



PROTECTED TREE PROTOCOL

2018

1.0 Introduction

1.1. Swansea's trees provide an enormous and valuable asset and make it one of the greenest urban areas in Wales. Beyond the City, trees form an important part of the diverse landscape character of the County. Approximately 18.8% of the County is covered by tree canopy compared to a national average of 16.8%. Tree canopy cover in the urban areas of Swansea is 19.8% (based on Natural Resources Wales (NRW) figures). In the surrounding towns and villages trees form important local landmarks and landscape features and add greatly to the setting of important buildings and in the creation of a sense of place.

1.2 Trees and woodlands make a significant contribution to the diverse landscape of the City and County by:

- Providing pleasant green settings in which to live and work
- Filtering noise
- Maintaining a link with the natural environment
- Providing a valuable habitat for wildlife
- Providing shelter from the sun, wind and rain
- Recycling the air that we breathe
- Removing harmful particulates from the air
- Helping to lock up carbon
- Softening the impact of development

1.3 This Protected Tree Protocol sets out how the Council will carry out its duties in respect of protected trees, i.e. those trees subject to a Tree Preservation Order or qualifying for protection in a Conservation Area. The legislative background to these duties is set out in Appendix A.

1.4 The contribution of trees is at the heart of the WFG Act sustainable development principle; they improve Swansea's economic, cultural and environmental well-being by contributing to the seven well-being goals. As well as the obvious and well documented benefits that trees provide they also contribute to many economic, social and environmental benefits that are often overlooked or not well publicised. These benefits are set out in Appendix B and will form the basis of future policy relating to ecosystem services.

2.0 Aims of the Protected Tree Protocol

2.1 The overall aims of the **Protected Tree Protocol** are to ensure the important trees within the City and County of Swansea are preserved, thereby ensuring their contribution to amenity is maintained. These aims are translated into the policies set out below that seek to:

- Assess trees as they come under threat and protect them as and when necessary in accordance with our statutory duty
- Ensure **Tree Preservation Orders** afford suitable protection as they are intended
- Deal with Tree Work Applications fairly and consistently
- Take enforcement action where necessary to act as a deterrent to prevent further unauthorised work

2.2 A **Tree Preservation Order** (TPO) makes it an offence to: cut down, top, lop, wilfully damage, or wilfully destroy a protected tree without the local planning authority's permission. The primary function of a TPO is to protect the amenity contribution that trees make to an area.

2.3 There are four types of TPO designation:

- **Individual:** each tree designated individually
- **Group:** specified number and species within a group of trees
- **Area:** all trees specified (could be all species) growing at the time of making the order
- **Woodland:** All trees (including saplings) growing in that area either before or after the order was made

2.4 Trees growing within a Conservation Area have similar protection to TPO trees. All trees with a trunk diameter of 75mm measured at 1.5m above ground level within Conservation Areas are protected under Section 211 of the Town and Country Planning Act 1990 (as amended). Any proposed works to such trees require a written notification to the Council six weeks prior to beginning those works. Maps of the 31 Conservation Areas in the City and County of Swansea can be viewed at <http://www.swansea.gov.uk/article/5206/Conservation-areas-index>

2.5 New Tree Preservation Orders

Policy 01

All sites and trees will be assessed according to the following criteria.

- a) The trees are of current or future public amenity value. Generally, this will be interpreted as meaning that they are visible from a public place and add value to the streetscene or local landscape. However, evidence of strong cultural, historical, wildlife or rarity value will also be considered;**
- b) The loss of the trees or damage to them would have a significant impact on the local environment and its enjoyment by the public and there is a significant risk of this happening if a tree preservation order is not made; and**
- c) The trees are in reasonable health and condition, have a reasonable life expectancy and are not known to be causing damage to buildings.**

2.5.1 Under the provisions of section 197 of the Town and Country Planning Act 1990 (as amended), the Council has a duty to protect selected trees and woodlands in the interests of amenity. As the Council is seeking to protect trees and woodlands on behalf of the public, the selected trees or woodlands should generally be of some public amenity benefit. While the primary consideration is the visual impact of trees and woodlands on their local surroundings, consideration may also be given to their ecological, historical or rarity value. Other selected trees are those that are required to be planted as a part of a planning permission in mitigation of trees that are lost in the development process or in the creation of Place.

2.5.2 A TPO is a legal document that makes it an offence to cut down, top, lop, uproot, wilfully damage or wilfully destroy a tree without permission. Anyone deliberately destroying or cutting down a protected tree could be fined up to £20,000 (current amount in 2016) if convicted in a Magistrates' Court. Fines can also be imposed under The **Proceeds of Crime Act, 2002**. For example, a householder in Bournemouth was in total fined £125,000 to take into account the increase of value of his house after he organised the felling of one tree. The serving of a TPO does not mean that the Council becomes responsible for the trees; the duty of care continues to remain with the tree owner. Policy 04 sets out the Council's approach to TPO contravention.

2.5.3 Whilst the Council has a duty to protect selected trees and woodlands, there is also a need to balance the landscape value of the tree(s) against the species, size, growth potential and the relationship to adjacent buildings and gardens. It is important to ensure that TPOs are not used to perpetuate significant problems arising from the proximity of large trees to buildings. Policy 03 sets out the situations where the Council will consider the removal or pruning of protected trees.

2.5.4 The Council will take a strategic and pro-active approach towards making new TPOs, whereby those trees and woodlands that make the greatest contribution to local amenity are identified and where appropriate are protected.

2.5.5 Ad-hoc requests for new TPO's will continue to be considered in the light of current Government advice as set out in '*TPO's A Guide to the Law and Best Practice*'. To ensure that Council resources are used to the best effect, the level of risk to the tree(s), for example from felling, lopping or construction damage, will remain an important factor in considering whether to make a TPO. It is accepted that many landowners manage their trees in a responsible way and Government advice is that the use of TPOs would not be appropriate where trees and woodlands are being responsibly managed. The Council is considered to be a responsible tree owner in this respect.

2.5.6 Trees on potential development sites including Development Plan allocations, infill plots and pre-application sites will be considered for protection as any threat becomes apparent.

2.5.7 To aid the decision-making process, trees will be assessed where appropriate using the industry recognised **Tree Evaluation Method for Preservation Orders (TEMPO)**. A tree that does not meet the required standard as set out in the methodology will not be included in a preservation order unless it is part of a woodland, and being considered as part of a woodland TPO.

2.5.8 Following receipt of a 'Section 211 Notice of Intent' to remove or work on a qualifying tree growing in a Conservation Area the Council will normally only serve a TPO where the above criteria are met and particularly where the proposed work would have an adverse impact on the character of the Conservation Area.

2.5.9 The Council will not normally serve TPOs on trees that it is responsible for managing, unless the trees fulfil the above requirements and are at risk.

2.6 Reviewing Existing Tree Preservation Orders

Policy 02

The Council will continue to review its existing Tree Preservation Orders to ensure that they reflect the current legal, public amenity and land use aspects.

2.6.1 The Council periodically reviews its old TPOs which date back to 1956. A number of these orders contain 'area' or blanket designations that apply to all qualifying trees that were present on a specific parcel of land at the time that the order was made. Any trees that have been planted or have seeded naturally since the order was made are not protected. To ensure that all TPOs are appropriate, relevant, up to date and enforceable the Council will continue to prioritise the review process by concentrating on the following types of orders that contain:

- Inadequately protected trees when compared to updated Regulations (pre 1975);
- Area designations;
- Incorrect group definitions;
- Developed sites;
- Inaccuracies.

2.7 Work to Protected Trees

Policy 03

Permission to fell a protected tree will be granted where one or more of the following apply:

- a) There is strong evidence that the tree on the balance of probabilities would, or is likely to, contribute to damage of a building; or**
- b) Where the removal would be in the interests of good silvicultural⁽¹⁾ or arboricultural⁽²⁾ management and would benefit the long-term development of adjacent better quality trees; or**
- c) The tree has a short life expectancy due to ill-health; or**
- d) The tree is at risk of causing damage to people or property where the hazard cannot be reasonably remedied by pruning of the tree.**

Permission to prune a protected tree will be granted where one or more of the following apply:

- i) The work will improve the structure or longevity of the tree; or**
- ii) It is required to prevent damaging interference between the tree and surrounding infrastructure or buildings; or**
- iii) It will not affect local amenity and would not harm the long-term health of the tree.**

1. The growing and cultivation of trees as a crop.

2. The cultivation and management of amenity trees.

2.7.1. Whilst the Council recognises the need to conserve the present tree cover, there will be occasions where tree removal is justified. This policy sets out the situations where tree removal may be acceptable.

2.7.2. The principal situations where the removal of a tree may be justified include:

- where there is strong evidence that a tree is causing damage to a building
- its removal would benefit the long-term development of adjacent trees
- the tree has a limited life expectancy; or
- is at risk of causing damage to people or property that cannot be remedied by pruning.

Protected trees that are dead, dying or dangerous do not require a formal application to be made, although 5 days written notice is required except in the most

urgent situations. In these situations the tree owner has to be able to show that the tree is in the condition claimed. Where a dead, dying or dangerous tree is removed, there is a duty on the landowner to plant a replacement tree.

2.7.3. Permission will not normally be given to remove trees because of leaf fall, fruit fall, bird droppings, honeydew from aphids, or interference with TV signals/solar panels. When reaching a decision, the Council will take into account public amenity value; species; size; age and condition; density of the canopy; proximity to the building; and the aspect of the property and garden in relation to the tree.

2.7.4 For the purpose of this policy, a protected tree is one that is subject to a TPO or qualifying tree growing in a Conservation Area.

2.7.5 Pruning may sometimes be granted for other reasons, but only if it is within the tree's ability to tolerate the work without unduly impacting on its health, longevity or its value in the landscape. Factors that will be considered include public amenity value; species, size; age; and condition.

2.7.6 The Council will not normally support the pruning of protected trees that do not fulfil the above criteria, for example, those perceived to be a problem because of leaf, twig, or fruit fall, bird droppings, honey dew, interference with TV signals or to facilitate the installation of solar panels.

2.7.7 Ash die back caused by *Hymenoscyphus fraxineus* is expected to infect most ash trees in the landscape. To prevent 'immune' trees from being removed under the dying exemption of the TPO regulations the Council's position will be precautionary. Resistant trees are expected to show signs of the disease but their retention is most important. As ash trees declining due to ash die back have residual value, action will be taken in line with current Government guidance.

2.7.8 Where there is a requirement to plant a replacement tree it should be of a suitable size and species, with location agreed prior to removal.

2.8 Enforcement

Policy 04

Where there is sufficient evidence of a contravention involving a protected tree (one subject to a Tree Preservation Order or a qualifying tree growing in a Conservation Area), provided that it is in the public interest to do so, the Council will initiate criminal prosecution proceedings.

Where prosecution is not a suitable course of action the Council will consider enforcing the planting of replacement trees and/or remedial work under planning powers.

2.8.1 This policy explains how and when the Council will enforce against: unauthorised works carried out upon, and damage to or felling of trees that are protected by TPOs; unauthorised works carried out upon, and damage to or felling of trees that are situated within Conservation Areas; and, any breach of planning conditions relating to tree retention and protection.

2.8.2 Trees are protected when they are made the subject of TPOs or when trees are situated within Conservation Areas (subject to certain exemptions). In general, it is an offence to cut down, uproot, lop, top, wilfully damage or wilfully destroy a protected tree without the consent of the Council as Local Planning Authority.

2.8.3 In the case of trees protected by a TPO, the consent of the Council is generally required for any works on the trees following submission of a formal application. Any consent may be subject to conditions, and there is a right of appeal to the Planning Inspectorate <http://gov.wales/topics/planning/appeals/appeal-guidance-and-information/planning-appeals/?skip=1&lang=en> against a refusal of consent or to the terms of a condition.

2.8.4 Where trees are in a Conservation Area, six week's notice must be given to the Council of any proposal to carry out works on the trees. During this six week period, the Council may either raise no objection to the works or make a TPO to prevent those works being carried out. If the Council takes no action within six weeks, the works may go ahead as notified.

2.8.5 Two offences apply to trees protected by TPOs and those within Conservation Areas:

i) Anyone who cuts down, uproots or wilfully destroys a tree, or who lops, tops or wilfully damages it in such a way that is likely to destroy it, is liable, if convicted in the Magistrates Court, to a fine of up to £20,000 or to an unlimited fine in the Crown Court. The Courts have held that it is not necessary for a tree to be obliterated for it to be "destroyed" for the purposes of the legislation. It is sufficient for the tree to have been rendered useless as an amenity.

ii) Anyone who carries out works on a tree which is not likely to destroy it, is liable if convicted in the Magistrates Court to a fine of up to £2,500.

2.8.6 In addition to directly carrying out unauthorised works on protected trees, it is an offence to cause or permit such works.

2.8.7 If it is claimed that works are exempt from the usual requirements of the legislation, it is for the defendant to prove that the exemption applies.

2.8.8 Whenever a tree has been removed in contravention of the legislation, or because it is dead, dying or dangerous, there is an automatic duty on the landowner to plant a replacement tree of a suitable size and species at the same place as soon

as reasonably possible (unless that requirement is waived by the Council). The replacement tree is then subject to the same protection as the tree that was lost. If the landowner fails to comply with this requirement, the Council may serve a Tree Replacement Notice within a period of four years to ensure compliance. A Tree Replacement Notice can be appealed to the Planning Inspectorate.

Appendix A: Legislative Background

A.1 The Council has a legal duty to consider trees under the following legislation:

A.2 Town and Country Planning Act, 1990 (as amended) Section 197 and 198

A.2.1 For the preservation of trees and woodlands and making sure that trees are fully considered when planning for new development. The Council has a duty to consider all trees in the planning process and 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; and to protect trees with Tree Preservation Orders where other threats are identified.

A.3 Well-being of Future Generations (Wales) Act, 2015 (the WFG Act)

A.3.1 The Council must be able to demonstrate how it considers the sustainable development principle and its contribution of the seven well-being goals (especially a resilient Wales) in relation to the retention and removal of trees.

A.4 Environment (Wales) Act, 2016

A.4.1 In March 2016 the Environment (Wales) Act came in to force. Its purpose is to introduce legislation to help Wales to secure healthy, resilient and productive ecosystems in Wales for the future, while still meeting the challenges of creating jobs, housing and infrastructure. Of particular relevance are the following Parts:

a) Part 1 Sustainable Management of Natural Resources: Central to the Act is the need to adopt a more integrated approach to managing our natural resources in order to achieve long-term sustainability. It provides a framework to ensure that managing our natural resources in a sustainable manner will be a core consideration in decision making.

It sets out responsibilities for Welsh Government, NRW, Local Authorities and all public authorities, including a new Biodiversity Duty to help reverse the decline and secure the long term resilience of biodiversity in Wales. This duty links to and is further underpinned by the Resilience goal of the Well Being of Future Generations Act. The Biodiversity Duty requires Local Authorities “*to seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing, promote the resilience of ecosystems so far as consistent with the proper exercise of those functions*”. The Act also requires the Council to report to Welsh Government on what it has done to comply with the new Duty every three years with the first report due at the end of 2019.

b) Part 2 Climate Change: Provides the Welsh Ministers with powers to put in place statutory emission reduction targets, including at least an 80% reduction in emissions by 2050 and carbon budgeting to support their delivery. This sets a clear pathway for decarbonisation and provides certainty and clarity for business and investment. Consideration of tree retention and planting will help meet the requirements of this part of the Act.

A.5 National Policy: Planning Policy Wales Edition 10, 2018 (Consultation Draft)

A.5.1 In relation to trees, woodlands and hedgerows Planning Policy Wales states:

5.61 Trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a valuable wider contribution to landscape character, air quality, recreation and local climate moderation. They also play a vital role in tackling climate change by locking up carbon, and can provide a sustainable energy source and building materials.

5.62 Planning authorities should protect trees, hedgerows, groups of trees/shrubs and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or supplementary planning guidance.

5.63 Ancient and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and often have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded additional levels of protection and every effort should be made to prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consult with NRW. Planning authorities should also have regard to the Ancient Tree Inventory.

5.64 The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally-specific policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.

A.5.2 Green Infrastructure, as referred to above, is the network of multifunctional green (and blue/water) spaces, corridors and environmental features which surround, thread through, shape and help form the County's settlements and wider countryside. Green infrastructure should be regarded as a single resource to be safeguarded, enhanced and managed to deliver a wide range of environmental, economic and quality of life benefits for the community.

A.5.3 A forthcoming Swansea Green Infrastructure Strategy will be adopted as Supplementary Planning Guidance to the Swansea Local Development Plan and provide a strategic framework for the protection, accessibility and improvement of existing open spaces and to increase the provision where there is currently a deficiency

A.6 Swansea Local Development Plan (LDP) 2010-2025 (Deposit Version)

A.6.1 Council's general policy in relation to the protection of trees from development is set out in the LDP which states:

ER 11: TREES AND DEVELOPMENT

Development that would adversely affect trees, woodlands and hedgerows of public amenity, natural/cultural heritage value, or that provide important ecosystem services will not normally be permitted.

Ancient Woodland, Ancient Woodland Sites, Ancient and Veteran trees merit specific protection and development will not normally be permitted that would result in:

- i. Fragmentation or loss of Ancient Woodland;
- ii. The loss of an Ancient or Veteran tree;
- iii. Ground damage, loss of understorey or ground disturbance to an area of Ancient Woodland or Ancient or Veteran Tree's root protection area;
- iv. A reduction in the area of other semi natural habitats adjoining Ancient Woodland;
- v. Significant alteration to the land use adjoining the Ancient Woodland;
- vi. An increase in the likely exposure of Ancient Woodland, Ancient or Veteran Tree to air, water or light pollution from the surrounding area;
- vii. Alteration of the hydrology in a way that might impact on Ancient Woodland, Ancient or Veteran Trees;
- viii. Destruction of important connecting habitats relating to Ancient Woodland;
- ix. Degradation of important archaeological or historical features within Ancient Woodland or associated with Ancient or Veteran trees;
- x. Destruction of Plantations on Ancient Woodland Sites (PAWS); and/or
- xi. Development within 15m of Ancient Woodland

2.9.72 Throughout the County it is estimated that over 50,000 trees are protected by individual/group orders, area orders or woodland orders. This is in addition to trees in Conservation Areas whilst hedgerows are protected by separate legislation.

2.9.71 In recognition of the importance of trees to the County, the Plan seeks to ensure that suitable trees, whether they are protected by legislation or not, are retained and protected on any development site. Where appropriate planning conditions or Tree Preservation Orders will be used to protect important trees and woodlands.

2.9.72 Development proposals on sites containing or adjacent to trees will be required to provide a tree survey and arboricultural impact assessment in support of a planning application. Where necessary an arboricultural method statement and tree protection plan will also be required. These documents must be in accordance with the current British Standard BS5837 'Trees in relation to design, demolition and construction – Recommendations', and

have regard to the long term impact of the proposed development on the trees as they grow and wherever possible seek to avoid future conflict, such as that caused by over-hanging branches, shading and dominance.

2.9.73 Planning Permission will normally only be granted where the trees on the site are fully protected in the long term, or appropriate replacement trees will be planted when the removal of a tree or trees is unavoidable. The removal of trees would only be acceptable where there is no other alternative location for the development; and the need for and benefits from the development, outweighs the importance of the tree or trees.

2.9.74 A scheme for tree replacement, including details of planting and aftercare, must be agreed prior to the commencement of development. Replacement trees will be planted in accordance with British Standard BS8545 'Trees: from nursery to independence in the landscape - Recommendations. Tree Preservation Orders (TPOs) will normally be placed on the replacement trees.

2.9.75 Planning Conditions, Article 4 Directions and/or Planning Obligations will be used to secure any necessary mitigation/compensation/enhancement measures in relation to trees and development proposals.

2.9.76 New tree or mitigation planting will be designed to achieve maturity and to ensure that there is an ongoing contribution to amenity with negligible negative impacts. New landscape schemes will follow the principles set out in "Trees in the Townscape: A Guide for Decision Makers and be delivered using guidance in "Trees in Hard Landscapes: A Guide for Delivery".

2.9.77 Ancient Woodland is located on land that has had a continuous woodland cover since at least 1600 AD. It is a valuable and irreplaceable resource. Having been present in the landscape over many centuries Ancient Woodland is rich in wildlife and more likely to support protected and priority species and to contain special features of importance for biodiversity. It is also more likely to contain features of historical and archaeological importance. Their rarity and importance means that these areas should be protected. Where possible opportunities should be taken to restore plantations on Ancient Woodland sites to native tree cover.

2.9.78 All areas of Ancient Woodland known at the time of the Plan's preparation are shown on the Constraints Map. However this is only a provisional list and all development sites that support woodland will need to be assessed for Ancient Woodland status. NRW will be consulted on any proposals that may give rise to potentially damaging operations.

2.9.79 An Ancient Tree is one that has passed beyond maturity and is old or aged. A Veteran Tree may not be old but because of its environment or life experiences has developed the valuable features of an ancient tree. Ancient and Veteran Trees are of prime importance because of their rarity and

function within an ecosystem. Individual Ancient and Veteran trees often have local or national significance, due to their age, size or condition. They are also of importance to sustain a range of nationally and internationally protected species.

2.9.80 There is currently no comprehensive inventory of Ancient and Veteran Trees within Wales. The required tree survey in support of development proposals will detail whether a site contains or is adjacent to any trees which could be considered to be Ancient or Veteran.

2.9.81 Invasive Non-Native Species are alien animals, plants or other organisms that have the ability to spread, causing damage to the environment, the economy, our health and the way we live. They are addressed by existing legislation. If invasive non-native species are present in and around a development site appropriate action should be taken to control or remove them prior to the commencement of any approved development. Where planning permission is granted it will be subject to appropriate planning conditions and obligations to secure suitable protection, monitoring, mitigation, compensation and management.

Appendix B: Benefits of Trees

B.1 Economic Benefits:

- Increase property values by 5-18% and this growth increases proportionately with the tree growth
- Within mature landscapes, make development sites worth more
- Create a positive perception of 'place' for potential property buyers be it home owners or commercial investors
- Contribute to retail areas performing better - people are more productive, with job satisfaction increased. Customers are prepared to pay more for parking and goods (9-12% for some products) in landscaped shopping areas
- Improve the environmental performance of buildings by reducing heating and cooling costs, thereby cutting bills
- Provide a cost-effective and sustainable alternative to 'grey' infrastructure provision in tackling storm-water run-off
- Reduce, through shading, the degradation of tarmac surfacing and frequency of replacement
- Reduce green space maintenance costs
- Add to tourism and recreational revenue
- Improve the health and well-being of local populations, so reducing healthcare costs
- Can enhance the prospect of securing planning permission if existing trees are protected and the new tree-planting design is imaginative
- Offer valuable by-products e.g. timber, firewood/woodchip, renewable fuel via coppicing, fruits (e.g. community orchards) and compost/leaf litter mulch.

B.2 Social/ Cultural Benefits:

- Create a sense of place and local identity
- Provide focal points and landmarks
- Benefit communities by increasing pride and social cohesion in the local area
- Have a positive impact on crime reduction
- Promote spiritual well-being, due to their stature, strength, and endurance, e.g. putting people in touch with nature and reducing depression and anxiety
- Provide a source of recreation, entertainment and quiet enjoyment, offering opportunities to unwind and de-stress, and provide families with a pleasant environment within which to spend quality time together
- Have a positive impact on people's physical and mental health e.g. less asthma and skin cancer and improve patient recovery times. Studies show that children living in areas with more street trees have lower prevalence of asthma.
- Encourage exercise that can counteract heart disease and Type 2 diabetes
- Offer a rich outdoor learning classroom for all, especially when part of a natural wooded environment.
- Helps children concentrate at school if trees can be seen from the classroom.
- Give a link to heritage

B.3 Environmental Benefits:

- Remove carbon dioxide to create a carbon sink, i.e. help tackle climate change by trapping carbon
- Transpire, reflect sunlight and provide shade, in combination to reduce the 'urban heat-island effect'
- Remove dust and particulates from the air
- Reduce traffic noise by absorbing and deflecting sound
- Reduce wind speeds
- Provide food and shelter for wildlife thus helping to increase biodiversity
- Create new habitat links across towns and to the countryside, and strengthen existing wildlife corridors
- Create attractive greener landscapes
- Hide eyesores
- Reduce the effects of flash flooding by slowing the rate at which rainfall reaches the ground
- Help to improve soil quality when planted on despoiled and degraded ground
- Create organic matter on the soil surface from their leaf litter and, with their roots increasing soil permeability that results in:
 - Reduced surface water run-off from storms. "Every 5% increase in tree cover reduces water run off by 2%".
 - Reduced rainwater soil erosion and sedimentation of streams
 - Increased ground water re-entry that is otherwise significantly reduced by paving
 - Lesser amounts of chemicals transported to streams
 - Reduced wind erosion of soil

B.4 Local Benefits

B.4.1 Although Swansea is one of the greener cities in Wales, in the i-Tree Eco, Tawe Catchment study area¹ it was found to have a low proportion of large trees compared to previous studies conducted in the UK, and would benefit from more medium and large sized trees. More trees could be planted, as there is up to 24% of urban space available to plant trees or shrubs.

B.4.2 The 530,000 trees in the Tawe Catchment Study (2014) area alone are estimated to be worth £1.72 million per annum to the local economy, as they:

- intercept an estimated 252 million litres of water every year, equivalent to an estimated **£333,900** in sewerage charges avoided
- remove an estimated 136 tonnes of airborne pollutants each year, worth more than **£715,500** in damage costs
- remove an estimated 3,000 tonnes of carbon from the atmosphere each year, this amount of carbon is estimated to be worth **£671,000** and store an estimated 102,000 tonnes of carbon estimated to be worth **£23.1 million**
- have a replacement value of **£234 million**
- have an asset value of **£816 million** - an evaluation based on public amenity

1

Appendix C: References

1. City and County of Swansea Local Development Plan (2010-2025) Deposit Version. <http://swansea.gov.uk/ldp>
2. City and County of Swansea, The Protection of Trees on Development Sites October 2016. <https://www.swansea.gov.uk/treesondevelopmentsites>
3. The Town and Country Planning Act 1990 (as amended) <http://www.legislation.gov.uk/ukpga/1990/8/contents>
4. The Town and Country Planning (Trees) Regulations 1999 <http://www.legislation.gov.uk/uksi/1999/1892>
5. 'TPO's A Guide to the Law and Best Practice' https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14956/tposguide.pdf
6. Planning Guidance (Wales). Technical Advice Note (Wales) 10. Tree Preservation Orders. <http://gov.wales/topics/planning/policy/tans/tan10/?lang=en>
7. Protected trees - a guide to tree preservation procedures. <http://gov.wales/topics/planning/policy/guidanceandleaflets/tpoguide/?lang=en>
8. Tree Evaluation Method for Preservation Orders (TEMPO). <http://www.flac.uk.com/wp-content/uploads/2014/12/TEMPO-GN.pdf>
9. Natural Resources Wales: Tree Cover in Wales' Towns and Cities, 2016
10. Trees and Design Action Group (TDAG):
 - No Trees No Future (2010)
 - The Canopy (2011)
 - Trees in the Townscape (2012)
 - Trees in the Hard Landscape (2014)
11. Forestry Commission England: The Case for Trees in Development and the Urban Environment (2010)
12. CIRIA: The Benefits of Large Species Trees in Urban Landscapes (2012)
13. Manchester University: Adaptation Strategies for Climate Change in the Urban Environment ASSCUE project (2010)

14. Lancaster University: Using trees to improve air quality in cities (2005)
15. Trees for Cities: Trees Matter (2005)
16. Forest Research and Treeconomics (i-Tree Eco studies):
- Torbay's Urban Forest (2011)
 - Green Benefits in Victoria Business Improvement District, London (2012)
 - Valuing Wrexham's Urban Forest (2014)
 - Valuing Urban Trees in Glasgow (2015)
 - Valuing London's Urban Forest (2015)
 - Valuing Urban Trees in the Tawe Catchment (2015)
 - Valuing the Urban Trees of Bridgend County Borough (2015)
17. The Woodland Trust:
- Greening the Concrete Jungle (2010)
 - Trees or Turf (2011)
 - Urban Air Quality (2012)
 - Trees in Our Towns – their role in managing water quality and quantity (2013)
 - Healthy Trees, Healthy Places (2013)

Appendix D: Useful Contacts

The County and City of Swansea Council	http://www.swansea.gov.uk/tpo
CCOS Tree Officer	01792 635724 protectedtrees@swansea.gov.uk
Welsh Government	http://gov.wales/topics/planning/policy/?lang=en
The Planning Inspectorate	http://planninginspectorate.gov.wales/splash?orig=/
Planning Portal Wales	https://www.planningportal.co.uk/wales_en/
Natural Resources Wales	https://naturalresources.wales/splash?orig=/
Ancient Tree Forum	www.woodland-trust.org.uk/ancient-tree-forum
The Arboricultural Association (AA)	www.trees.org.uk
Royal Forestry Society (RFS)	www.rfs.org.uk
Royal Horticultural Society (RHS)	www.rhs.org.uk
Tree Advice Trust	http://www.treehelp.info/
The Tree Council	www.treecouncil.org.uk
The Woodland Trust	http://www.woodlandtrust.org.uk/en/Pages/default.aspx