

*The Greener Aberystwyth Group*  
*(Conserving Urban Green Spaces)*

***Aberystwyth Street Tree Survey – July/August 2010***

*a. INTRODUCTION*

*Aberystwyth Street Trees were first surveyed in 2005. The present survey, five years on, examines the changes that have occurred in the intervening period. The area surveyed covers Aberystwyth, Penparcau, and Llanbadarn. Trees not directly associated with the street environment - on adjacent private properties or in the grounds of public Institutions - are not included in this survey, which deals with trees growing in tarmac (road), in a specially prepared pavement extension (apron), in pavement (paved), in grass verge, in adjacent flower garden, and in adjacent grassland area considered to be too large to qualify as a verge but nevertheless forming part of the urban street scene.*

*Visits were made to each individual tree listed in the 2005 inventory to detect any changes, and to note the circumstances prevailing in 2010. Searches were also made to detect additional trees planted in new locations. Individual trees, or the absence of a tree, were assigned to one of the following categories:*

*Present:*

*Unchanged from 2005 – in good, stressed, or damaged condition,  
Replacement – new tree replacing an earlier failure, or a previously empty plot,  
New – new tree in a location not registered in 2005,  
Dead – tree present, structurally intact or fatally damaged,*

*Absent*

*Redevelopment – plot obscured due to a change in land-use,  
Removed – plot vacant, or untraceable.*

## 2. RESULTS

### *a. Status & Condition*

*For convenience, results are presented for three distinct localities – Aberystwyth town which includes part of Upper Vaenor CC (Upper Penglais Road and Waunfawr), Penparcau (s. of Afon Rheidol), and Llanbadarn (eastern approaches of Boulevard de St Brieuc & of Llanbadarn Road, Primrose Hill and the Glanyrafon Trading Estate), shown in the following Table:-*

<i>Class</i>		<i>Aberystwyth</i>	<i>Llanbadarn</i>	<i>Penparcau</i>	<i>Total</i>
<i>Present</i>	<i>Unchanged</i>	243	78	79	<b>400</b>
	<i>Replacement</i>	16	0	0	<b>16</b>
	<i>Dead</i>	5	1	2	<b>8</b>
	<i>New</i>	0	28	5	<b>33</b>
<i>Absent</i>	<i>Redevelopment</i>	12	0	3	<b>14</b>
	<i>Removed</i>	7	3	4	<b>14</b>
<b>Total</b>		<b>283</b>	<b>110</b>	<b>93</b>	<b>485</b>

Table 1: Street Trees classified according to status and condition

#### *Present and Unchanged:*

*Most trees surveyed were found to be in good condition (386) and healthy, albeit with many having a restricted, unnatural canopy due to regular, often severe, pruning. A minority (14) showed evidence of stress, impaired development, partial canopy, dead branches, or signs of physical damage.*

#### *Present Replacement:*

*Young trees were found to have been introduced as replacements in previously occupied plots (12), all in Aberystwyth, giving little or no indication of the reason for replacement, but presumably making good losses due to an earlier failure; the remainder (4) were found in plots known to have been vacant in 2005.*

#### *Present New:*

*Street trees were found in three new locations, introduced as part of a new development, or for environmental enhancement (see Gains, below).*

#### *Absent Redevelopment*

*In some instances (14), mostly in Aberystwyth, both tree and plot were found to have been obliterated, either as part of a new development scheme, such as a new roundabout, or when re-designing the plot for horticultural purposes.*

#### *Absent Removed:*

*The absence of a tree, or of a tree sawn off at ground level with the substrate intact, indicates physical removal (14), arising from any one of a number of factors - natural, planned, unplanned, or unauthorized removal.*

*b. Losses and Gains*

*Excluding newly planted trees and the replacement trees introduced to the four plots empty in 2005, we expected to find 448 living trees. Our 2010 survey located 400 survivors giving a loss rate over five years of approximately 10.7% - averaging ca 2% p.a.*

*Inevitably, the 48 losses give cause for concern. Eight were found standing but dead presumably brought about by natural causes, the rest (40) were either replaced (12), redeveloped (14) or removed (14); eleven had a girth size in 2005 of 100cm or more:-*

<b>Species</b>	<b>Loss</b>	<b>Location</b>	<b>Girth</b>
<i>Norway Maple</i>	<i>Removed</i>	<i>Elysian Grove</i>	<i>219</i>
<i>Copper Beech</i>	<i>Replaced</i>	<i>St Davis's Rd</i>	<i>213</i>
<i>Lime</i>	<i>Removed</i>	<i>Elysian Grove</i>	<i>172</i>
<i>Japanese Cherry</i>	<i>Removed</i>	<i>Llanbadarn Rd</i>	<i>165</i>
<i>Lime</i>	<i>Replaced</i>	<i>Queens Rd</i>	<i>155</i>
<i>Silver Birch</i>	<i>Removed</i>	<i>Llwyn yr Eos</i>	<i>136</i>
<i>Elm</i>	<i>Removed</i>	<i>Queens Rd</i>	<i>136</i>
<i>Cappadocian Maple</i>	<i>Redeveloped</i>	<i>Llwyn yr Eos</i>	<i>130</i>
<i>Norway Maple</i>	<i>Redeveloped</i>	<i>Llwyn yr Eos</i>	<i>125</i>
<i>Silver Birch</i>	<i>Removed</i>	<i>Fifth Avenue</i>	<i>111</i>
<i>Cherry</i>	<i>Replaced</i>	<i>Iorwerth Avenue</i>	<i>104</i>

*Replacements give no clue as to the cause of the original failure, but a dead tree structurally undamaged suggests environmental factors are involved - drought, low nutrient levels, physical constraints on the root structure, disease could all have played a part. On the other hand, empty plots, particularly relating to the larger trees indicate intentional felling, in some cases known to be for Health & Safety reasons, in others suspected unauthorized removal. Failures known to be due to vandalism appear to be relatively few in number and the recently introduced support system for vulnerable new trees (belts replacing rigid horizontal spars) should help to reduce the number of such incidents in future, but with the discovery of a new recently vandalized Rowan sapling in Penparcau it is obviously not infallible.*

*We can only assume and hope that converting a tree plot into a flower garden is all part of an objective strategy which recognizes that trees have an important role to play in developing the amenities of the town, and likewise that the planning system controlling the formal changes in land-use also recognizes the importance of trees as a valuable local amenity.*

*Compensating for these losses, new trees were introduced to three new localities: -*

- a. Boulevard St Brieuc: A discontinuous row of Wild Cherry(Prunus) along the eastern approaches fronting the new Welsh Assembly Government and County Council Office(22),*
- b. Heol y Bont: Alder(Alnus) in grassland fringing the Dolau playing fields (6).*
- c. Penparcau: Red Oak (Quercus), HorseChestnut(Aesculus) and Rowan (Sorbus) to the Neuadd Goffa village green (5).*

*Within days of planting one of the Alders was dead (failed transplant) and one of the Horse chestnuts and a Rowan had been fatally vandalized.*

*By co-incidence, the number of trees gained virtually equalled the numbers lost, but the range of gains was less varied with particular emphasis being given to Prunus, representing 60% of all new introductions, which included just one non-native species - Maidenhair tree (North Road flower garden) new to the Aberystwyth Street scene environment. Losses ranged over twelve different genera; eleven of these losses were of trees with girths in excess of 100cm (cf. above); the Norway Maple (219) was removed from Elysian Grove for reasons unknown, the Copper Beech (213) was replaced by a Lime in St David's Road as part of a road re-development scheme.*

<i>Tree Species</i>	<i>Gains</i>	<i>Losses</i>
<i>Maidenhair Tree (Ginkgo)</i>	<i>1</i>	
<i>Birches (Betula)</i>		<i>7</i>
<i>Alder (Alnus)</i>	<i>6</i>	
<i>Hornbeam (Carpinus)</i>		<i>1</i>
<i>Copper Beech (Fagus)</i>		<i>1</i>
<i>Red Oak (Quercus)</i>	<i>1</i>	
<i>Elm (Ulmus)</i>		<i>2</i>
<i>Rowan (Sorbus)</i>	<i>3</i>	<i>4</i>
<i>Whitebeam (Sorbus)</i>	<i>3</i>	<i>6</i>
<i>Hawthorn (Crataegus)</i>		<i>4</i>
<i>Crab Apple (Malus)</i>		<i>1</i>

Cherry( <i>Prunus</i> )	29	14
Maples ( <i>Acer</i> )		6
HorseChestnut ( <i>Aesculus</i> )	2	
Lime( <i>Tilia</i> )	4	1
Ash ( <i>Fraxinus</i> )		1
-----		
TOTAL	49	48

### TREE SIZE AND AGE

*Any tree with a girth measuring 100cm or more of any species is a mature specimen capable of making a substantial contribution to the Aberystwyth landscape, to the general health and well-being of residents, and to the local environment<sup>1</sup>. In 2005 we recorded 88 individual trees with girth sizes in excess of 100cm, which in estate maintenance terms must represent a substantial investment over many years by the CC. In 2010, eleven of these specimens had a girth circumference in excess of 200 cm, but some measurements should be treated with caution because multi-stemmed saplings can give rise to inflated girth sizes in mature specimens, thus giving a false impression of age, tree size and condition. Based on figures given in Chater (2010)<sup>2</sup>, the approximate average age in years of the trees with typical conformation can be calculated, as follows:*

Ref/Tree	Street	Girth	Age(years)
5HorseChestnut	Alexandra Rd	283	---
302Sweet Chestnut	North Rd	277	113
252Black poplar	Penglais Rd	250	63
58Common Beech	Elysian Grove	240	79
74Copper Beech	Llanbadarn Rd	234	130
75Copper Beech	Llanbadarn Rd	215	119
3HorseChesctnut	Alexandra Rd	212	--
60Common Beech	Elysian Grove	206	68
54Common Beech	Elysian Grove	205	67
31Hybrid Poplar	Min y Ddol	202	50
52Lime	Elysian Grove	200	62

*Of all the Aberystwyth trees, the largest girth taken from a multi-stemmed, irregular, pollarded hybrid Black Polar (293cm), not a particularly attractive specimen of its type, can be found growing among the row of mature trees lining Min y Ddol, Penparcau. For simple beauty and conformity pride of place must surely be awarded to Alexandra Rd Horse Chestnut (283cm), closely followed by the*

*Llanbadarn Rd Copper Beeches (234, 215) and the Sweet Chestnut (277cm) located at the entrance to the Parc Natur Penglais LNR at the eastern end of North Road, all of which display natural canopies, unimpeded by earlier pollarding. It was a surprise to find London Plane growing in Aberystwyth (Cae'r gog, Penglais Rd), although it does occur occasionally elsewhere in the County<sup>2</sup>.*

*Replacement trees and new introductions restored the strength of the number of street trees to 2005 levels. In 2010 Aberystwyth, Llanbadarn and Penparcau together deployed 451 individual trees of all ages, comprising many cultivars and species, mostly deciduous: -*

<i>Street Trees –2010</i>	<i>n</i>
-----	
<i>Cherry (Prunus spp.)</i>	102
<i>Whitebeams (Sorbus spp.)</i>	64
<i>Limes (Tilia spp.)</i>	53
<i>Rowan (Sorbus sp.)</i>	45
<i>Maples (Acer spp)</i>	26
<i>Sycamore (A.pseudoplatanus)</i>	26
<i>Ash (F.excelisior)</i>	18
<i>Apple (Malus spp)</i>	14
<i>Beeches (Fagus)</i>	14
<i>Horse Chestnut (Aesculus)</i>	11
<i>Western Red Cedar (T.plicata)</i>	11
<i>Alms (Ulmus spp)</i>	10
<i>Birches (Betula spp)</i>	9
<i>Poplars (Populus spp)</i>	9
<i>Alders (Alnus spp)</i>	7
<i>London Plane (Platanus spp)</i>	6
<i>Oaks (Quercus spp)</i>	6
<i>Hawthorns (Crataegus spp)</i>	4
<i>Hornbeam (C.betulus)</i>	4
<i>Corsican Pine (C.nigra)</i>	2
<i>False Acacia (R.pseudoacacia)</i>	1
<i>Holly (Ulex sp)</i>	1
<i>Lawson Cypress (C. lawsoniana)</i>	1
<i>MaidenHair Tree (G.biloba)</i>	1
<i>Myrobalan Plum (P.cerasifera)</i>	1
<i>Sweet Chestnut (C.sativa)</i>	1

## *CONCLUSIONS*

- 1. In general trees are in good condition, but many with poor canopies*
- 2. Unintentional failure rate gives cause for concern*
- 3. Recent developments in care and maintenance are noted and are welcomed*
- 4. Urban area can accommodate more trees*

## *AND RECOMMENDATIONS:*

- 1. Control failure rate:  
Vandalism – closer liaison with schools (GAG ?), three  
Community Councils*
- 2. Increase rate of planting  
Locate suitable new planting sites  
Encourage sponsorship  
Establish links with FC Urban Tree Officer (Grant-aid)*
- 3. Monitor trees at regular intervals*
- 4. Maintain specimen tree schedule (GAG ?)*

## *References:*

- 1. LTOA, 2008: A Risk Limitation Strategy for Tree Root Claims – Third edition: Report by the London Tree Officers Association.*
- 2. Chater, A.O., 2010: The Flora of Cardiganshire, Cambrian News Aberystwyth.*