

Draft Broadstairs & St Peters Tree Strategy to 2031

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1 Introduction

This strategy document is a background document to the Broadstairs Neighbourhood Plan and will provide the evidence base for the policy approach and decision-making process for the Town Council with regards to trees and the environment. Specifically, this strategy focuses on how we manage trees and hedgerows in Broadstairs and St Peters and how they can contribute to environmental improvement.

The Broadstairs and St Peters Town Council (BSPTC) has taken the initiative to set up an Environmental Action Group to work more proactively in this area. As custodians of the public environment for Broadstairs & St Peters the Town Council has responsibility to manage the public environment on behalf of residents. Trees and hedges are both assets and liabilities and exist within the biosphere as part of an interlinked social framework.

It is hoped, therefore, that this strategy can become a blue-print for management of our trees and hedgerows in Broadstairs and St Peters for successive local Councils.

1.1 Terminology

Throughout this document the following abbreviations are used

Abbreviation	Long Form
BSTP	Broadstairs & St Peters
BSPTC	Broadstairs & St Peters Town Council
TDC	Thanet District Council
TPO	Tree Protection Order

2 Broadstairs & St Peters 2020 Canopy Coverage

In order to plan for the future our strategy requires a review of the current situation in respect of trees and hedges in BSTP so that we can measure improvement objectively. There are a number of possible ways of measuring our starting position, but since it is an impossibility to count every tree, we must use some broad statistical methods and desk data that may allow us to measure change/improvement over time.

Some good data on trees exists in Kent Council and Thanet Council records; the former in respect of Street Trees (that are classed as County assets) and the latter in respect of poor records on Tree Preservation Orders across Thanet since 1975, but also referring to data from 1956. There are no existing records on hedgerow types, meterage, species mix or whether ancient or otherwise. There is a need for a more thorough review of our Trees and Hedges in order to measure improvement and this will be discussed at section 3.2.3 In addition, it was decided by the author that a review of Canopy Coverage is a useful method to measure improvement over time and is one that is supported/endorsed by the UK Government. Canopy cover assessments help to observe change over time at a relatively low cost in comparison to ground surveys¹.

¹ Quantifying tree canopy cover has been identified by many authors (Britt and Johnston, 2008; Escobedo and Nowak, 2009; Schwab, 2009) to be one of the first steps in the management of the urban forest. “The first step in reincorporating green infrastructure into a community’s planning framework is to measure urban forest canopy and set canopy goals.” James Schwab.

Canopy cover, which is often also referred to as tree canopy cover, urban tree cover and urban canopy cover, can be defined as the area of leaves, branches, and stems of trees covering the ground when viewed from above. Canopy cover is a two-dimensional metric, indicating the spread of canopy cover across an area.

Canopy cover mapping is a good tool because it's easy, explainable and repeatable. But there are flaws since there is a lot missing. It doesn't recognize species, and this is important because of interconnections and diversity in the biosphere. It doesn't recognize size, age or health of the trees. We need more data therefore than Canopy coverage alone. We also need a ground-based approach and this is discussed in the strategy at section 3.2.2.

2.1 Baseline Canopy Coverage in BSTP

BSTP is divided into five wards. The author undertook a survey of tree canopy coverage in early 2020 using Tree Council/Forestry Commission approved desk research methods and the data was added to the Government ArcGIS database for Forest Research.

The author undertook a survey of the BSTP council wards, using the Government and Tree Council sponsored Canopy Mapping tools –

(see <https://www.forestresearch.gov.uk/research/i-tree-eco/urban-canopy-cover/> accessed 21/09/2020). The project required download of the Forestry Commissions ward map shapes, that were then superimposed on Google Earth aerial maps into the iTreeCanopy suite online and then randomized points in each ward were sampled as to whether they were a tree or other surface. Sampling continued until confidence levels dropped below 1.99. For some wards this required sampling of more than 500 data points and was labour intensive.

The results can be accessed here,

<http://forestry.maps.arcgis.com/apps/webappviewer/index.html?id=d8c253ab17e1412586d9774d1a09fa07> (accessible at 21/09/2020). The individual datasets are held by the author and can be provided on request. The results are shown below and indicate that across the BSTP Council area there is an average of 14.7% canopy coverage.

Ward	Percentage Canopy Cover iTreeCanopy
Kingsgate	13.8%
St Peters	13.9%
Beacon	16.8%
Bradstowe	15.1%
Viking	14.1%
Average BSTP	14.7%
Average Thanet	4.4% BlueSky mapping
Average Thanet	11.0% iTreeCanopy

Table 1: Canopy Cover BSTP Wards

These results appear at first glance to compare favourably to Thanet as a whole, where the average may be as low as 4.4% according to a Friends of the Earth Survey from 2019 using BlueSky National Tree Map data (from 2014) (<https://friendsoftheearth.uk/trees/friends-earth-reveals-local-areas-lowest-tree-cover->

are-neglected-government-tree-planting). BlueSky data is highly respected and uses an algorithm to log *every* tree from aerial maps. As such, it is likely to be more accurate than the ForestResearch and iTreeCanopy survey data where sampling and statistical methods are used to estimate canopy coverage with varying confidence levels.

As with all methods, however, it is important to compare like with like and using the iTreeCanopy method, Thanet's canopy coverage as a whole comes in at 11.0%. The reason for the disparity between iTree Canopy data and BlueSky data may be 1) because the interior of the island is largely agricultural in nature and is not sampled in the Forest Research/iTreeCanopy method and 2) the BlueSky National Tree Map data was more exhaustive and covered the agricultural area in the centre of the island.

However, an average of 14.7% canopy cover is still poor, when you consider that an area in London such as Island Garden, Tower Hamlets has 16.8%. And Guildford, one of the highest canopy coverage areas, has 35.8% and has also planted another 6 hectares of trees between 2010 and 2018. Thanet has planted no trees in this time and is one of three districts in the whole of the UK to have taken no action whatsoever whilst seeing further trees lost to development every month. BSPTC is in a position to change these woeful statistics and this strategy seeks to establish what the target canopy coverage should be and how to achieve this increase.

2.2 Parks & Open Spaces

TDC owns and leases a number of recreational parks and open spaces, but budget cuts have meant that the tree and hedge stock in the parks have become difficult to maintain effectively and are treated as a nuisance and there has been no new planting of trees by TDC since 2010.

BSPTC has 18 Designated Green Spaces that are listed in the Neighbourhood Plan. These vary in relationship to tree cover. Some already have trees growing there and some have potential for trees since they are currently mainly laid to grass. Five areas may have potential for further tree planting, these are

- Colbourn Road Estate
- Hereson Road/Nunnery Close
- Parts of The Maples
- Vincent Close/Northdown Park
- Culmers Land

In Broadstairs we are lucky enough to have a number of Parks, that have some tree canopy coverage and potential for further planting. These are

- Holmes Park
- St Peters Recreation Ground
- Memorial Recreation Ground
- Pierremont Park
- Broadstairs Cricket Ground/Park Avenue woodlands

See Appendix 2 for maps of these areas.

2.3 Community Woodland

2.3.1 Mockett's Wood

Mockett's Wood is run as a Community Woodland and receives some funding from Broadstairs Town Council each year. The management of the wood is undertaken by a very small group of volunteers who meet once a week to litter pick and manage the needs of the woodland. The woodland backs onto a number of residential houses and a car park and is prone to vandalism and arson. The woodland is mostly secondary woodland

although it shows some elements of ancient woodland as there is a lot of Butchers Broom, which is an indicator species for primary woodland. The 1871 map shows the land as park land, with mixed park planting behind Hopeville Farm. Between the 1871 to 1890 map and 1897 to 1900 it is clear that hedges and trees were already being removed to make way for open agricultural land and increased housing. The woodland today extends further than its 1871 boundary.

2.3.2 Park Avenue Cricket Ground

There are two areas of woodland adjoining the Cricket Ground. The Cricket Ground itself has Village Green status although it is unclear the extent this designation and how many trees on the east side are included. Park Avenue has some of the oldest oaks in Thanet. There are two areas of naturalised woodland adjoining the parks that are in private ownership. One has recently been subject to clear felling and TDC is in dispute with the owner about the legality of the action and is pressing for re-planting. The area on the western side is similarly at risk of development. BSPTC has been, along with residents, pressing TDC for these two areas to be classed as Local Green Space for the benefit of residents and that the land will not be granted planning permission for housing. There may be scope for these areas to be purchased for Community Woodland in the future.

2.4 Veteran and Notable trees

The author has started to note veteran and notable trees in the town on two online mapping systems, TreeZilla.org and the Woodland Trust Ancient Tree inventory. Whether a tree is classed as ancient, veteran or notable depends on its species as well as its age. There is no set age for a tree to be considered ancient, as different species age at different rates. Birch trees, for example, are fast-growing, and could be classed as ancient at 150 years old, while a yew tree might receive the same accolade at 800 years of age. To be recorded on the Ancient Tree inventory as ancient, the tree must be in the last third of its life. Oaks, for example, can live to more than 1000 years of age. So, a three or four hundred year old oak is still quite young for an oak. We are lucky enough to have a number of splendid oaks in the Park Avenue Cricket ground and adjacent homes and woodland. But none are more than 300 years or so in age and are therefore classed only as Notable trees. No, ancient trees have been discovered in Broadstairs & St Peters yet. Both projects are citizen science projects and anyone can log trees onto the websites. The Ancient Tree Inventory is curated and overseen by voluntary assessors and the assessor for Kent is David Carey, who is also the co-ordinator of the Kent Tree & Pond Wardens. He has verified the oaks at Park Avenue.

Veteran and notable trees throughout Thanet must be given better protection going forward otherwise we will never have ancient trees with all the habitat benefits that they provide as they gradually decay in the third stage of their life.

2.5 Hedgerows

Hedgerows are hugely important in the environment as wildlife corridors – linking disparate areas of woodland and parks together. Fragmentation of tree covered areas, leads to a gradual diminution of biodiversity, the overrunning of one species, such as Ivy or Alexanders and reduction in flora and fauna supported by the area. Hedgehogs, for

example, can travel 12 miles in one night along hedgerows linked to gardens and out to non-residential areas².

Hedges “are valued too for the major role they have to play in preventing soil loss and reducing pollution, and for their potential to regulate water supply and to reduce flooding. Hedgerows may even have a role to play in taking greenhouse gases out of circulation through carbon storage, if they are allowed to expand in size. Certainly, any loss exacerbates climate change to some extent” (Hedgeline.org.uk – 24/09/2020).

It will be quicker and easier to ameliorate the impact of climate change by planting hedgerows. They take up less space and provide an identified function (enclosure), whilst providing environmental services in respect of carbon capture and habitat provision.

As far as the author is aware there has been no systematic survey of the hedgerows in Thanet or Broadstairs & St Peters. Some existing footpaths and hedges may follow the line of ancient hedgerows and may be species rich, but in need of good management. Others may have lost their hedges in the Common Agricultural Policy drive to enlarge fields in the 70s and 80s. Hedges need to be managed on a 40-year cycle, otherwise they become over grown with scrubby trees and lose their original function as a living enclosure. A starting point for a policy and strategy for Hedgerows may be a comparison between historic maps and current aerial maps to show the lines of hedgerows that are still in existence. A species mapping could then be undertaken to establish the diversity and health of the hedgerows prior to developing a management and improvement programme.

3 The Vision

The BSTP Tree Strategy is aligned to the Neighbourhood Plan vision of the Town as a beautiful and healthy place to live, and trees are an intrinsic part of this. A Chinese proverb says, “The best time to plant a tree was 20 years ago” and this is true for a number of reasons.

- a) Trees have a natural life span of their own. Because tree lifespans are mostly so much greater than ours, we have a tendency to expect trees to go on forever and are sometimes surprised that they die. In BSTP we have no Giant Sequoia or Baobabs that would live for 2000 years or more. But we do have a lot of trees that are nearing the end of their lives. We should be succession planting now for the trees that will be lost through old age
- b) Trees die from pests and diseases. This is discussed more fully in section 3.4, but suffice to say trees that die from natural causes should be replanted. This is especially true of Street Trees where it is becoming particularly noticeable in BSTP
- c) Trees are lost through the action of homeowners removing unprotected trees in their own gardens, which they are entitled to do
- d) Trees are lost through the LPA permitting the removal of both protected and unprotected trees and hedges in planning applications
- e) Trees are lost through the action of unqualified/inexperienced/careless tree surgeons damaging or killing the tree directly

² source: <https://www.countryfile.com/wildlife/mammals/our-guide-to-hedgehogs-where-to-see-and-how-to-help-hedgehogs-in-your-garden/> accessed 19/11/2020

f) Trees are lost through vandalism

In order to mitigate canopy loss through these various causes BSPTC can take a strategic view of what is needed and implement a delivery plan, which is the essence of this document (see section 7 for Implementation plan).

Essentially all mitigation for tree loss is based on the following two measures:

1. Protect existing trees or woodland/forest resources
2. Plant new trees (this may include more general restoration of woodland/forest ecosystems).

Relative to the parcel or project area where tree removal occurs, mitigation measures can be implemented at one or both of the following locations:

A. On site or B. Off site

The basic mitigation measures and locations give rise to the four combinations shown in the following table. Almost all mitigation tactics can be grouped into one of these four categories. Although simple in concept, these four basic mitigation tactics can be implemented in a wide variety of ways, each of which have different consequences for the community forest. Some of the most common examples of each mitigation tactic are listed in the table below.

<p>A. On site</p>	<p>1. Protect existing trees or stands</p> <ul style="list-style-type: none"> • Protect existing individual trees and/or stands through project design: <ul style="list-style-type: none"> - relocate structures or infrastructure - utilize specialized construction methods to minimize damage to tree roots - set aside portions of project area as woodland/forest preserves 	<p>2. Plant new trees and/or woodland/forest restoration</p> <ul style="list-style-type: none"> • Plant new trees in landscaped portions of parcel to replace those removed • Plant new trees on portions of the project area set aside as woodland/forest preserves
<p>B. Off site</p>	<p>1. Protect existing trees or stands</p> <ul style="list-style-type: none"> • Purchase land with existing trees or stands by public agency or land trust and set aside as permanent woodland/forest preserves • Establish permanent conservation easements on individual trees or stands on private lands to protect those tree resources from removal. 	<p>2. Plant new trees and/or woodland/forest restoration</p> <ul style="list-style-type: none"> • Plant new trees on approved public lands <ul style="list-style-type: none"> - landscaped areas - rehabilitation and reforestation of degraded natural woodlands / forests - afforestation of lands that currently lack trees (usually former woodlands/forests) • Plant new trees on approved private lands <ul style="list-style-type: none"> - land trust holdings - privately-owned woodland/forest preserves protected with conservation easements

3.1 A) Protecting Existing Trees and Stands of Trees

3.1.1 Stopping Tree Canopy Loss

Since the tree warden (author) was appointed in May 2018, planning applications that involve trees have been reviewed each month and advice given to the Planning Committee members in order for them to make recommendations to the LPA.

In the period May 2019 to September 2020, from 27 planning applications to remove trees 16 were granted, 9 refused, 2 withdrawn, making a total loss of 49 mature trees. Two of the refusals were for large numbers of trees, in one case more than 50 (Greensleeves) and in another more than 15 (Wood hatch). But the 49 lost are still a loss of trees which will do nothing towards canopy improvement and environmental net gain (for more on this requirement see section 6.1.4). In three cases the owner of the tree has undertaken to replant.

Policy Recommendations

In line with the standard tree letter sent to TDC LPA, BSPTC could include in the Neighbourhood Plan, the following policies.

Policy Recommendation 1: All applications for trees to be felled must be supported by the view of the TDC Environment & Horticulture Officer [The Tree Officer] following a visit to the site and independent assessment.

Policy Recommendation 2: Only diseased or dying trees to be felled and only subject to a suitable replacement being planted. (See also Canopy Mitigation Replanting 3.1.3).

Policy Recommendation 3: Works required for structural reasons i.e., impact of root damage to foundations and drains, must be supported by structural engineering evidence as well as a report from the TDC Environment & Horticulture Officer [The Tree Officer].

In addition to policies that would seek to reduce canopy loss, most trees need sympathetic management and a fixed percentage of the canopy lost to pruning should not be exceeded. It is good practice according to British Standards document “BS 3998:2010 - Tree work. Recommendations” to include all tree measurements in applications – otherwise a percentage is meaningless.

Policy Recommendation 4: Remedial tree works i.e., Crown lift / Crown thin / Height reduction etc., to be kept to a maximum of 20%, unless the TDC Environment & Horticulture Officer [The Tree Officer] authorises otherwise. All tree applications must contain full measurements in line with BS3998:2010, in order to make the requested percentage reduction meaningful.

3.1.2 Mitigating Damage to Trees from Unqualified Tree Surgeons

Trees in the built environment need to be managed, or they will outgrow their space and become a nuisance. This can be mitigated by planting the correct species in the right place. But we still need to manage trees that were planted many years ago, are only part-way through their lives and are in close proximity to buildings, streets and pavements. It is important that trees are only worked on by those who have studied their morpho-physiology and understand the requirements of different species in relationship to the

built environment. A qualified tree surgeon will be able to advise and carry out work that will keep the tree healthy, whilst maintaining it in its space.

It is unfortunate that there is very little legal control over who can set themselves up as a Tree Surgeon. As a result, there are upwards of 40 companies who are found on a Google Search for Tree Surgeons between Thanet and Maidstone. In addition, many Garden Maintenance companies will also offer tree work.

There aren't any set qualifications for a Tree Surgeon, but BSPTC could set a policy that work should be undertaken only by Tree Surgeons holding City & Guilds, HND or BTEC in Forestry and Arboriculture, or a bachelor's or Master's degree in forestry, arboriculture, countryside management, forest management or woodland ecology and conservation. Ideally and in addition they should be a member of a professional organisation such as the Arboricultural Association or The International Society of Arborists. For Tree Inspection work other specific qualifications that should be considered are LANTRA awarded Tree Inspection qualifications at various levels and Diploma in Arboriculture & Forestry.

Many councils around the UK operate a Preferred Supplier list. TDC does not do so. BSPTC should create its own.

Project recommendation 1: BSPTC will maintain a list of approved Arboricultural contractors that will be published on BSPTC Website.

Should Project Recommendation 1: be adopted there must be a public opportunity for arborists to join the scheme and be approved. It must be made clear to the arborists on the approved list that applications for work will not guarantee permission as a result of their being on the list, but, *subject to the quality of their work*, they are less likely to be challenged.

3.1.3 Canopy Mitigation for Replanting Conditions

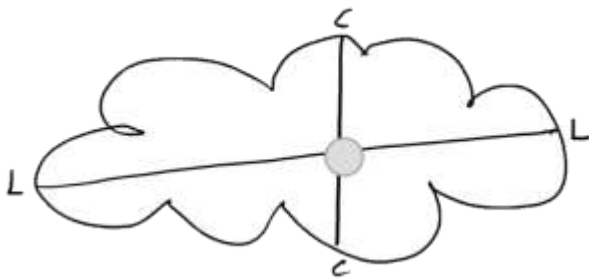
Many LPAs in the UK and planning authorities around the world now understand the importance of canopy mitigation when ordering replanting for lost trees. The LPA is able to specify any condition it chooses for replanting and on-going maintenance of replanted trees when granting planning applications. But a policy is required in the Local Plan to ensure that decisions are fair and have some scientific basis.

A view of the environmental services provided by the lost tree can establish a value of the tree but does not help towards an easily implementable decision about how many trees to order for replanting in a condition on a planning application.

The City of Tampa, Florida, planning authority has developed an Urban Forest Management Plan and they are one of the leading exponents of a scientific method of mitigating canopy loss through replanting schemes. Prior to 2013 mitigation was based upon a diameter replacement calculation. Each inch of diameter, measured at breast height, was to be replaced at a rate of 2:1 caliper of nursery trees. And where replacement could not be reasonably accomplished, fees were paid into a City Tree Mitigation account – which was used to fund tree planting and landscaping projects, but there was no

scientific proof for management and policy. They have subsequently developed a Tree Matrix (Northrop et al, 2013) which documents the optimal tree biophysical site characteristics and is used to identify specific locations for species-specific planting in areas that have lost canopy coverage.

The calculation to work out mitigation planting according to Northrop is shown below



Step 1: Crown footprint (ft²) is the Area

r = Radius

To calculate r = length of C + length of L / 4

Area = πr^2 ,

Step 2: A x Species rating for Urban Environments³

Step 3: Multiply (x) Condition Class Rating (%)⁴

Step 4: Divide (/) by Tree Type⁵ = Number of trees required to mitigate loss of one tree

Example:

Live oak, Quercus Virginia to be removed....

1: Radius = (45+60=105)/4 = **26.25ft**

2: Canopy footprint = 3.14 x (26.25)² = **2164 ft²**

3: Required replacement: 2164 x Species rating 0.9 x Condition Class 90% = **1753 ft²**

4: Live oak is a Type 1 tree. Type 1 = 154ft² canopy for a 2.5" caliper tree

5: 2164/154 = **11 trees required for mitigation**

Since we do not currently have our own matrix for nursery trees grown in the UK, and this information seems to be missing in the wider academic circle in the UK, BSPTC might work with the Arb Association, London Tree Officers' Association and experts in the industry to develop/use a matrix of suitable trees for use in this calculation.

³ Florida ISA Species Rating was developed by arborists throughout Florida, and peer reviewed

⁴ Condition Class rating (Tree Hazard evaluations method (Matheny & Clark, 1994) evaluated roots, trunk, limb structure, twigs and foliage to generate a rating of A = 100%, B = 90%, C = 75%, D = 40%, F = 0%

⁵ Tree type – Florida Grades and Standards for Nursery Stock: Type 1 – Tall and wide form, Type 2 – tall and narrow form, Type 2 – short/wide & multi stem See Appendix 3 for further Info.

Once a Tree Type matrix is in place, we can begin to work with the TDC LPA to ensure that mitigation planting is truly a mitigation for lost canopy.

Project Recommendation 2: Tree Warden will develop the methodology [as above] for canopy mitigation for the specified number of trees to be replanted either on the same, adjacent or agreed site and share the methodology with TDC Tree Officer and LPA.

Budget should be made available by the Town Council to develop the matrix and methodology.

Policy Recommendation 5: Applications to entirely remove protected trees without supporting mitigation planting using the methodology in Project Recommendation 2 will be recommended for refusal by BSPTC Planning Committee.

3.1.4 Pursuing Infringements

We have recently experienced some illegal felling in BSTP. The Council should adopt a robust procedure to pursue legal redress where Trees and Hedgerows are found to be illegally removed or damaged according the provisions of The Town and Country Planning (Tree Preservation) (England) Regulations 2012 or through the Forestry Commission regulations as appropriate and in conjunction with TDC in respect of trees that are covered under a Tree Preservation Order.

3.2 B) Increasing Tree Coverage

3.2.1 Maintaining Protected Trees & Creating New TPOs where needed

BSTP has the highest number of TPOd trees in Thanet, 46% of all the TPOd Tree records are in BSTP. There were 881 records in the database at the time of calculating this statistic (02/09/2019) and 406 were in BSTP.

Subsequently Thanet featured in the Autumn 2020 Arboricultural Association ARB Magazine in an article entitled 205,000 TPOs: Time for a Rethink? In talking about how trees can be successfully mapped and geo-located it said

“Some plans are so large that they cannot be usefully photocopied onto one sheet of paper. For example, Thanet council has a TPO from 1956 that covers much of Broadstairs with 49 areas of trees, 2 groups and 10 woodlands. The TPO covers no fewer than 34 photocopied map sheets. To make matters even more difficult, the council admits that it holds no original TPOs prior to 1975, so cannot make a new copy.”

Another problem with how the TPOs in Thanet have been administered, which is not unique to Thanet, is that TPOs were applied to Areas of trees, as opposed to making TPOS for individual Trees, Woodland or Group of trees. The difference is that Area TPOs were only ever intended as temporary protection measures and only protects trees standing in the area at the time of the grant of the TPO, which is very vague. Self-seeded trees appearing later may therefore not be protected, since it requires a judgement about the age of the trees if the TPOd area comes up for planning. This has been particularly problematic for BSTP in the case of Park Avenue, where, in February 2020, a landowner

clear felled a woodland area that only had Area status. (At the time of writing the area is still in legal dispute.)

BSPTC has been unsuccessful in applying for new TPOs to date. TDC has only recently published guidelines about what is required in order to serve a new TPO. The Tree Warden will work with residents and Councillors to try more successfully to get TPOs applied to important trees.

Project Recommendation 3: BSPTC will support the Tree Warden to protect and maintain existing TPOd trees, to enhance the existing protection by further analysis of Area TPOs and by applying for new or converting older TPOs to a more appropriate form.

The NERC Priority Habitats in BSTP (see Section 6.1.3) must be prioritised for protection through review of existing TPOs and application for new TPOs.

3.2.2 Tree Canopy Targets

Many areas in the country have set a canopy cover target as a strategic objective for their areas. TDC is notable in not having done this. Typically, these are in the range of 20-30% (Appendix 1). One example worth drawing out is Torbay, whose existing canopy coverage was 12% (similar to the results for Thanet as a whole). The land area in hectares is 6375 and it has a population of 134,000. The target canopy coverage that Torbay has set is 20%. They have identified that they have 8% available space for planting and have robustly sampled their trees. They know that they have 818,000 trees currently because of an excellent iTreeCanopy ground survey.

BSPTC administrative area is much smaller, covers 1135.81 in hectares and the population is 24,903 (2011 census data, which may now be out of date). But because of the similarities in the nature and history of the area (Victorian seaside town with areas of deprivation and little industry other than tourism) it stands the comparison by proportion in the opinion of the author. The population density of Torbay is 21.01 and BSTP is higher at 21.92. The data is summarized in Table 2, below.

Admin Region	Area (ha)	Population	Population Density	Canopy Cover	Canopy Target	Potential Plantable Space	Number of Trees
Torbay	6,375	134,000	21.01	12%	20%	8%	818,000
Broadstairs & St Peters	1,136	24,903	21.92	14.7%	Proposed 20%	Unknown	Unknown

Table 1: Torbay vs BSTP Tree Cover data

So, if Torbay can set a challenging target of 20% from a lower baseline BSPTC should set a similar figure. Without the Potential Plantable Space being identified, however, it is difficult to know whether this is a practicable proposition. The first step, therefore, toward setting a target would be to minimise tree loss before looking at the steps needed to correctly baseline and set a new target, and this is covered in the next section.

Further steps to baselining the canopy cover are included in the Implementation section (see section 7).

3.2.3 Hedgerow Meterage Targets

Since there has been no systematic survey of the hedgerows in Thanet, it begs the question whether this should be included in the Tree Strategy. The author would suggest that part of the strategy should be the enablement of a project to survey the existing hedgerows to give a baseline. A review of this strategy in the future could then set realistic targets for hedgerow increase.

In the meantime, BSPTC should consider the future of hedgerows in each planning application to ensure that existing hedgerows are protected where they are old established hedges in residential streets or in the Green Wedge. See Planning Framework and duties discussed more fully in section 6.1.

Policy Recommendation 6: Applications to entirely remove hedges that are more than 15 years old will be recommended for refusal by BSPTC Planning Committee.

3.2.4 Council Trees Parks & Open Spaces

BSTP is fortunate to have a number of parks as outlined in Section 2.2. The trees in these parks are mostly owned by TDC. It is understood that TDC are undertaking a systematic survey of the tree stock in Thanet as a whole. Work was undertaken in January 2020 at the request of BSPTC to survey the 438 trees in Vincent Close/Northwood Park land. But whilst work has recommended removal of trees there has been no budget from TDC to replace those removed. Many of the trees in Vincent Close are Sorbus, which have a lifespan of less than 100 years.

Trees in the other parks also do not have long life expectancy. Holmes Park has three copses of Poplar, which are not expected to last past 70 years and have already started to become brittle and fail. Tree of Heaven, likewise, does not live much past 70 years although it becomes a large tree very quickly. Sorbus Aucuparia (Rowan) are similarly likely to live no more than 70 years. These trees were planted after the park was left to the town in 1944 having previously been farmland.

The Memorial Park and the St Peters Recreational ground also have stands of trees that include Acer Pseudoplatanus (Sycamore). As described in Section 4 they have high environmental benefits but can be a nuisance in the wrong location. They are perfect for large parks, where their ability to self-seed can be managed by grass mowing, which catches the sprouting seedlings. However, they have been planted close to the back gardens of residents where they have become a nuisance. In the future Sycamores should be considered in all park plantings for their environmental benefits – but following the principle of *right tree – right location*.

The trees in Park Avenue and the surrounding privately owned woodlands include most of the oldest trees in BSTP and possibly Thanet, with the exception of Quex Park and Northdown Park. It would be beneficial for BSTP residents if small private areas such as these could be purchased for the benefit of residents and brought into public ownership and community management.

Project Recommendation 4: BSPTC will pursue a policy of succession planting for the park trees in conjunction with TDC, ensuring that species selected will have long

lifespans, are suitable for changing climate, strains are resistant to pests and diseases and will make funding available each year for this purpose.

3.2.5 Community Woodlands

BSTP is fortunate to have a small community woodland in Mockett's Wood, St Peters, which is owned by BSPTC and maintained by a small group of volunteers (The Friends of Mockett's Wood) and a recommended local tree surgeon in conjunction with the TDC Environment & Horticulture Officer [Tree Officer] and BSPTC. The woodland covers roughly 1.5ha. It is currently only mentioned briefly in the Neighbourhood Plan in relation to prevention of anti-social behaviour, from which it regularly suffers.

A wood of this size cannot be left to be a wild space as it will never be large enough to be self-sustaining and its location, together with it being a Community space, make it unsuitable as a space for re-wilding. It therefore needs regular tree inspections to ensure that trees that are dangerous or dying are managed in a safe and sustainable manner. BSPTC currently sustain the wood with an annual allowance that covers hire of a shipping container for storage of tools, cost of replacement and new tools as needed, insurance for volunteers and users of the woodland and for tree inspections and work.

The Tree Warden has discussed with the Secretary of the Friends of Mockett's Wood and the Environment & Horticulture Officer (Tree Officer) how to improve the biodiversity of the wood. BSPTC has already paid for some new trees to be planted in the wood in 2020

BSPTC will protect Mockett's Wood Community Woodland from further housing development to ensure it remains a woodland for the benefit of the community.

BSPTC will continue to fund Mockett's Wood Community Woodland to ensure that the biodiversity of the woodland is preserved and enhanced for future generations, paying for maintenance, insurance, equipment, tree maintenance and new trees and understory planting when needed.

Project Recommendation 5: BSPTC Environmental Action Group will work with the Friends of Mockett's Wood, the local RSPB group and the TDC Horticulture and Environment Officer [The Tree Officer] to prepare an annual plan of work to manage and improve the biodiversity of the wood.

In addition, the Wood is subject to vandalism, which was mentioned in the Neighbourhood Plan. There is a need to tackle this and the means to do so should be explored with the local police and Neighbourhood Engagement Meeting.

3.2.6 Street Trees

Street trees are provided, maintained and owned by Kent County Council, apart from those that are on the Green Spaces listed in the Neighbourhood Plan. Street trees in BSTP are faring badly, especially on some of most important arterial roads, such as Broadstairs Road and Westwood Road, where magnificent red and white *Aesculus Hippocastanum* (Horse Chestnuts) are succumbing to old age, disease, damage and lack of care. Loss of

these trees will significantly affect the character of these streets, which are an important introduction to the towns.

Project Recommendation 6: BSPTC Councillors, Tree Warden and BSTP Kent County Councillor will annually provide KCC with a list of tree locations for mitigation, new and succession planting in roadside locations.

Many street trees fail because of lack of after care (watering) by KCC and their contractors, poor stock selection and damage from road verge mowing. These are difficult problems to overcome, but the following project could go some way to mitigating these losses

Project Recommendation 7: BSPTC will encourage residents to take an active interest in street trees, adopt and water them and notify BSPTC Tree Warden of any problems with damage or disease to the trees. BSPTC and Tree Warden will notify KCC Councillor and KCC of these reports and will monitor action.

3.2.7 New Woodlands

In 2020, BSPTC has signed a letter of intent with the charity EarthWatch to find a suitable location to plant a Miyawaki method ‘Super Tiny Forest’. The space needed is no more than a Tennis Court. These are the most important Site Criteria:

1. Need a site of approximately 200m² for the actual tiny forest, plus space for heavy machinery to do preparation work so total space possibly up to 500m².
2. This area can be of any shape/orientation, but the forest must not be narrower than 4m across at any given point.
3. No underground infrastructure: soil needs to be excavated to 1m depth
4. No overhead infrastructure: trees will grow to 20m+
5. Need a site that is accessible for large machinery: mini digger needed for soil preparation, plus truck delivery of straw and other soil supplements

The benefit of this tried and trusted method (Japan and Netherlands among many others in the world) is that it is possible to create fast growing, self-sustaining woodland in 3 years that is suitable for urban conditions. They have been shown to be particularly beneficial in high pollution areas because the density of planting increases the environmental services very quickly. Land could be set aside in some of the parks for this new type of planting or it may be possible to work with local businesses, such as those at Westwood Cross, to find suitable land.

2021 should see the delivery of the first Super Tiny Forest, provided a site can be agreed. Subsequent years’ delivery of new woodland would require the identification of more land.

Project Recommendation 8: BSPTC will actively work with Schools, Local Businesses and Farms to identify suitable land for woodland creation with a target to plant one new Super Tiny Forest each year.

3.2.8 Memorial Planting

The Tree Warden was approached in 2020 by a number of residents wishing to plant memorial trees. Having worked on the programme for the 2020 planting season it will

be possible to create a 'menu' of trees and costs for display on the BSPTC website so that more can be planted from 2021 onwards. The problem with any memorial planting is the ongoing maintenance of the trees. Standard trees need between 20 and 30 litres of water a week from March through to October to establish them and this is needed for the first 2 to 3 years. As mentioned in Section 3.2.6, establishing the trees with regular watering is important and lack of watering is often a reason for failure. Memorial trees should only be planted with the clear agreement from the resident that they will be responsible for watering and looking out for their tree until it is established. These tree plantings should be self-funding as the residents will pay BSPTC for this purchase and planting service.

Project Recommendation 9: BSPTC will provide the means and promote the concept of Memorial Planting of trees. It will be a condition of memorial planting that those requesting the tree will also be responsible for establishing the tree with regular watering.

3.3 Sustainability and Climate Change

In July 2019, TDC declared a Climate Emergency and have now employed a Climate Change Officer to effect change in practices across the district. BSPTC, should and is examining its own practices in this light. The Tree Strategy is a key component of the BSPTC response to mitigating Climate Change; the more trees we can plant in BSTP, the more greenhouse gases can be regularly removed from our air and the more carbon locked away in growing trees.

But sustainability should also include how we plant the trees and the materials used.

BSPTC will plant trees using wood and fibre supports above ground and will re-use them wherever possible when they are past their use for each tree. When they cannot be reused the wooden stakes will be taken as chippings or old wood to Mockett's Wood and the webbing placed in landfill, where it will biodegrade. BSPTC will not use compost made from peat in any planting.

3.4 Pests, Tree Diseases and Resistant Strains

Trees can succumb to a variety of pests and diseases but the most important are the following three.

- a) Many *Aesculus Hippocastanum* (Horse Chestnuts) are succumbing to leaf minor and canker. Some have already died or are dying under the onslaught. To a certain extent it can be controlled by clearing leaf litter and burning it, so that the moth larvae do not re-emerge in the spring. TDC are unable in the current financial crisis to spend money on leaf clearance, so it seems we are destined to lose a lot of our wonderful Horse Chestnuts.
- b) Ash Die-Back is caused by *Chalara* fungus, the spores of which are carried on the wind from tree to tree. Many Ash in Thanet and in BSTP in particular seem to be free of the disease or are possibly showing resistance to it. However, there is no known cure although resistant strains are now being grown. We are destined to lose

many more ash across BSTP and should be thinking about succession planting with resistant strains wherever they are being lost.

- c) Dutch Elm Disease has already decimated a large proportion of our Elms across the UK. Once again there appears to be no cure, although there is interesting research from where the disease originated into vaccinations. There are some small healthy Elms in Mockett's Wood although some older elms have already been lost. Disease resistant strains have now been bred and are commercially available. BSPTC should consider replacing lost elms with disease resistant strains as soon as possible.

Dutch Elm Disease and possibly Ash Die-Back was introduced from imported tree stock.

Project Recommendation 10: In order to minimise the possibility of introducing more or other tree pests and diseases BSPTC will only purchase stock from UK nurseries that have grown on stock from seed entirely in the UK and are biosecure. BSTP will replant Horse Chestnut, Ash and Elm with new resistant strains wherever practicable to do so.

3.5 Funding

In order to support the work of the Tree Warden and the implementation of the Tree Strategy, to continue to fund tree planting initiatives and research, it is important that BSPTC continues to set aside funding for this purpose over the life of the Neighbourhood Plan (2018 to 2031).

Wherever possible the Tree Warden will link with other funding bodies and project opportunities (such as the Isle of Thanet Trees and Woods Initiative (ITTWI) and EarthWatch) to enhance the fund for tree planting in BSTP. BSPTC will support the Tree Warden in these bids.

4 Benefits delivered by trees & hedges

The importance of vegetation in urban areas has long been recognised⁶. For example, vegetation provides shading, evaporative cooling and rainwater interception⁷. It has a strong influence on a number of factors including energy demand, air quality and noise pollution, biodiversity, mitigation of the urban heat island effect, human health and wellbeing.

The following sections on Pollution, Carbon Sequestration, Rainwater Interception, Heat Management are taken from the Growing Together Series, Specification Manual, written by Keith Sacre, Barcham Tree Specialists and Trees, by Kenton Rogers and Tony Kirkham.

It is well recognised that trees delivery many ecosystem services benefits. Generally, the larger the tree the greater the benefits delivered.” (Keith Sacre).

“Consider a single ‘young’ 80- to 100-year-old oak, around 10-15m in height, with a crown of the same diameter. It will have somewhere in the region of 100,000 leaves in the summer months. These will convert its base of 113m² into some 11,000m² of leaf area, which is larger than a football pitch”. (Kenton Rogers & Tony Kirkham). Many of the benefits arise from the process of photosynthesis, where trees take water and carbon

⁶ e.g., Oke, 1982, Huang et al., 1987, Nowak et al., 2010)

⁷ Gill et al., 2007

from the environment and in the process of converting it to energy through the action of light, produce by-products of water and oxygen. There are further benefits for us too and each are discussed in turn for a full understanding.

4.1 Pollution

Tree species vary in their ability to help with pollution, both particulates, Carbon Dioxide (CO²) and Nitrous Oxide (N²O). The variation is from species, size, location and climatic conditions. As an example, however, “on a sunny day this tree [the young oak described above] could convert about 9kg of CO² meaning that around 18,000m³ of air will have passed through the leaves in its canopy. These leaves will have filtered out bacteria, fungal spores, dust and any other harmful substances that may have been present in the air”.

4.2 Oxygen exchange

Trees do not produce oxygen, but they do release it through photosynthesis. The trees take up water and nutrients from the soil and in the process of converting these elements to energy for its growth, oxygen is released. “[The example oak tree above] would produce around 7kg of oxygen over the year, which equates to the needs for around five people.” (Kenton Rogers and Tony Kirkham)

4.3 Carbon sequestration

Carbon sequestration is the carbon that is removed from the environment and stored in trees and hedges as they photosynthesise. The carbon is used in the photosynthetic process and converted to building the structure of the tree. This varies according to tree size, which varies according to species and conditions. But the bigger the tree, the more carbon is locked away and therefore not contributing to the climate ‘greenhouse effect’. Indeed, removing carbon from the atmosphere by growing more trees is a key element of the Government’s thinking in how to tackle Climate Change.

4.4 Rainwater interception

“The ability to intercept, store and eventually release rainwater is influenced by species, tree size, canopy density and bark type. The smoother the bark the greater the rate of stem flow. Trees that grow 15cm and above provide the greatest benefits, with largely densely foliated evergreen canopies, such as Picea Abies and Quercus Ilex, being the most effective due to their negligible stem flow. Medium sized trees or large trees with open deciduous crowns (populus, Ginkgo Biloba) are less effective, while small columnar shaped trees with bark are least effective.” (Keith Sacre). This aspect is most important for areas that are prone to flooding. In Broadstairs, this environmental benefit may be least important, but there are low lying areas of Thanet that may be prone to flooding in the future as climate changes and tree species selection can help to mitigate this as some species, such as Salix (willows) tolerate wet feet and indeed take up a lot of water.

4.5 Evaporative Cooling – Heat Management

A by-product of photosynthesis is the evaporation of water from leaves along with the released oxygen. This has the effect of cooling the air in hot weather. Trees in towns can reduce the need for air conditioning. This is an important design consideration for the future as Thanet is already drier and hotter than other parts of Kent and this tendency may become more marked in the future. Strategic placement of trees in urban areas can

cool the air between 2⁰ and 8⁰ C⁸. Trees properly placed around buildings can reduce air conditioning need by 30% and save energy used for heating by 20 – 50%⁹ .

Generally, a greater leaf area increases shade and cooling from evapotranspiration. This may be modified by physiological characteristics, such as water use efficiency, or other morphological characteristics, such as the size and distribution of leaves and crown architecture. The effectiveness of street trees may be restricted by limitations on available soil moisture.

4.6 Provision of shade/UV Protection

Trees with dense canopies in town parks are well known refuges during a hot weather and sunny days in the summer will find those looking for shade at midday stretched out in parks under the trees. As climate warms in the future a place away from the sun when it is at its strongest will become increasingly important.

4.7 Noise Reduction

The strategic placing of trees and hedges in building design is important for noise mitigation and is much more efficient than hard surfaces. Leylandii Cyprus have routinely been planted for this purpose, but they quickly become a large problem. Deciduous hedges, such as beech and hazel may be just as effective but are slower growing and easier to keep small. Trees along a boundary also provide mitigation for reflected noise from other hard surfaces that bounce back down to ground level.

4.8 Health Benefits of Trees

“A European study on gall bladder operations found that recovery times were significantly improved in wards where there were views of nature” (Kenton Rogers).

In Japan, Forest Bathing is now prescribed by doctors to heal stress, anxiety, poor sleep and low energy in patients. There is science to back up the practice as follows, and research has now been undertaken in the UK which reinforces the results.

Trees release phytoncides to protect them from bacteria, insects and fungi. They may also use the release of chemicals to send messages to other related species that they are under-attack. (Cossins, 2013). It is now clear that these phytoncides also have an effect on us and they provide a huge boost to our immune system and mood. See the following studies for more information about this growing body of research.

- ‘Identification of an Immune-responsive Mesolimbocortical Serotonergic System: Potential Role in Regulation of Emotional Behaviour’. C. A Lowry et al, 2007
- ‘The Cognitive Benefits of Interacting with Nature’. Marc G Berman, John Jonides & Stephen Kaplan, 2008
- ‘Nature Experience Reduces Rumination and Subgenus Pre-Frontal Cortex Activation’, Gregory N Bratman et al, 2015
- ‘Urban Street Tree Density and Antidepressant Prescription Rates; A cross-sectional study in London, UK’. Mark S Taylor et al, 2015
- ‘Urban Residential Environments and Senior Citizens Longevity in Megacity Areas; The importance of Walkable Green Spaces’. T Takano, K Nakamura Takano and M Watanabe, 2002

⁸ Food and Agricultural Organisation of the United Nations, 2020

⁹ Food and Agricultural Organisation of the United Nations, 2020

4.8.1 Encouraging Physical Activity

In Europe, around 1 in 5 deaths is associated with a lack of physical activity. In the UK for example, only one third of the population actually achieves the recommended level of exercise (Kenton Rogers). Trees encourage physical activity, by providing a pleasant environment in which to exercise, with greater uptake of walking and cycling through, tree-lined paths, cycleways and trails.

4.8.2 Life Expectancy

Studies in Canada, the USA and the UK have mapped greater life expectancy against tree cover. (Kenton Rogers). This may or may not be a causative relationship, but it certainly shows a correlation which needs to be fully explored and cannot be ignored.

“A study in Canada, carried out by the University of Toronto, showed that having just ten more trees on a city block equated to living up to seven years longer”. (Kenton Rogers).

4.8.3 Amenity Value

The term ‘Amenity Value’ is used to make decisions about the Tree Protection Order merits of one tree over another. It has no definition in law, however, and is subjective. But “the widely understood benefit of trees is that they look nice. They are aesthetically pleasing, breaking up the straight edges of buildings, while contrasting textures and colours provide visual interest and stimulation”. This is good for our mental well-being (see also section 4.8).

4.9 Economic Benefits

“Shoppers have been found to spend longer time and more money in leafier high streets, while research shows that where there are trees, restaurant patronage is increased by around 15%” (Kenton Rogers). Research has proven that trees provide significant benefits for developers and property owners by increasing property values and selling prices. One US study even determined that large street trees were the single most important indicator of attractiveness in a community (Coder, 1996).

4.10 Habitat Benefits of Trees & Hedges

Trees and hedges provide habitat most noticeably for birds, who use them for roost sites, sources of food and, in the spring and summer, nesting sites.

In addition, they are an important habitat and food source for invertebrates; most are beneficial, some not so much. Fruiting and flowering trees and hedges are an important food source for pollinating insects.

5 Common complaints about trees

We cannot, however, ignore the problems that trees may bring in an urban environment. These can be classed as Environmental Disservices and should always be borne in mind when planning tree planting and managing tree succession. Environmental Disservices are discussed further under the headings, Health (BVOC emissions and Allergens) and Structural Considerations.

5.1 Health – BVOC Emissions

The following is taken from ‘Species Selection’ -by Keith Sacre, Barcham Trees. “Nearly all plants produce biogenic volatile compounds during reproduction, growth and defence. Several popular tree species and associated management practices contribute to the production of secondary air pollutants, particularly ground level ozone. These include Liquidamber (SweetGum or Satin Walnut) and Salix (Willow family).

The release of BVOCs is not constant, but generally rises with increases in temperature and light levels. Level of release are also increased when trees are exposed to periods of severe drought, high levels of air pollution and when plant tissue is damaged.

BVOC emission is relatively harmless in remote areas, where concentrations of other air pollutants such as nitrous oxide and nitrogen dioxide are relatively low. In urban situations design is all important and the planting of trees that emit high levels of BVOC alongside a busy road, as a closed canopy, should be avoided. In this situation air circulation is reduced and emissions are forced down to pedestrian level.”

It is clear therefore that a consideration of BVOC emissions is an important step in the process of tree selection for BSTP council area.

5.2 Allergens

“The allergy potential of any tree is inextricably linked to the amount of pollen produced, the flow type and the sex of the tree.” Trees can be classified in respect of their reproductive type; Perfect Flowered trees with pollination by insects, Monoecious trees that are wind pollinated and Dioecious trees that are either male or female and require the wind to move pollen between them.

Trees that are Perfect Flowering, Malus (apple), Pyrus (pear) and Magnolia are least likely to cause allergy.

Monoecious species such as Pinus (pine family), Cypress, Betula (Birch) and others may or may not cause allergies depending on the individual.

Dioecious species are highly implicated in allergies and include Acer Rubrum (Canadian Maple), Ilex (Holly), Fraxinus (Ashes), Populus (Poplars), Morus (Mulberry) and Salix (Willows). But again, not for all allergy sufferers.

So, the position on Allergies is not clear cut and tree selection requires a balance of Ecosystem Services and Disservices.

5.3 Structural Considerations

Trees in a town must co-exist with the hard landscape and the following sections discuss the problems that this may cause.

5.3.1 Rooting habit

The obvious and most worrying structural concern in the urban environment is tree root ingress causing pavement, road and wall lifting. The rooting habit of each tree should be considered when selecting and planting tree stock in relation to the built environment. Standardised Root Protection Area (RPA) data should be considered when designing schemes. Further guidance on this is to be found in BS 5837:2012: Trees in relation to design, demolition and construction.

An understanding of typical root behaviour will help with either selecting the correct tree for the location or managing a design in relation to an immature tree already in the landscape that will inevitably become larger, or a mature tree that will die rather sooner than later.

Some trees that have invasive root systems include Populus (Poplars) and Salix (Willow) while others have shallow root systems that can quickly lift paths and pavement areas Betula (Birches) and Prunus (Cherries).

5.3.2 Leaf and fruit drop

Some trees are annoying to residents because of their excessive leaf fall. This is particularly true of the Quercus Ilex (Holm or HollyOak) which sheds leaves that are slow to decompose twice a year. There are a multitude of these in Thanet because they are well suited to a dry coastal location and were introduced from the Mediterranean area. Acer Pseudoplatanus (Sycamore or Celtic Maple) on the other hand is considered an invasive alien species, but recent research suggests it is actually a native of the UK. It

too is well suited to Thanet's windy, coastal climate and has many environmental services. But it drops prolific samara (the winged fruit containing the seed) and these are very successful when they land in the wrong place giving it the moniker of a weed. Fruiting trees generally can be a problem in the wrong location. Sorbus (Rowan) trees produce beautiful berries in the autumn, but they make a mess of pavements and people's shoes as do cherries and apples. The Ginkgo is a good tree for urban hot locations, but the female tree produces fruit that when decaying have an awful smell. Apples and pears, whilst producing wonderful flowers that are great for pollinators also produce fruit, that when fallen, attracts wasps.

All of these disservices must be taken into consideration when choosing trees.

5.3.3 Tree MorphoPhysiological problems

Structural problems of trees can be avoided by good specification and selection when planting new trees and by good management as they grow. Some trees, however, have a tendency to brittle limbs as they develop. The Elm was known as the Devil Tree in the middle ages because of its tendency to shed limbs on unsuspecting passers-by, even on a non-windy day. However, Elm is increasingly rare in the UK because of Dutch Elm Disease. But other trees with brittle structure such as Fraxinus Augstifolia (Ash), Alnus Cordata (Alder) and Robinia Pseudoacacia (Black Locust or False Acacia) also have this bad habit and should be avoided in new planting schemes near to pedestrian areas.

5.4 Species Specific problems in BSTP

- a) **Acer Pseudoplatanus (Sycamore)** are a long-lived species (300 years) and are one of the best trees for environmental services (see Section 4). But they have a bad reputation because of their ability to set seed prolifically. If left to age past 250 years, they stop producing seed. Wherever there are disturbed patches of land Sycamores manage to find them and sprout new trees. They are also prolific along the sides of the railway lines where they can additionally cause problems with slippery leaf fall, which affects the ability of train wheels to grip the tracks. But they provide high environmental services in respect of carbon sequestration and pollutant removal.
- b) **Quercus Ilex (Holm Oak or Evergreen Oak)** The oldest (and first planted) Holm Oak in the UK is in Fulham Palace, London and was possibly planted in 1553, making it 467 years old. It has been pollarded and this has increased its life-expectancy. Suffice to say that Holm Oak is a long-lived species. But its life cycle habit is to prolifically drop its leaves twice a year. The leaves have a waxy cuticle that means they take a long time to decompose and, in the meantime, create a lot of dust. The environmental services of Holm Oak are low in respect of pollutant removal but high in carbon sequestration because they are so long-lived.

6 Planning Framework

BSPTC acts as an advisory body to the District Town Council on Planning matters and has no power to refuse planning permission. Although the Neighbourhood Plan has not gone to Referendum because of the current (2020) Covid 19 emergency, the Inspector has confirmed that "the plan can be given significant weight in determining planning applications". As such it is important that the Neighbourhood Plan Review incorporates this Tree Strategy and that the Council lobbies TDC to incorporate its own Tree Strategy allied to this in the District's Local Plan review.

In the meantime, the Tree Warden will continue to work with the Town Council Planning Committee to make recommendations to the District Council in respect of trees and

hedged that are impacted in planning applications, whether for new housing on brown or green-field sites or for changes to existing residential units and land use.

It should also be noted that planning legislation is currently changing. Proposed changes to Planning Legislation will include the principle of Environmental Net Gain on all large planning applications. The government will introduce a Metric, that will enable developers, at Outline Planning and Planning in Principle stages, to feed in the data from their environmental surveys and work out whether their proposed environmental measures hit 10% minimum gain or preferably more. See section 6.1.5 for further information.

BSTP Town Council will look for evidence that developers are demonstrating early adoption of the principle of environmental net gain of 10% or more and will support such applications. Development that does not show the principle of environmental net gain of 10% or more will be challenged.

6.1 Duties under current Legislation

Legislation that the Local Planning Authority must take account of are

- The Town & Country Planning Act 1990
- The Town & Country (Tree Preservation) (England) Regulations 2012 (The Regulations)
- the National Planning Policy Framework (NPPF),
- the Natural Environment and Rural Communities Act 2006 (NERC 2006).
- These documents will not be covered in detail, but a summary of salient points is listed below for convenience.
- Environment Bill 2019-21 – currently making its way through Parliament
- In addition, building applications should take account of guidance issued under BS 5837:2012: Trees in relation to Design, Demolition and Construction – Recommendations.

6.1.1 The Town & Country Planning Act 1990 Section VIII

Paragraph 197 states,

Planning permission to include appropriate provision for preservation and planting of trees.

It shall be the duty of the local planning authority—

(a) to ensure, whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposition of conditions, for the preservation or planting of trees

This shows that the LPA *must* consider trees in all planning decisions.

6.1.2 National Planning Policy Framework (NPPF) 2019

Paragraph 8 of the NPPF states that achieving sustainable development means that the planning system has three overarching objectives as follows:

• **An economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure.

• **A social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and

• **An environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, **helping to improve biodiversity**, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy”.

Particular paragraphs that are important in respect of trees and hedgerows are as follows:

Under “**Section 15. Conserving and enhancing the natural environment, Paragraphs 170 to 183**

170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

171. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries

Under the heading Habitats and Biodiversity, the LPA has a duty to;

174. To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and steppingstones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;

and

175. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

175: (c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and (d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”

(e) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation []

c) relates to Site of Special Scientific Interest. Currently, apart from the protected coastline, there are no SSIs within Thanet and none in Broadstairs. However, if Biodiversity is to be improved as part of the Net Gain imperative, it can be envisaged that we may have more SSIs in the future. The Planning process in Thanet needs to be agile enough to accommodate changes in biodiversity and to take account of these before they are officially designated as such, since legislation can sometimes move slower than environmental change. It is important that *potential* sites are identified see 175. C, D and E from the NPPF.

6.1.3 The Natural Environment & Rural Communities Act (NERC) 20006

The legislation stipulates the duties of a public authority in exercising its functions in relation to the environment, “[it] must have regard to the purpose of conserving biodiversity.” It goes on to say that to do so it must have particular regard for the UN Environmental Programme Convention on Biological Diversity 1992 (<https://www.cbd.int/doc/legal/cbd-en.pdf>).

The NERC areas listed for protection of Deciduous Woodland in Broadstairs are shown at Appendix 4.

Policy Recommendation 7: BSPTC will work with TDC Planning Department to ensure that adequate protection is given in the planning process for all the areas shown on the Government map, extracted at Appendix 4.

Section 41 links to the Natural England list of threatened species and their habitat must be preserved. What used to be common species now appear on this list such as the Hedgehog, Song Thrush, House Sparrow and Starling.

- Hedgehog,

The full list can be accessed here;

<http://publications.naturalengland.org.uk/publication/4958719460769792> ,
and contains many more beetles, fungi, reptiles and all sorts of plant and animal life

As guardians of the environment for future generations we must take action now to preserve and improve habitats in Thanet for threatened species. Trees and hedgerows are a major component in how this can be achieved – hence this Tree strategy.

6.1.4 Environment Land Management Bill

The Environmental Land Management Bill passed into law on 11 November 2020, which will provide for the transition from the Countryside Stewardship Scheme to the new Environmental Land Management Scheme. Under this new legislation, farmers will be able to apply for funding for environmental projects and may be able to create large biodiversity improvements on behalf of developers who can buy environmental net gain credits if they cannot provide environmental net gain of 10% or more on their own site. In addition, funding will be made available directly through Natural England to plant and maintain trees on existing private land.

6.1.5 The Environment Bill

The Environment Bill is still making its way through Parliament at the time of writing. The NPPF introduced the concept of avoidance of environmental impact and the principal of ‘net gain’ (section 170 – see discussion above), but this was policy guidance without any attempt to enshrine the meaning of ‘net gain’ in a legal framework. The Environment Bill will do this. Clause 90 of the Bill introduces Schedule 14 which in turn amends the Town and Country Planning Act 1990 (“the TCPA”) to make provision for a **mandatory requirement for net gain in biodiversity**. Paragraph 1 of a new Schedule 7A to the TCPA would state that “This Schedule makes provision for grants of planning permission in England to be subject to a condition to secure that the biodiversity gain objective is met.” Paragraph 2 would go on to explain that such objective is met “if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.” Currently the relevant percentage would be 10% (paragraph 2(3) of the new Schedule to the TCPA). The actual condition to be imposed on developments can be found at paragraph 13 of the new Schedule and requires a Biodiversity Net Gain Plan to have been submitted to and approved by the planning authority before the development can begin.

6.1.6 BS5837:2012 - Trees in relation to Design, Demolition and Construction – Recommendations

British Standard BS 5837:2012 provides recommendations relating to tree care, with a view to achieving a harmonious and sustainable relationship between new construction/existing structures and their surrounding trees. It is not binding on any developer to apply any of these conditions, but a Local Planning Authority (LPA), may require that developers take account of and work to this standard and may refuse planning applications that do not apply these standards. The standard introduced the concept of

the Root Protection Area (RPA), however the science for working out the RPA of a tree is not a precise science and varies widely from species to species. In addition, the roots of trees vary during the maturation of the tree. Younger trees in the first third of their life develop tap roots (although not all species have deep tap roots, fasciculated roots that provide buttresses. Maturing trees spread these further and a vigorous, healthy tree in the second third of its life will have a wide root spread that may mimic the spread of the crown. Trees in the last third of their life, will be retracting their roots in line with a decline in canopy. It is important, therefore, that developers seek the advice of a qualified arborist to assist with the design of hard surfaces to take account of the correct RPA of trees on site in respect not only of species, but age as well. Developers have, in the main, focussed on how to apply Root Protection Barriers below ground around trees, which is specified in the standard, whilst very often removing or damaging structural/buttress roots that contribute to the stability of the tree, rather than planning to build further away from the trees or incorporate them more sensitively into the design.

6.2 Local Planning Policy

Each LPA must have a Local Plan, which is “a key Council document that is required to guide and deliver the Council’s plans and aspirations for growth. It is essential to shaping change in a form which is desired by the Council and [the] communities in the district and for the delivery of development projects and infrastructure.”

TDC adopted their new Local Plan on the 9th July 2020 and this covers a period to 2031. Following a recommendation by the Examiner into the Local Plan, TDC are currently undergoing an early review of this Local Plan.

6.3 Broadstairs Neighbourhood Development Plan

The Neighbourhood Plan sits underneath the Local Plan and sets out the policies that should guide planning decisions of the LPA more specifically in relation to the BSTP area. It currently includes a section on Trees, but it is expected that this Strategy will provide the evidence to develop this further. The current section on trees is as follows:

8.1.4 Trees NDP Objective: ● Protect important views and vistas, so they can continue to be enjoyed by the community for future generations ● Ensure the protection of unique and important spaces Trees are a vital part of the Broadstairs & St. Peter’s Neighbourhood Development Plan Area and contribute significantly to the character and appearance of the local landscape. The Town Council will limit the removal or the unnecessary reduction of trees, especially those protected by a Tree Preservation Order, and promote the provision of additional, suitable trees in all new large developments. In particular, the Town Council has appointed a Tree Warden who will monitor and investigate trees that are under threat of unauthorised work, unnecessary felling, or other significant alterations, or will be adversely affected by proposed development work.

Policy BSP3: Protecting and Providing Important Trees. Proposals for new development which would have an adverse impact on protected trees and other significant trees in the Plan area will not be supported. A net gain in the quantity of suitable trees on all new large planning application sites will be expected, unless

supporting design guidelines for the development state that this is unachievable. In this scenario, the potential for providing new tree planting off-site should be explored.

Because of the delay to Green Spaces being designated in the District's Local Plan, BSPTC chose to designate green spaces in the NDP as follows and most but not all of these areas are important for trees. The trees on these spaces are the responsibility of the Town Council.

Policy BSP5: Designation of Local Green Spaces (LGS): The sites shown on Map 6 listed in Appendix 2 are designated as Local Green Space to the end of the Plan period. * Proposals for development in a designated Local Green Space will not be supported, unless they are ancillary to the use of the land for a public recreational purpose or are required for a statutory utility infrastructure purpose *Detailed maps of the sites can be found on the Town Council website.

http://www.broadstairs.gov.uk/Local_Green_Spaces_22125.aspx

6.4 Protecting trees – Tree Preservation Orders (TPOs) and Trees in Conservation Areas

The law on Tree Preservation Orders is in Part VIII of the Town and Country Planning Act 1990 as amended and in the Town and Country Planning (Tree Preservation) (England) Regulations 2012 which came into force on 6 April 2012. Section 192 of the Planning Act 2008 made further amendments to the 1990 Act which allowed for the transfer of provisions from within existing Tree Preservation Orders to regulations. Part 6 of the Localism Act 2011 amended section 210 of the Town and Country Planning Act 1990 concerning time limits for proceedings in regard to non-compliance with Tree Preservation Order regulations.

The Town and Country Planning (Tree Preservation) (England) Regulations 2012, set out how LPAs must protect trees in the interests of amenity by making Tree Preservation Orders (TPOs or 'Orders').

“These regulations do NOT prevent future work on “protected” trees or even prevent them being felled. The rules simply place the LPA theoretically in a position of controlling what in their view should be done to or with protected trees in a BALANCE between the needs of the householder or landowner, including to potentially develop their land on the one hand, and the community to have trees or woodland as an amenity in their environment on the other.” David Carey, 2019

The Regulations 2012 state,

“Subject to article 4, this Order takes effect provisionally on the date on which it is made.

(2) Without prejudice to subsection (7) of section 198 (power to make tree preservation orders) or subsection (1) of section 200 (tree preservation orders: Forestry Commissioners) and, subject to the exceptions in regulation 14, no person shall—

(a) cut down, top, lop, uproot, wilfully damage, or wilfully destroy; or

(b) cause or permit the cutting down, topping, lopping, wilful damage or wilful destruction of, any tree specified in the Schedule to this Order except with the written

consent of the authority in accordance with regulations 16 and 17, or of the Secretary of State in accordance with regulation 23, and, where such consent is given subject to conditions, in accordance with those conditions.”

It goes on to state that a TPO once served must also be confirmed following time for publication of the order to interested parties and allowing an opportunity for representations from them.

The Secretary of State may also impose Tree Protection Orders, and these are to be treated in the same way as a TPO ordered by an LPA.

However, TPO law is weak in a number of areas. As follows,

6.4.1 General Exceptions

The LPA’s consent is not required for carrying out work on TPOd trees so far as such work is necessary to implement a full Planning Permission. This means that the order is easy to over-ride if *full* planning permission has already been granted; a TPO is ‘trumped’ by full planning permission.

The exception does not apply to *outline* planning permission.

The result is that it is very easy for a developer to ignore TPOd trees on a site in their application and only if the LPA is switched on enough to review the database for TPO impacts in every case will they be able to ensure that permission is not accidentally granted in advance of any application for work on the trees, which would effectively grant the developer the right to fell the TPOd trees to ground level.

6.4.2 Exceptions for Trees in Conservation Areas

A tree in a conservation area (CA) is not automatically protected to the same level as a TPOd tree. A tree in a CA can additionally have a TPO on it. The protection for CA trees

“Trees in a Conservation Area that are not already protected by an Order are protected by the provisions in section 211 of the Town and Country Planning Act 1990. These provisions require people to notify the local planning authority, using a ‘section 211 notice’, at least 6 weeks before carrying out certain work on such trees (above 7.5 cm [3”] diameter), unless an exception applies (above 10 cm for thinning). This notice period gives the authority an opportunity to consider whether to make a Tree Preservation Order on the tree.” David Carey, 2019

6.4.3 Exceptions for Dangerous Trees

In practice it has been known in Thanet for a landowner to make a notice to the LPA that a TPOd tree or a tree in a CA is dangerous and in that case, the notice has not gone to the Tree Officer. The tree has been felled within the 6 weeks or without full notice being given. After protected trees have been felled the response of the LPA should be immediate prosecution if the law has been found to have been broken. LPAs are generally reticent to do this in case they lose and because going to law is expensive.

6.4.4 Financial Penalties for Infringements

The law surrounding the enforcement and compensation of TPO infringements is as follows and may be considered weak in the light of the Climate Emergency declared by the United Nations and adopted locally by TDC.

- £2,500 for non-permitted pruning of a tree.
- £20,000 per tree for non-permitted felling (Magistrates Court).
- Unlimited fines, to avoid gaining from the proceeds of crime, (Crown Court), E.g., see Penllergare, Enzo Homes vs Swansea LPA below.

BUT an LPA does not *have* to prosecute, and may often refuse to do so, “in the public interest” despite strong local feeling.

In the Penllergare case the boss of a company and his firm were initially fined a total of £300,000 after a valuable redwood tree and 72 others were illegally chopped down. Fiorenzo Sauro was fined £180,000 after the redwood - originally thought to be 200 years old - and 72 others were axed during building work on land close to Swansea's Penllergare Valley Woods. Enzo Homes Ltd, of which Sauro is a director, was fined £120,000 at Swansea Magistrates' Court on Tuesday, October 15, 2019. As Sauro left the court he said, "see you in Crown Court", indicating he would be appealing the judge's decision. The sentencing hearing also saw tree contractor Arwyn Morgan, who felled the redwood in November 2018, fined £120,000 in total. Sauro appealed but lost and the total penalty increased to £420k.

6.4.5 Compensatory Planting

Section 206 of part VIII of the Town & Country Planning Act 1990 outlines the ability of LPAs to require replanting where trees have been illegally felled, as follows: -

*(1) If any tree in respect of which a tree preservation order is for the time being in force—
(a) is removed, uprooted or destroyed in contravention of the order; tree preservation regulations, or*

(b) except in the case of a tree to which the order applies as part of a woodland, is removed, uprooted or destroyed or dies at a time when its cutting down or uprooting is authorised only by virtue of section 198(6)(a), at a prescribed time, it shall be the duty of the owner of the land to plant another tree of an appropriate size and species at the same place as soon as he reasonably can.

(2) The duty imposed by subsection (1) does not apply to an owner if on application by him the local planning authority dispense with it.

(3) In respect of trees in a woodland it shall be sufficient for the purposes of this section to replace the trees removed, uprooted or destroyed by planting the same number of trees—

(a) on or near the land on which the trees removed, uprooted or destroyed stood, or

(b) on such other land as may be agreed between the local planning authority and the owner of the land, and in such places as may be designated by the local planning authority.

(4) In relation to any tree planted pursuant to this section, the relevant tree preservation order shall apply as it applied to the original tree.

(5) The duty imposed by subsection (1) on the owner of any land shall attach to the person who is from time to time the owner of the land.

6.4.6 Forestry Commission Penalties

In addition to the legislation and penalties that can be enforced by LPAs, the Forestry Commission, have legal obligations and a framework for licensing and prosecution of infringements. “Felling trees without a licence where one would have been required is an offence”.

In any calendar quarter a landowner may fell up to 5 cubic metres (m³) of growing trees on their property without a felling licence, as long as no more than 2m³ are sold.

The exceptions to this are:-

- felling trees in gardens, churchyards or a public open space
- felling trees required to prevent the spread of a quarantine pest or disease, as authorised by a statutory plant health notice (SPHN). This may apply for example for trees with Oak Processionary Moth caterpillar infestations
- felling trees with a diameter less than 8cm (the width of a baked bean can) at a height of 1.3m on the main stem

If no felling licence or other valid permission is in place, or if the wrong trees are cut down:

- all parties involved in the tree felling can be prosecuted
- the Forestry Commission can, in certain circumstances, serve a Restocking Notice to re-stock the land concerned, (or any other land as may be agreed), regardless of whether or not a prosecution takes place. The person served must maintain the replacement trees to acceptable standards for up to 10 years)
- if the restocking requirements of either a felling licence or a restocking notice are not complied with, the Forestry Commission may issue an Enforcement Notice requiring action be taken to meet the conditions previously set. It is an offence not to comply with an Enforcement Notice and can result in an unlimited fine, as determined by the court, upon conviction.
- if someone fells trees without a licence, and they claim annual agri-environment scheme payments on the land, they can be penalised financially. Any failure to comply with the licensing controls is a breach under the Cross Compliance rules (GAEC 7a).
- if anyone sells illegally felled timber, they might be committing an offence under the Timber and Timber Products (Placing on the Market) Regulations 2013. A breach of these regulations means that the illegally felled timber can be seized by an authorised inspector. Anyone convicted of an offence under these regulations could get an unlimited fine and/or term of imprisonment.

In practice the Forestry Commission will not intervene in cases where the LPA is prosecuting an infringement because their compensation/penalty framework is lower than that of the LPA, except in the case of economic gain from sale of felled timber, in which case the Forestry Commission penalty is higher and could include imprisonment.

7 Implementation Plan

A strategy is only of use if the vision can be realised with actions. Many strategies are documents that are prepared, gather dust on a shelf and then are forgotten about. A key element of any Strategy is not only doing what is planned but also monitoring of the actions with the results good and bad fed into an updated version of the Strategy and Implementation Plan. In this way, this Tree Strategy should become the guiding document for how we can stop tree loss and work towards a 20% increase in canopy coverage.

Monitoring does not have to be an onerous task. The major work has gone into preparing the strategy. Monitoring and updating therefore becomes the last task in the Implementation Plan and one that is carried out as a formal part of Council business for the year called the Implementation and Strategy Review.

7.1 Implementation Actions, Owners & Dates

Not all policy items transfer directly into direct action since they are about intentions and behaviour of Councillors when dealing with Trees in Planning Committee. The numbering of the following section follows the policy items but, therefore, has gaps where there is policy but no direct action and this is shown in the table.

This action plan should be reviewed in a meeting between the Tree Warden and those mentioned as owners of tasks under the aegis of the Environmental Action Group who will set a formal meeting to do this

Action	Who?	Start date	Target end date	Review date
Work with Town Clerk, Councillors and TDC Officers to adequately protect NERC Priority Habitat Deciduous Woodland (England) areas in Broadstairs, through the review of TPOs if required.	Tree Warden Town Clerk Councillors TDC Tree Officer TDC Climate Change Officer	Ongoing	March 2021	April 2021
Work with Town Clerk, Councillors and Neighbourhood Plan team to ensure that NERC Priority Habitats are included in the Neighbourhood plan as protected areas	Tree Warden Town Clerk Councillors Neighbourhood Plan Team	Ongoing	March 2021	April 2021
Town Clerk to ensure that Planning Lists for BSTP are passed to the TDC Tree Officer by Wednesday of each week to enable Tree Officer to visit and report in good time for Planning Meetings	Town Clerk	October 2020	Ongoing	October 2021
Tree Warden to monitor missing reports and notify Tree Officer where necessary	Tree Warden	October 2020	Ongoing	October 2021
Annually, Tree Warden to prepare formal update for Full Council on the state of BSTP trees and progress to targets or otherwise	Tree Warden and Town Clerk	April 2021	February 2022	December 2021
Tree Warden to assist the Tree Officer to report on the health of trees and alert them to any problems with applications	Tree Warden	October 2020	Ongoing	October 2021
Tree Warden to assist the Tree Officer in the preparation of technical documents to fight unnecessary claims for trees to be felled for subsidence reasons	Tree Warden	October 2020	Ongoing	October 2021
Tree Warden to attend BSPTC Planning Committee each month and advise councillors of any trees that require additional discussion and recommendations for refusal or support	Tree Warden	October 2020	Ongoing	October 2021
Create a list of Preferred Arboricultural Suppliers	Tree Warden and Town Clerk	April 2021	31 August 2021	October 2021
Upload Preferred list and guidance about tree applications to BTC website	Tree Warden and Town Clerk	April 2021	31 August 2021	October 2021
Work with academic colleagues to produce a standard list matrix of trees (similar to Tampa Florida) to refine methodology for BSPTC	Tree Warden	October 2021	30 June 2021	October 2021
Work with TDC Tree Officer and Councillors to embed scientific mitigation practice into conditions for replanting at TDC Planning	Tree Warden, Councillors and TDC Tree Officer	October 2021	01 October 2021	February 2022

Action	Who?	Start date	Target end date	Review date
Obtain full map of BSTP TPOs from TDC	Councillors, Tree Warden, Town Clerk, TDC Tree Officer	October 2021	30 November 2021	February 2021
Visit and map TPOd trees onto TreeZilla and Ancient Tree Index where applicable	Tree Warden Tree Champions	Ongoing	Ongoing	April 2021
Update TDC Tree Officer with corrections required to existing TPOs	Tree Warden TDC Tree Officer	Ongoing	Ongoing	April 2021
Upload how to apply for a TPO onto BTC website	Tree Warden and Town Clerk	April 2021	31 August 2021	October 2021
Create project for mapping hedgerows to include more detail in strategy	Tree Warden	October 2021	March 2022	October 2022
Contact Torbay Council to share information on how they worked out available space for planting	Tree Warden	October 2020	February 2020	February 2021
Contact Kenton Rogers (iTree Eco), to discuss projects for better geo-location mapping of available space to plant	Tree Warden, TDC Climate Change Officer, TDC Open Spaces Manager	October 2020	December 2020	February 2021
Work with Councillors and Neighbourhood Plan team to include Park Avenue woodlands as open space	Tree Warden Neighbourhood Plan team			
Prepare a detailed map of Mockett's Wood to enable areas to be mapped accurately for bio-diversity work	Tree Warden, TDC Tree Officer, Friends of Mockett's Wood	December 2021	April 2021	October 2021
Assist preparation of annual action plan to improve biodiversity of woodland	Friends of Mockett's Wood TDC Tree Officer Tree Warden Other advisory groups as needed	October 2020	October 2021	October 2021
Work with Neighbourhood Watch to improve vigilance and control of vandalism in Mockett's Wood	Friends of Mockett's Wood Tree Warden Neighbourhood Watch Local Policy	January 2021	April 2021	October 2021
Prepare a list of potential street tree sites	Tree Warden KCC Councillor	Ongoing	January 2021	October 2021
Create and maintain a list of Tree Champions and adopted trees	Tree Warden	Ongoing	October 2021	October 2021
Maintain contact with Tree Champions to organise watering programmes in the growing season	Tree Warden	Ongoing	October 2021	October 2021
Update details of how to become a Tree Champion on BTC website	Tree Warden Town Clerk	January 2021	March 2021	October 2021
Create wooden tags for trees to show environmental services provided by them and request for watering	Tree Warden Town Clerk	February 2021	April 2021	October 2021
Work with Environmental Working Party and EarthWatch to identify a suitable site for first Super Tiny Forest	Tree Warden EAG EarthWatch	December 2020	April 2021	May 2021

Action	Who?	Start date	Target end date	Review date
Prepare a Memorial Planting Menu of options for tree planting and upload to website	Tree Warden Town Clerk	December 2020	January 2021	March 2021
Strategy & Implementation Plan Review	Tree Warden Town Clerk Councillors	November 2021	December 2021	n/a

8 Appendices

Appendix 1: Canopy Cover and Plantable Space

City	Area (ha)	Population	Canopy cover	Canopy cover goal	Potential plantable space	Number of trees
Crawley	4,495	108,971	25.1%	/	/	/
Wycombe District	32,457	174,878	25%	/	/	/
Birmingham	598,900	1,092,330	23%	/	/	6,000,000
Sidmouth	4,300	12,570	23%	/	60%	405,000
Exeter	4,703	117,773	23%	/	/	/
London	157,200	8,400,000	21.9%	30%	29%	8,421,000
Worcester	3,328	98,768	21.9%	/	/	/
Oxford	4,559	155,000	21.4%	/	/	/
Dudley	9,795	312,925	20.5%	/	/	/
Southampton	7,280	253,651	20.4%	/	/	/
Walsall	10,395	269,323	17.3%	/	/	/
Cambridge	11,560	123,900	17.1%	/	/	/
Edinburgh	26,400	487,500	17%	/	/	638,000
Wrexham	3,833	61,603	17%	/	28%	364,000
Eastbourne	4,416	99,412	15.9%	/	/	/
Manchester	63,030	514,417	15.5%	/	/	/
Glasgow	17,550	596,550	15%	/	32%	2,000,000
Portsmouth	4,028	205,400	14.7%	/	/	/
Bristol	11,000	432,500	14%	30%	/	/
Telford	7,803	170,300	12.5%	/	/	/
Torbay	6,375	134,000	12%	20%	8%	818,000

Comparison with other UK cities McPherson et al. (1998) highlights how canopy cover is a useful metric for comparison across and between cities, regardless of size of total land cover. Wycombe District compares very favourably with other UK towns and cities (see table 3 below) that have completed canopy surveys, although urban tree cover in the UK is generally lower than that found in continental Europe and the US. The following figures are from the Urban Tree Cover website¹¹; the footnotes refer to the surveys the data originate from. Where data is missing in this table, it is because the city has not set a canopy cover goal or has not measured the potential plantable space or the number of trees. These numbers provide snapshots of the urban forests at different times but can be used to have an idea of how the cities compare. Although a number of towns in the UK have identified the importance of green infrastructure, many councils fall short of attributing appropriate resources to increasing canopy cover, and thus improving the quality of life of their residents and the urban fabric's resilience to climate change. Where additional funding is provided for urban trees, inventories and datasets are more complete and up to date, and as a result, tree planting and management strategies are more comprehensive. One of the best examples of this is the enthusiasm following the valuation of the urban forest benefits in Torbay.

Appendix 2 Map of Open Spaces in Neighbourhood Plan



Appendix 3: Florida Grades and Standards for Nursery Plants, 2015

Type 1 = Tall Wide

Type 2 = Tall and Narrow

Type 3 = Short, Wide and Multi Stemmed

The original document can be accessed at <https://www.fdacs.gov/ezs3download/download/60817/1267268/Media/Files/Plant-Industry-Files/Grades-and-Standards/Grades%20and%20Standards%20FEB17%202017.1.pdf> (Accessed 17/10/2020)

This is an extract from Type 1 form to explain the use of the Statistic in the Tree Mitigation calculation.

TYPE 1 MATRIX — TALL AND WIDE FORM				
Examples: black-olive, golden shower tree, live oak, mahogany, red maple, river birch, royal poinciana, southern magnolia, sycamore, winged elm				
Trunk caliper	Tree height greater than or equal to	Crown diameter greater than or equal to	B&B root ball diameter greater than or equal to	Container volume greater than or equal to
1½"	5'	34"	20"	15 Gal.
2"	6'	42"	24"	25 Gal.
2½"	7'	48"	28"	25 Gal.
3"	8'	54"	32"	45 Gal.
3½"	9'	5'	36"	65 Gal.
4"	10'	6'	40"	100 Gal.
4½"	12'	7'	44"	100 Gal.
5"	14'	8'	44"	100 Gal.
5½"	16'	9'	50"	200 Gal.
6"	17'	10'	52"	200 Gal.
7"	18'	11'	60"	300 Gal.
8"	19'	12'	70"	300 Gal.
9"	20'	13'	80"	670 Gal.
10"	20'	14'	80"	670 Gal.

Notes:

1. Trees to be graded under this matrix are listed in the Index of Trees on pages 19-26.
2. Root ball depth on B&B stock shall be at least ⅓ of the root ball diameter shown. Trees grown in soils with high water table can have shallower root balls provided the root ball diameter is increased to the next larger tree size in the table.
3. For the purpose of determining minimum root ball size, hardened-off field grown trees can have a caliper up to one inch larger than indicated in the table.
4. If caliper does not appear in matrix, use the next smallest matrix caliper.

Note: ANSI standards Z60.1 designations for container size (e.g. #3, #15, #30, etc.) can be substituted for container volume.

Appendix 4 – NERC 2006 Priority Habitat Deciduous Woodland - Thanet

NERC 2006 Priority Habitat Deciduous Woodland (England)

Published by: Natural England Last updated: 20 May 2020

Summary

This is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance. This inventory replaces Natural England's previous separate BAP habitat

Accessed from Government Magic Map 17 October 2020
<https://magic.defra.gov.uk/MagicMap.aspx>

Priority Habitat designation areas are shown in Green below.

