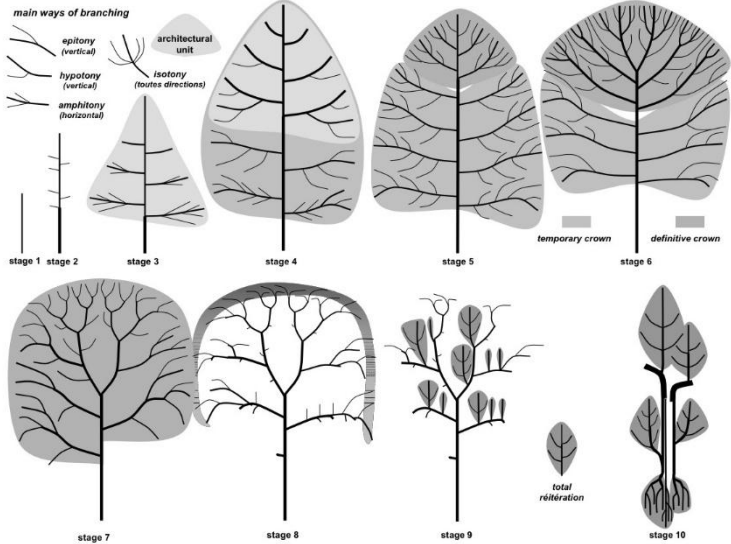


## Why Is It Difficult?

# Think of a Tree



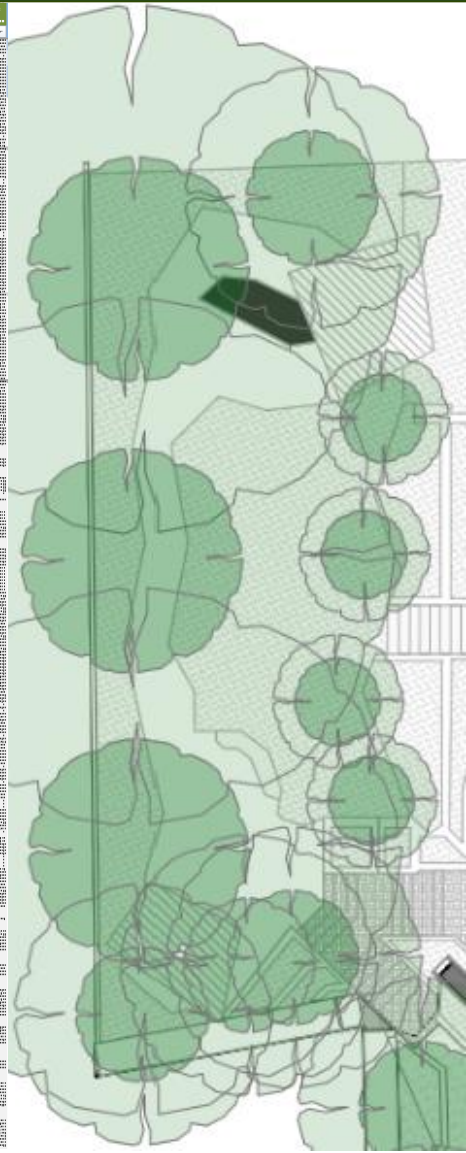
# Why Is It Difficult?





# Why Is It Difficult?

The image displays five spreadsheets, each with a green header bar. The spreadsheets contain extensive data tables with multiple columns and rows. Some cells are highlighted in yellow, and some text is in red. The data appears to be organized into sections, possibly representing different trees or project phases. The spreadsheets are arranged in a grid, with two rows of two and one row of one spreadsheet on the right.





## What Resources Do We Have

jfscientific



Treework Environmental Practice



### Handbook of UK Urban Tree Allometric Equations and Size Characteristics

Version 1.3, December 2024

Joe Fennell and Luke Fay

Project 4D Trees



**Forestry Commission**  
231 Conston Road  
Edinburgh  
EH12 2AT  
<http://www.forestry.gov.uk>

### Estimating the Age of Large and Veteran Trees in Britain

**INFORMATION NOTE**  
ISSUED BY FORESTRY PRACTICE NOVEMBER 1998

**Urban Forestry & Urban Greening**  
ELSEVIER  
Volume 19, 1 September 2016, Pages 223-236

### Allometric relationships for urban trees in Great Britain

Madalena Vaz Monteiro, Kieron J. Doick, Phillip Handley

**Urban Forestry & Urban Greening**  
ELSEVIER  
Volume 44, August 2019, 126421

### Defining the allometry of stem and crown diameter of urban trees

Andrew Coombes, Jaime Martin, Duncan Slater

**Forest Research**

### Individual Tree Data Standard

**Canopy cover assessments**  
A pragmatic approach to growth modelling

**SCIENCE & OPINION**

### First Steps in Urban Tree Canopy Cover

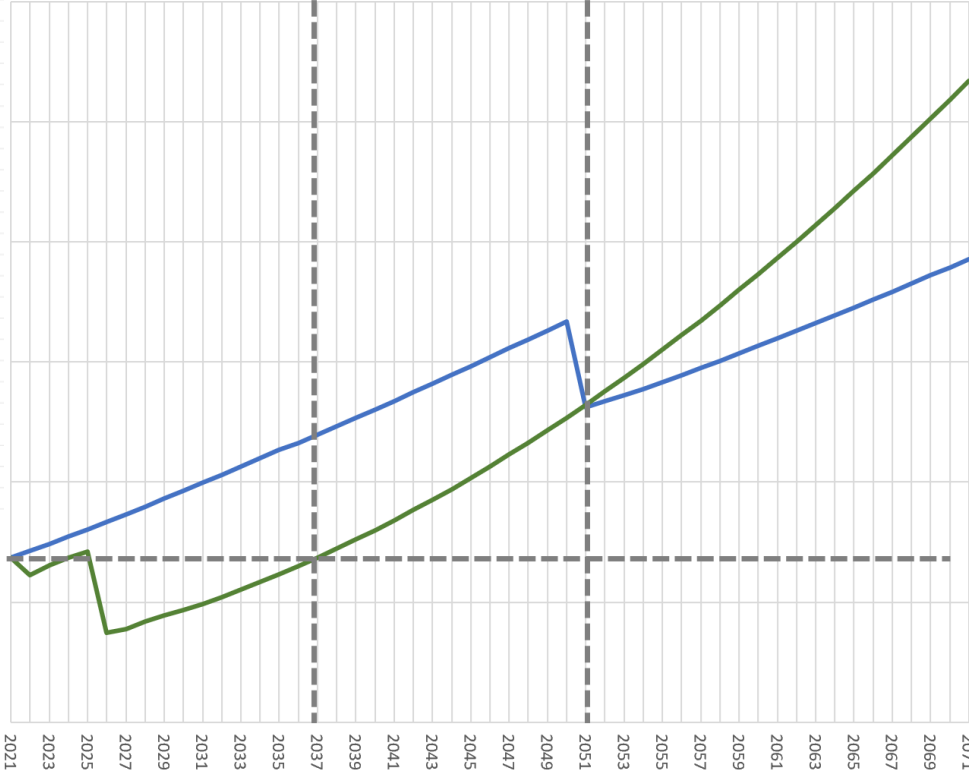
A Strategic Approach for Urban Forest Planning

UNIVERSITY OF BIRMINGHAM | SCHOOLS OF FORESTRY | UNIVERSITY OF BIRMINGHAM | BIFOR

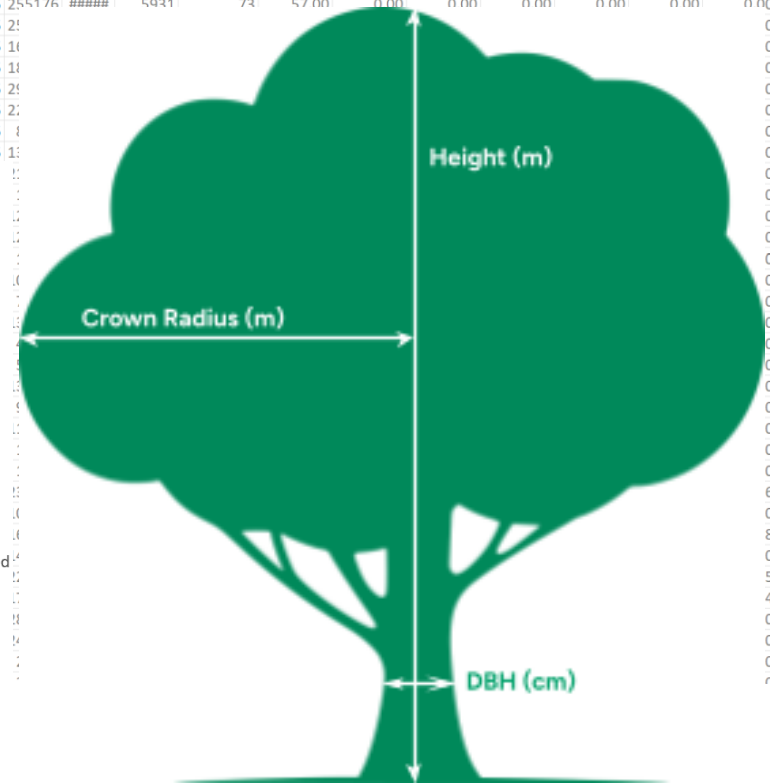


# Applying A Model

Object ID	Site	Species	Diameter (cm)	Site Category	Growth Rate	Plant (Year)	Establish (Years)	Senescence (Year)	Fell (Year)	Core Age (Year)	Restricted Core Age (%)	Core CAI (mm)	Senescence CAI (mm)	Stem Area (mm <sup>2</sup> )	Core Area (mm <sup>2</sup> )	Mature CAI (mm <sup>2</sup> )	Estimated Age (Years)	Ø (cm)	Ø (cm)	Ø (cm)	Ø (cm)	Ø (cm)	Ø (cm)	Ø (cm)
1		Tree Surve Platanus x hispanica	41	Poor	Fast					51	85%	5	0.5	132025	#####	7933	41	41.00	42.00	43.00	44.00	45.00	46.00	47.00
2		Tree Surve Platanus x hispanica	40	Poor	Fast					51	85%	5	0.5	125664	#####	7933	40	40.00	41.00	42.00	43.00	44.00	45.00	46.00
3		Tree Surve Platanus x hispanica	52	Poor	Fast					51	85%	5	0.5	212372	#####	7933	52	52.00	52.96	53.91	54.84	55.75	56.65	57.53
4		Tree Surve Aesculus hippocastanum	57	Poor	Moderate				1	59.5	85%	4	0.5	255176	#####	5921	72	57.00	0.00	0.00	0.00	0.00	0.00	0.00
5		Tree Surve Aesculus hippocastanum	57	Poor	Moderate				1	59.5	85%	4	0.5	255176	#####	5921	72	57.00	0.00	0.00	0.00	0.00	0.00	0.00
6		Tree Surve Acer platanoides	46	Poor	Fast				1	51	85%	5	0.5	112025	#####	7933	46	46.00	47.00	48.00	49.00	50.00	51.00	52.00
7		Tree Surve Acer platanoides	49	Poor	Fast				1	51	85%	5	0.5	112025	#####	7933	49	49.00	50.00	51.00	52.00	53.00	54.00	55.00
8		Tree Surve Platanus x hispanica	61	Poor	Fast				5	51	85%	5	0.5	212372	#####	7933	61	61.00	62.00	63.00	64.00	65.00	66.00	67.00
9		Tree Surve Platanus x hispanica	54	Poor	Fast					60	100%	5	0.5	212372	#####	7933	54	54.00	55.00	56.00	57.00	58.00	59.00	60.00
10		Tree Surve Platanus x hispanica	32	Poor	Fast					60	100%	5	0.5	212372	#####	7933	32	32.00	33.00	34.00	35.00	36.00	37.00	38.00
11		Tree Surve Platanus x hispanica	42	Poor	Fast				5	60	100%	5	0.5	212372	#####	7933	42	42.00	43.00	44.00	45.00	46.00	47.00	48.00



Existing  
Proposed





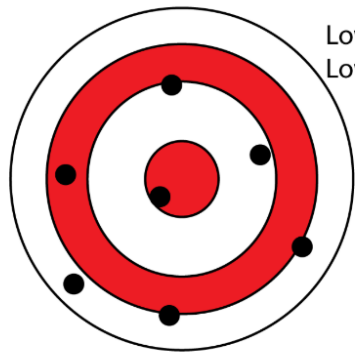
# Applying A Model



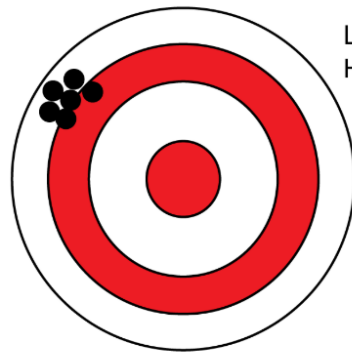




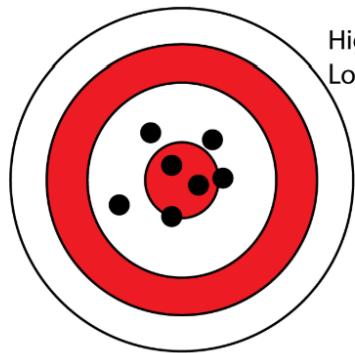
# Accuracy v Precision



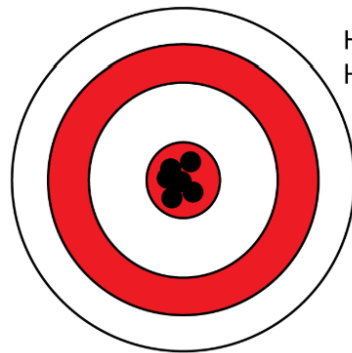
Low accuracy  
Low precision



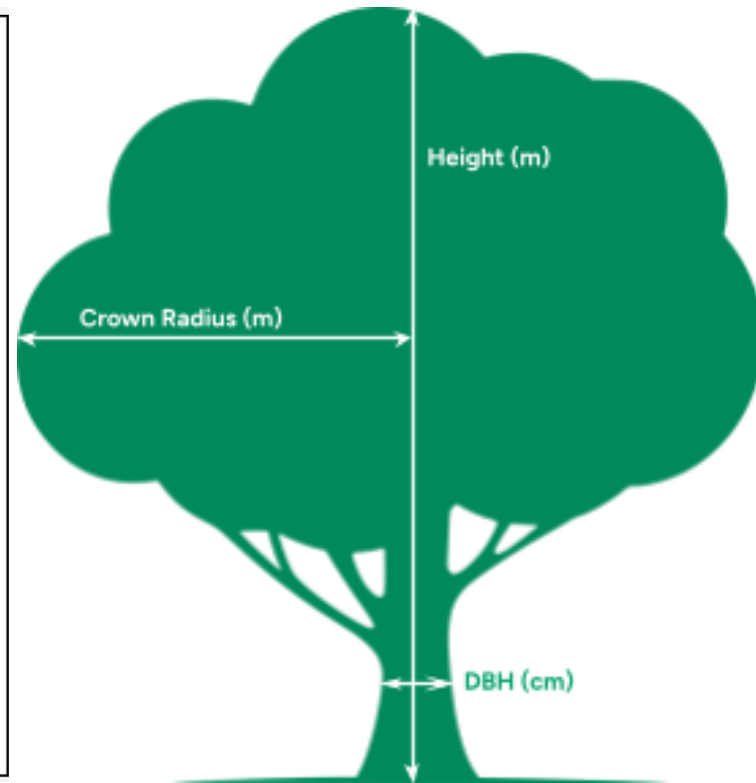
Low accuracy  
High precision



High accuracy  
Low precision



High accuracy  
High precision





# What Do We Want to Achieve?

