



MUCH has been written in these columns and others about the ambitious tree planting programmes initiated by central and local government. These are, of course, to be applauded. There has also been a similar amount written about ambitious targets for increasing tree canopy cover, especially in the harsher urban environments also set by central and local government.

It is natural, perhaps, to link the two and suggest that dramatic increases in canopy cover are to be achieved by planting by numbers. The more trees planted, the greater the canopy cover gain achieved. There is nothing fundamentally wrong with this natural association other than the suggested timescales these increases in canopy cover are targeted to be achieved in. To suggest that planting copious numbers of new trees now will achieve significant tree canopy increases within 10 to 15 years has always seemed dubious.

It is obvious that any tree population needs to be replenished and enhanced over time through new planting. It is through planting that new species can be introduced, diversity within the population increased, questions of environmental inequity addressed and resilience to the inevitable challenges associated with climate change and the also inevitable challenges of new pests and diseases, achieved.

Yet, at this moment, in time the emphasis seems to be on planting by numbers. The more trees planted, the better things will be. However, this focus has inherent problems as there is rarely any analysis of which trees should be planted where and what is the desired outcome from tree planting. There

Is less more? Ask Torbay

A first-of-its-kind study suggests planting fewer trees actually increases canopy cover, rather than reducing it.

is rarely any underpinning evidence base which analyses the existing tree population and its strengths and weaknesses, any consideration of the ecosystem services desired in the future which can be delivered through tree planting, or any consideration of the management and maintenance necessary if newly planted trees are to achieve their full genetic potential. Planting by numbers has very little in the way of a coherent and thought-out strategy which guides judicious planting towards clearly defined goals and targets. These targets and goals will be local and vary from place to place.

Focusing on planting, which again I stress is necessary and essential for dynamic and sustainable urban forests to be created and maintained, is short-sighted if increases in canopy cover as a desired outcome is to be achieved.

Every tree population is obviously composed of existing trees of varying species, size, age classes and numbers. These trees are living if not always thriving

in the environments in which they are growing, they have adapted and overcome many of the constraints associated with establishing and maintaining newly planted trees. Yet when it comes to canopy cover targets in particular, the condition and growth of existing trees is rarely considered, and the assessment of what canopy growth could be achieved if existing trees were better maintained, and annual growth increased from often sub-optimal levels to maximum potential for individual species.

The heading for this article is 'Is less more? Ask Torbay' and there is a reason for this. Torbay, in 2010, carried out an analysis of its tree population, using i-Tree and working in conjunction with Treeconomics and others, produced the first i-Tree report carried out in the UK. That report paved the way for other similar and enhanced reports to be produced with i-Tree becoming a recognised and respected tool for urban forest analysis. The second i-Tree study of Torbay has just been completed. The

detailed analysis has yet to be published but headline figures have been released.

It is instantly noticeable that the number of trees in Torbay has fallen, with 692,000 being recorded in 2010 but a lesser 458,800 recorded in 2022. This is coupled with a reduction in the tree density per hectare from 109 trees per hectare in 2010 to 71 trees per hectare in 2022. So, there are undeniably fewer trees. Yet, and this is the surprising and perhaps counter-intuitive outcome from the study, canopy cover has increased from the 11.8 per cent recorded in 2010 to 18.2 per cent in 2022. This means that despite tree numbers having significantly decreased in the last 12 years the tree canopy cover has increased by 6.4 per cent and the amount of carbon stored by those trees similarly increased.

When asked to comment on this, Kenton Rogers, of Treeconomics who has worked closely on both studies, said: "This indicates that although the population of trees has thinned out, overall canopy cover has increased as the urban forest matures. This highlights the importance of maintaining existing trees. This is crucial to improving canopy cover and the ongoing management of established trees has allowed them to continue to live and thrive in Torbay."

Neil Coish, the head of service for parks, green infrastructure and street scene, added: "The headline figures from the

i-Tree survey identifies and showcases the need to manage our existing tree

canopy. Our mature (heading into senescent) cultural and historical Victorian tree plan, a strategic approach of managing the existing canopy to retain the older trees and 'planting the right tree in the right place' will produce a sustainable and resilient tree canopy throughout Torbay."

Enhanced management, such as that of the large oak on Torre Abbey Meadows, is one way of prolonging the lifespan of a tree by undertaking appropriate measures that will provide the best outcome for the tree. As ever, much of what is possible is reliant on budgetary and resource pressures, however the 'wealth' that trees bring would be beyond the initial fiscal outlay given the replacement cost of all the trees is £306 million.

So, from the above it is apparent that despite a loss in tree numbers there has been an increase in canopy cover and certainly raises the question as to whether a 6.4 per cent increase in canopy cover would have been possible in Torbay if that increase had been reliant entirely on tree planting?

Neil added a further thought.

"As important as new tree planting is (and it is important) the reliance on our older, mature trees to provide the benefits of carbon sequestration and increase in canopy cover is vital. The annual extension growth produced by our larger trees is equivalent to a multitude of small trees being planted. Thus, the increase in our canopy cover will allow time for the younger trees to establish and begin their life cycle before the larger trees require removal."

From the above it is now possible to



This is crucial to improving canopy cover to help trees thrive

examine objectively some of the numeric tree planting targets and their impact on canopy cover. It has already been stated that tree planting is essential in any urban forest but should the focus and investment on tree planting alone be modified? Is a better approach to achieving an increase in canopy cover one where resources and investment are made not only in tree planting but on better and more focused management of existing trees already present in the population?

Certainly, the evidence from Torbay, and it being the first and only repeat study carried out in UK, would indicate that canopy cover gain is likely to be achieved successfully if strategic tree planting, not by numbers, is carried out alongside increased investment and focus on the maintenance and management of existing trees.

Keith Sacre



Left: A magnificent magnolia in full flower which graces the eastern shore of Torbay.

Right: The Torre Abbey Oak which has benefited from enhanced tree management.

Circle: On a bleak early March day maturing Stone pine face out into Torbay.