

# **Wirral Council**

Regeneration and Environment Directorate

**Parks and Countryside Service** 

**Grange Hill** 

**Management Plan (Volume 2)** 

2014-2019

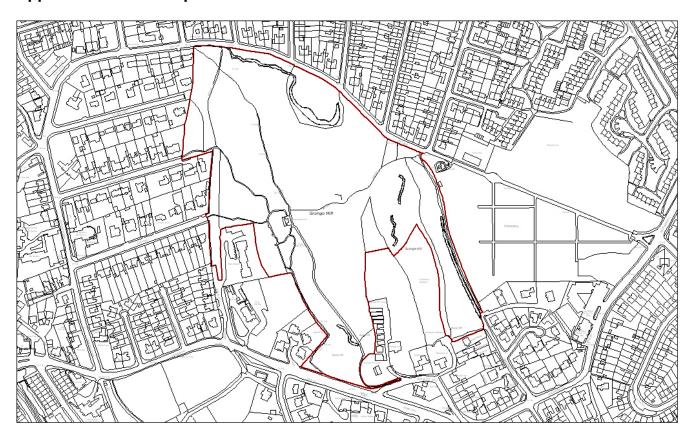
# **APPENDICES**

Management Plan written by: Paul Greenslade	07/06/14
Amended by: Christine Smyth	01/09/15
Authorised by: Mary Worrall / Anthony Bestwick	01/09/15

# **Contents**

- 1) Location plan
- 2) Aerial photograph
- 3) Grounds maintenance schedule
- 4) Public Rights of Way
- 5) Annual safety inspection sheet
- 6) Memorial Gardens draft planting scheme
- 7) Wirral Wildlife comments
- 8) Tree survey
- 9) Vegetation survey
- 10) Common lizard survey
- 11) Map of zone numbers
- 12) Memorial listing
- 13) Burning guide
- 14) Project bank
- 15) Bat survey

Appendix 1: Location plan



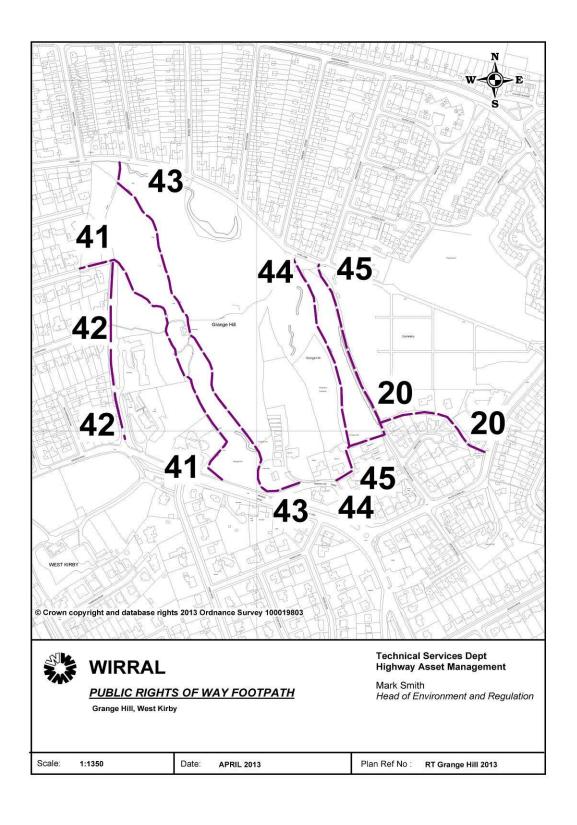
Appendix 2: Aerial photograph



#### **Appendix 3: Grounds maintenance schedule**

There are no programmed works taking place on the site. Wirral Council's Asset Management Team (Department of Transformation and Resources) are responsible for the maintenance of the War Memorial.

#### **Appendix 4: Public Rights Of Way**





Site:

# Regeneration and Environment Directorate

Name:

**Parks and Countryside Service** 

#### Annual Parks Safety Inspection Checklist (excluding children's play areas)

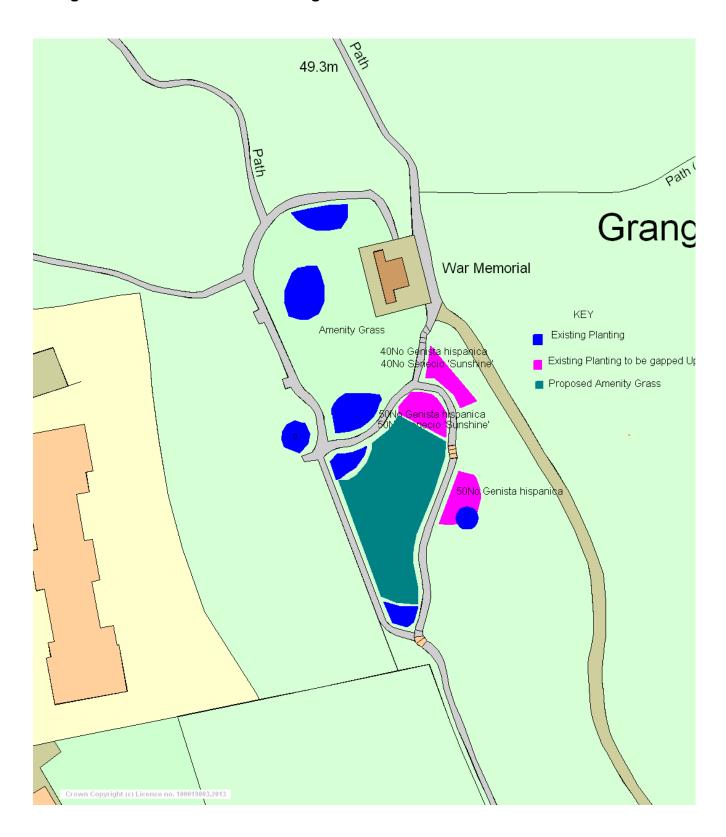
Date:

The inspection is not a condition survey but is intended to identify defects that present a safety problem for staff, users or adjacent residents. Site plans can be used to identify particular locations.			
Item	Defect	Action taken	
Paths, Steps, Ramps			
Walls, Fences, Gates			
Buildings			
Furniture - Signs, Seats, Litterbins etc.			
Soft Landscape - Grass, Planted areas, Water features etc.			
Trees			
Other			

Signature:

# **Appendix 6: Memorial gardens planting**

# **Grange Hill Memorial Garden Planting Scheme**



#### Appendix 7: Comments from Wirral Wildlife - January 2014

#### **Grange Hill Site of Biological Importance**

I understand there are arguments going on about how to manage Grange Hill in future. It has been designated a Site of Biological Importance since 1983, with the reasons given as:-

"Former remnant lowland heath, now mainly gorse scrub (Ulex europaeus) and grassland. Bracken, heather (Calluna vulgaris), western gorse (U.galii) and bell heather (Erica cinerea) occur in very small amounts among gorse, on quarry edge and other places which are inaccessible to people.

Broad-leaved woodland occurs on lower slopes and hollows, particularly west, south and old quarry (north). Sycamore (Acer pseudoplatanus) is dominant with silver birch (Betula pendula) and rowan (Sorbus aucuparia). Fires occur, sometimes frequently, during the summer.

Geological interest centres on the exposures showing the contact between the Bunter and Keuper sandstones, along with interesting sedimentary features. "

Over the last 30 years our surveys have shown that the amount of European gorse has increased, and the amount of heathers decreased, making it less like heathland. More trees have also been colonising. When the new SBI criteria are ratified, hopefully later this year, we will be reviewing whether Grange Hill should keep SBI status.

#### The ecological background

Lowland heathland is, except on a few coastal cliffs, a semi-natural habitat that develops on acid, nutrient-poor soils where people have cut down trees and shrubs, and grazed animals such as cattle, sheep and horses, which discourage new trees from growing. European gorse was traditionally removed for animal feed and bedding, and for firing for stick ovens, as it leaves almost no ash. Heathland is a habitat that depends on continual management by removal of woody species and (preferably) grazing, otherwise natural succession soon returns it to secondary woodland.

In the absence of grazing, continual removal of trees and European gorse and control of bracken are needed. We are attempting this on our nature reserve at Cleaver Heath, Oldfield Road, Heswall, but this is rather smaller than Grange Hill. It forms part of the much larger Heswall Dales SSSI.Currently in Wirral only National Trust, on the larger part of Thurstaston Common, is making a good go of retaining lowland heathland in good condition. They have put in a lot of money, manpower and some grazing stock to achieve that (and are still not entirely happy about how it is going).

Grange Hill has a particularly large amount of European Gorse, which suggests that soil phosphate levels are high enough to encourage it (legumes need some phosphate to be able to fix nitrogen from the air). Over time, legumes such as gorse add nitrogen to the soil, increasing the soil fertility so that it is easier for trees to grow and harder for the dwarf heathland shrubs (heathers, heaths) to compete. So the soil on Grange Hill is probably now more fertile than is suitable for heathland.

#### **Management Options**

The options that I think need to be considered for Grange Hill are similar to those for Thurstaston Common, Heswall Dales, Caldy Hill and Bidston Hill. The formal area of Grange Hill round the war memorial obviously has to be

retained in formal condition with space for the annual remembrance service. I have no comment on proposals for the formal area, except that obviously species that might easily invade the rest of he hill should be removed if possible and certainly not planted.

These options are not mutually exclusive, given the size of Grange Hill. However small habitat patches are less useful to animals than large ones.

- 1) Restore significant areas to lowland heathland. This would need:-
  - removal of trees, except for a few left as perching points for birds and insects, shelter, nesting etc
  - removal of European gorse
  - removal of top 10cms of soil, to return the soil to the infertile condition needed for heathland and remove the gorse seedbank. Dispose of this soil off-site or into woodland areas.
  - continual management to prevent tree regrowth and control European gorse reinvasion.
  - cutting suitable fire-breaks annually to limit the effect of fires, as heathland is inevitably fire-prone. Maintaining these as grassy rides.
- 2) Create appropriate woodland by a mix of planting and natural succession. Oak and birch would be the appropriate dominant species, with some rowan. This would need:-
  - European gorse removal to encourage existing appropriate trees
  - removal of unwanted trees eg thin out sycamores
  - possible tree planting, following removal of European gorse from selected areas.
  - managing the European gorse by cutting and removal as necessary: it gets leggy under shade and becomes a fire hazard
  - cutting suitable fire-breaks annually to limit the effect of fires, as gorse is inevitably
    fire-prone, until tree shade is sufficient to replace the gorse with other ground flora.
    Maintaining these as grassy rides.
  - removing trees in unsuitable places eg damaging walls.
  - deciding where views need to be kept from the Hill out over the North Wirral plain and sea, and managing trees accordingly. If this is not done, views get lost - as happened on Bidston Hill.
  - Eventually looking to add woodland species such as native bluebell into the ground flora, once trees have created enough shade
- 3) Some minor modification of the existing state and leave natural succession to gradually create a woodland of mixed composition. This would require:-

- cutting suitable fire-breaks annually to limit the effect of fires, as gorse is inevitably fire-prone, until tree shade is sufficient. Maintaining these as grassy rides.
- accept a mix of trees with sycamore likely to become dominant. Gorse and heathland plants will be gradually shaded out.
- deciding where views need to be kept from the Hill out over the North Wirral plain and sea, and managing trees accordingly. If this is not done, views get lost - as happened on Bidston Hill.

Obviously there are cost differences to these - 1 is much more expensive in capital and revenue than 2; 3 costs least but may have the least good result for wildlife and amenity. Obviously no-one concerned has much money at present.

A small amount of heathland is of limited use to wildlife, as it will support the plants but not be big enough to support the specialist invertebrates and birds. This is the reason why we have accepted that there is little point in continuing to try to retain heathland at Heswall Beacons or Poll Hill, and many years ago agreed with National Trust that they give up trying to maintain heathland at Irby Hill. In a time of climate change, making it necessary for wildlife to move, large sites and corridors/stepping

stones are most important. So Thurstaston Common and Heswall Dales come top of the list, with Caldy Hill next as an important link. On Grange Hill, stuck out on the end, is harder to argue for heathland re-creation.

I hope that can help contribute to the debates.

Best Wishes Dr Hilary J Ash Hon Conservation Officer Wirral Wildlife The Wirral Group of Cheshire Wildlife Trust

January 2014



#### Wirral Council

# Regeneration and Environment Directorate

Parks and Countryside Service

**Grange Hill** 

Tree Survey

April 2014

Compiled by Ian Roberts, FdSc arb, HND arb, RFS cert arb.

#### Contents

- 1. Scope of Survey
- 1.1 Purpose of the report
- 1.2 Limits of investigation
- 2. Site analysis
- 2.1 Inspected by
- 2.2 Date of inspection
- 2.3 Location
- 3. Tree inspection
- 3.1 Zone 6 (Grange Road entrance)
- 3.2 Recommendations for tree works zone 6 Grange Road entrance
- 3.3 Zone 5 War memorial grounds
- 3.4 Zone 1 (South)
- 3.5 Zone 1 (North)
- 3.6 Recommendations for tree works zone 1 (North)
- 3.7 Zone 3 Old Quarry
- 3.8 Zone 6
- 3.9 Zone 2
- 4. Legal responsibilities
- 5. Risk management of boundary trees
- 6. General Recommendations for Tree Works
- 7. References
- Plate 1: Low branches obscuring the footpath and highway, Grange Road.
- Plate 2: Griselinia littoralis War memorial ground.
- Plate 3: Dead Elms Grange Hill footpath entrance No. 41 Claremount Road.
- Plate 4: Fire damage Zone 6.
- 1. Scope of Survey
- 1.1 Purpose of the report

This report has been undertaken for inclusion in the Grange Hill management plan.

To provide a formal inspection of the trees contained within Grange Hill to assess and record the variety of species and to give recommendations for any essential maintenance requirements using best arboricultural practices for tree risk management using guidance published from The National Tree Safety Group (NTSG).

#### 1.2 Limits of investigation

A formal inspection of the trees was made at ground level using visual assessment of the tree canopy and stems.

#### 2. Site analysis

#### 2.1 Inspected by

Tree inspection and report compiled by Ian Roberts, FdSc arb, HND arb, RFS cert arb.

#### 2.2 Date of inspection

Site visit with a formal inspection on 08/05/14

#### 2.3 Location

Grange Hill, Lang Lane, West Kirby, Wirral, Grid reference 321901 387143

#### 3. Tree Inspection

Grange Hill occupies an area of approximately 9.43 Hectares, and for the purpose of the management plan the site has been divided into seven zones: these zones or compartments have been replicated for the tree survey.

#### 3.1 Zone 6 (Grange Road entrance)

The dominant species of trees within the canopy of this zone are Sycamore *Acer pseudoplatanus* and Birch *Betula pendula* with an understory of Mountain Ash *Sorbus aucuparia*, Common *Whitebeam Sorbus aria*, Common ash *Fraxinus excelsior* and Holly Ilex aquifolium.

In addition to these trees there are noted individual species of English Elm *Ulmus procera*, Yew *Taxus baccata*, Wild Cherry *Prunus avium*, Common Hawthorn *Crataegus monogyna*, Horse Chestnut, *Aesculus hippocastanum* and Pear *Pyrus sp.* In summary there are 12 species of trees within this zone.

#### 3.2 Recommendations for tree works zone 6 Grange Road entrance

Along the boundary of Grange Road there are low branches that are obstructing the footpath and highway (see plate 1) which require crown lifting to comply with pedestrian height clearance (approx. 2-3 metres) and for vehicle highway clearance (approx. 5-6 metres). Please see section 4 for guidance on legal responsibilities.



Plate 1 Low branches obscuring the footpath and highway, Grange Road.

#### 3.3 Zone 5 War memorial grounds

There are very few trees within this zone; however individual trees include Common Whitebeam Sorbus aria and Evergreen Oak Quercus ilex with evidence of some felled sycamore from the remaining stumps.

One interesting feature of this zone is an evergreen shrub known as *Griselinia littoralis* that has grown into a sizable tree for this exposed site, which is more often grown as a shrub or hedging plant on exposed coastal sites (see plate 2). This tree is a focal point of this site and should be preserved in its present form and excluded from other shrub pruning works identified for this zone.

In summary there are 3 species of trees within this zone.



Plate 2 Griselinia littoralis War memorial ground

#### 3.4 Zone 1 (South)

The dominant species of trees within the canopy of this zone are Sycamore *Acer* pseudoplatanus with Birch Betula pendula, Common Oak Quercus robur, Mountain Ash Sorbus aucuparia.

In addition to these trees there are noted individual species of Common Whitebeam *Sorbus aria*, Wild Cherry *Prunus avium*, Holly *Ilex aquifolium* and Holm Oak *Quercus ilex*. In summary there are 8 species of trees within this zone.

#### 3.5 Zone 1 (North)

The dominant species of trees within the canopy of this zone are Sycamore *Acer pseudoplatanus* with English Elm *Ulmus procera*, Common Hawthorn *Crataegus monogyna*, Wild Cherry *Prunus avium*, Holly *Ilex aquifolium* and Holm Oak *Quercus ilex*. In summary there are 6 species of trees within this zone.

#### 3.6 Recommendations for tree works zone 1 (North)

At the footpath entrance to Grange Hill (number 41) and Claremount Road house numbers 21 & 20, there are two dead Elm trees (see plate 3) that require felling as they may present a potential risk to the highway and to residential property.

Please see section 4 for guidance on legal responsibilities.



Plate 3 Dead Elms Grange Hill footpath entrance No. 41 Claremount Road

#### 3.7 Zone 3 Old Quarry

The dominant species of trees within the canopy of this zone are Sycamore *Acer* pseudoplatanus with Common Oak *Quercus robur and* Mountain Ash *Sorbus aucuparia*. In summary there are 3 species of trees within this zone.

#### 3.8 Zone 6

This large zone dominated with the presence of Gorse contains small groups of trees with individuals widely distributed to include;

Common Oak *Quercus robur*, Birch *Betula pendula*, Whitebeam *Sorbus aria*, Mountain Ash *Sorbus aucuparia*, Sycamore *Acer pseudoplatanus*, Common Hawthorn *Crataegus monogyna*, Common ash *Fraxinus excelsior*, *Elderberry* Sambucus nigra, English Elm *Ulmus procera* with individual species of Fir *Abies sp and Black Poplar populus nigra sp.* In summary there are 11 species of trees within this zone.

Due to the large presence of Gorse, this area of Grange Hill suffers from infrequent fire damage as noted during the site visit on 08/05/14 (see plate 4).



#### 3.9 Zone 2

This smaller zone noted for remnants of the indigenous heather species contains individual trees of Common Oak Quercus robur, Birch Betula pendula, Whitebeam Sorbus aria. Mountain Ash Sorbus aucuparia and Holly Ilex aquifolium. In summary there are 5 species of trees within this zone.

#### 4. Legal responsibilities

In the UK, the occupier of a site has a duty of care to take reasonable steps to prevent or minimise the risk of personal injury or damage to property from the presence of any tree on the site and from the damage resulting from any breakage or uprooting under both the civil and criminal law. This duty of care is clearly defined by the Occupiers Liability Act (1957 and 1984) for England and Wales. The early Act concerns the duty of care that occupiers have towards their visitors, whilst the later Act concerns their duty towards other persons. In addition, the Highways Act 1980 gives rise to a duty "to maintain the highway".

#### Risk management of boundary trees

Many of the trees identified within Grange Hill are located on perimeter boundaries to include the Highway and residential properties.

The assessment of risk therefore needs to be addressed for the trees within these boundaries in relation to their location using guidance published from The National Tree Safety Group (NTSG) on tree risk management to include:

- Zoning (Areas of land defined by landowners according to levels of use)
- The probability of mechanical failure
- The severity of any impact in the event of failure
- The probability of one or more persons or property being present at the time of failure.

The boundary trees within Grange Hill have been classified as potentially medium/high risk zones that require a formal inspection based on a 3 year cycle of those trees that are located within 25 metres of the highway and to residential property.

The potential for damage and severity of any mechanical failure both to people and to property is of medium/high risk, in particular the probability of one or more persons or property being present at the time of any failure has the potential to be high.

#### 6. General Recommendations for Tree Works

All tree work as specified in this report to be carried out by skilled arboricultural staff to BS 3998:2010.

7. References: National Tree Safety Group (NTSG) Common Sense Risk Management of Trees.

# Appendix 9: Vegetation survey report with vegetation distribution map.

# **Vegetation Survey**

# **Grange Hill**

# Wirral Council Regeneration and Environment Directorate Parks and Countryside

May 2014

Compiled by Paul Greenslade Senior Area Ranger



Plate 1 Mixed vegetation of Grange Hill

# Contents

- 1 Location and physical relief
- 2 Description
- 3 Survey method
- 4 Zone 1
- 5 Zone 2
- 6 Zone 3
- 7 Zone 4
- 8 Zone 5
- 9 Zone 6
- 10 Zone 7
- 11 Other species
- 12 Report

#### 1. Location and physical relief

Situated on Bunter and Keuper sandstones the hill reaches a height of 52 metres. Grid Ref SJ 219 871. Situated ¾ mile east of West Kirby railway station. The site is surround by residential housing.

#### 2. Description

The site comprises an area of 9.8 ha and protected under the local or regional importance to wildlife. In Wirral these sites were known as Sites of Biological Importance or SBI, now known as Local Wildlife Sites.

Consisting of mainly gorse (*Ulex europaeus*) grassland and invasive bracken. Once thought to be a former lowland heath and heather (*Calluna vulgaris*) western gorse (*Ulex gallii*) and bell heather (*Erica cinerea*) occur in very small amounts among the gorse. Broadleaved woodland occurs on the lower slopes, particularly in the west, south and by the old quarry in the north.

Sycamore (*Acer pseudoplatanus*) is dominant with Silver Birch (*Betula pendula*) and Rowan (*Sorbus aucuparia*)

Fires occur, sometime frequently, during the summer.

Geological interests centres on the exposures of sandstones, along with interesting sedimentary features.

#### 3. Survey method

A walk over survey was carried out over two days in May. This included a visual assessment of the area.

A general note of the most dominant vegetation was noted along with target notes of any important or unusual species and relevant management issues.

#### 4. Zone 1

This comprises of two areas on the north-west of the site and consists primarily of woodland. Zone 1 (north) is dominated by Sycamore (*Acre pseudoplatanus*) with a mixture of Rowan (*Sorbus aucuparia*), Silver Birch (*Betula pendula*), English Elm (*Ulmus procera*), Wild Cherry (*Prunus avium*) and Holly (*Ilex aquifolium*).

An understory of Hawthorn (*Crataegus monogyna*) and younger trees of the above is present and a field layer of Bracken (*Pteridium aquilinum*) in places, Cow parsley (*Anthriscus sylvestris*), Alexander's (*Smyrnium olusatrum*), Green Alkanet (*Pentaglottis sempervirens*), and Bluebell (*Endymion non-scriptus*) in patches. Bramble (*Rubus fruiticosus*) and European Gorse (*Ulex europaeus*) present on the edge next to the main zone 6

#### Zone 1 (south)

Here the western side comprises of woodland with Sycamore (*Acre pseudoplatanus*), Rowan (*Sorbus aucuparia*), Silver Birch (*Betula pendula*), Whitebeam (*Sorbus aria*)



Plate 2 - Zone 4

Here Bracken is present in the field layer with Green Alkanet (*Pentaglottis sempervirens*) and Cleavers (*Galium aparine*). European Gorse (*Ulex europaeus*) becomes dominant to the east of this compartment merging into the main compartment 6.

#### 5. Zone 2

This has been identified as a small area within the main matrix of zone 6 with Heather (*Calluna vulgaris*) present in small patches. Also in this zone Rosebay Willowherb (*Epilobium angustifolium*), Bracken, some Bramble and various grasses are present. Regeneration Rhododendron (*Rhododendron ponticum*) occurs. Small scattered trees fringe this zone to the north consisting of Common Oak (*Quercus robur*), Rowan (*Sorbus aucuparia*), Silver Birch (*Betula pendula*) and Whitebeam (*Sorbus aria*).

This area was managed in the winter of 2012/13 with the removal of Rhododendron (*Rhododendron ponticum*) and some young regeneration Silver Birch, Rowan and Oak to allow the heather stands develop.



Plate 3 showing zone 2.

#### 6. Zone 3

This comprises of the old quarry area with mature trees forming as stands on the quarry edge. These consist of Sycamore (*Acre pseudoplatanus*), Rowan (*Sorbus aucuparia*) and English Oak (*Quercus robur*)

The field layer from the quarry face to Lang Lane Road comprises a large patch of Bracken (*Pteridium aquilinum*) with some Bramble (*Rubus fruiticosus*) and a Dog Rose (*Rose canina*).

Comfrey (*Symphytum officinale*) Cow parsley (*Anthriscus sylvestris*), Alexanders (*Smyrnium olusatrum*) by the road edge.

#### 7. Zone 4

This is the War Memorial with no vegetation present.

#### 8. Zone 5

The War Memorial Grounds

Rhododendron (*Rhododendron ponticum*) Laurel, Cotoneaster, Prickly Holly grow here within planted beds.

Also occurring is Broom (*Cytisus scoparius*), Foxglove (*Digitalis purpurea*).

#### 9. Zone 6

This zone is the main area of the site with the dominant species consisting of European Gorse (*Ulex europaeus*).

This zone is interspersed with trees throughout, some in clumps and a woodland in the south west corner. Otherwise most are single trees growing in a matrix of European Gorse.

Sycamore (*Acre pseudoplatanus*) is dominant within the woodland in the south-west corner and also within the clump of trees growing due south of the quarry (zone 3) The scattered trees consist of a mixture of Sycamore (*Acer pseudoplatanus*), Silver Birch (*Betula pendula*), Rowan (*Sorbus aucuparia*), Common Oak (*Quercus robur*), Whitebeam (*Sorbus aria*) Hawthorn (*Crataegus monogyna*) growing in the main matrix of the European Gorse.

There are patches of other vegetation such as the path leading from the War Memorial down to Lang Lane, exiting on the east of zone 3. Here patches of Borage sp. and Labiate sp. occur with Bracken and Bramble.

A patch of Tufted Vetch (*Vicia sylvatica*), Foxglove (*Digitalis purpurea*) and Alexanders (*Smyrnium olusatrum*) grow close to the path near to the War Memorial.



Plate 4 Tufted Vetch

An open patch is present between two paths leading from the War Memorial west and north west towards zones 1. Here Shallon (*Gaultheria shallon*) grows in a patch with Rosebay Willowherb (*Epilobium angustifolium*), various grasses and Bramble lower down.

The open area where the old playing fields once existed to the north of the lawn private area off from Grange Old Road, now comprises of rough grasses, Green Alkanet (*Pentaglottis sempervirens*), docks, Bracken and Rosebay Willowherb (*Epilobium angustifolium*).

The path on the east side of the site leading from the service road off Grange Old Road to Lang Lane, supports Cow Parsley (*Anthriscus sylvestris*), Green Alkanet (*Pentaglottis sempervirens*), Alexandria (*Smyrnium olusatrum*), Teasel (*Dipsacus fullonum*) and some Nettles (*Urtica dioica*). The lower path passing the cemetery supports Garlic Mustard (*Alliaria petiolata*) and patches of Bluebells mixed with the matrix of European Gorse (*Ulex europaeus*).

On the sides of some paths Rough Hawkbit (Leontodon hispidusw) is evident.



Plate 5 Path on east side of site

#### 10. Zone 7

This is a block of European Gorse (*Ulex europaeus*) situated west of the Memorial Gardens. Few trees grow here and has little field layer species.

Fires are an integral part of the whole site and occur unwanted in most summers. The vegetation dynamics is affected by these fires, limiting some species to develop and/or succeed.



Plate 6 Recent fire in zone 6

#### 11. other species

Birds noted on the survey days.

- Greenfinch
- Chaffinch
- Blackbird
- Magpie
- Carrion Crow
- Blue tit
- Great tit
- Coal tit
- Robin
- Swift
- Swallow
- Willow warbler
- Chiff chaff
- Blackcap
- Whitethroat
- Linnet

Also some butterfly species were noted. These were Specked Wood, Orange Tip, Large White, Peacock.

Common Lizards present.

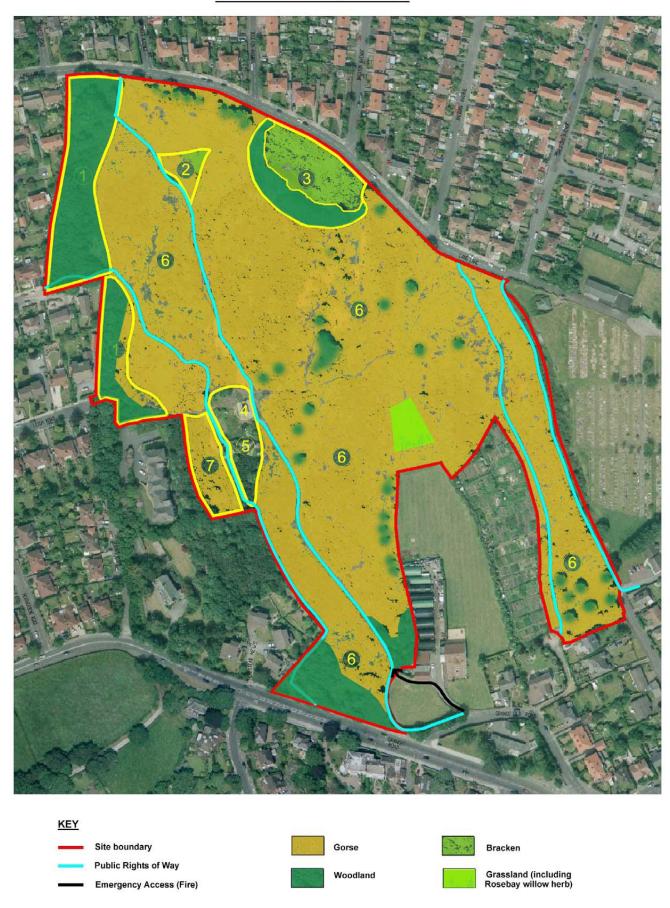
#### 12. Report

The European Gorse (*Ulex europaeus*) forms the main homogenous habitat with patches of woodland and other field layer community species in patches or areas.

If the site was left unmanaged and unaffected by outside influences then the climax ecosystem would be Oak/Silver Birch woodland. However as this site has a heavy use by people these actions have a wide reaching affect on the site such as fires, vandalism, dog faeces, and garden escapes and introductions.

These actions will limit the climax of the site, the fires retaining a main matrix of European Gorse (*Ulex europaeus*) with interspersed trees.

# **VEGETATION DISTRIBUTION**



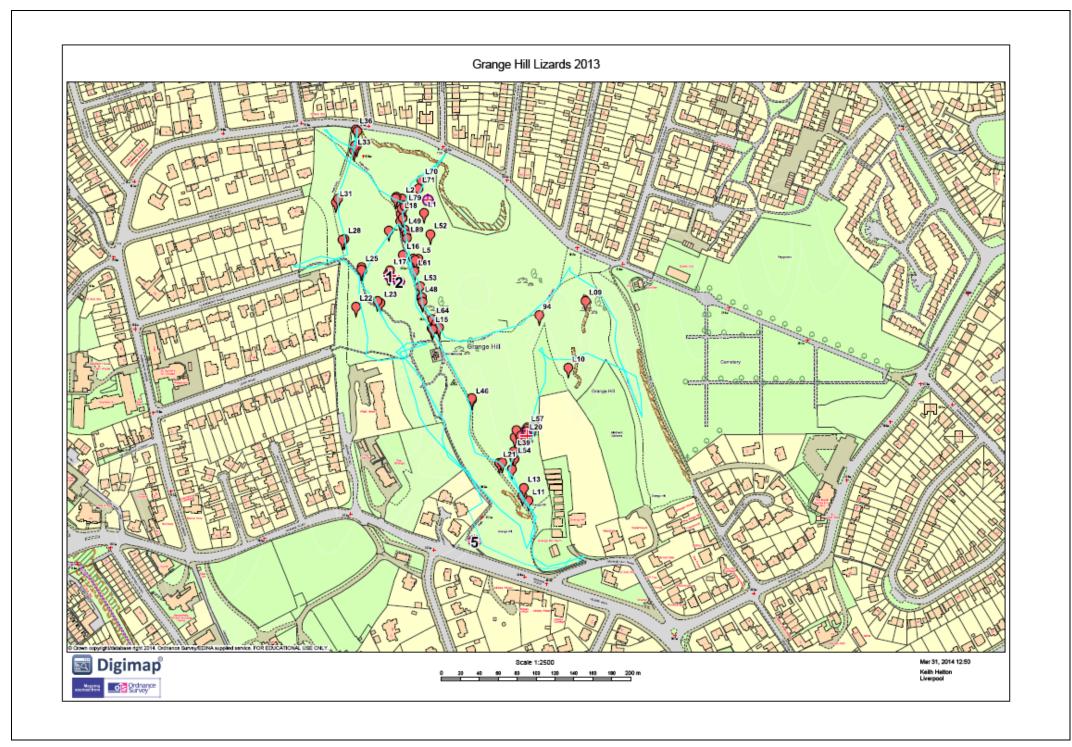
# Appendix 10: Common lizard survey and location map

# Recorders – Keith Hatton and Richard Burger. Common Lizard Sightings 2013

These records indicate SIGHTINGS of Common Lizard, *Zootoca vivipara*, on Grange Hill, West Kirby in 2013. Each sighting was recorded on a hand-held Garmin GPS and photographed if possible.

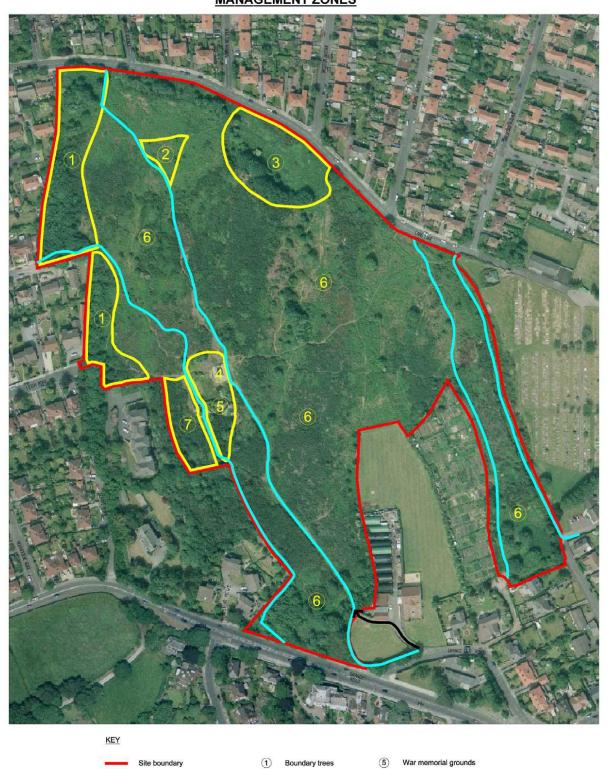
Date	Time	Grid	Ref	Habitat	Age
01/08/2013	11.40	SJ 21887	87290	charcoal/grass	male
01/08/2013	12.29	SJ 21864	87305	grass	adult
01/08/2013	12.30	SJ 21858	87307	grass	juvenile
01/08/2013	12.42	SJ 21857	87305	grass	juvenile
01/08/2013	12.50	SJ 21881	87241	grass	female
01/08/2013	12.50	SJ 21876	87241	grass	juvenile
01/08/2013	12.56	SJ 21878	87240	grass	juvenile
01/08/2013	12.56	SJ 21878	87240	grass	juvenile
01/08/2013	13.26	SJ 22058	87196	grass	adult
01/08/2013	13.40	SJ 22040	87126	bracken	adult
01/08/2013	14.02	SJ 21997	86985	grass	sub-adult
01/08/2013	14.04	SJ 21991	86990	grass	juvenile
01/08/2013	14.04	SJ 21993	86998	grass	male
02/08/2013	11.00	SJ 21895	87168	garden	female
02/08/2013	11.05	SJ 21865	87245	grass	female
02/08/2013	11.34	SJ 21851	87229	bracken	sub-adult
02/08/2013	11.47	SJ 21862	87288	grass	juvenile
02/08/2013	11.49	SJ 21866	87298	grass	juvenile
02/08/2013	12.23	SJ 21995	87054	grass	juvenile
02/08/2013	13.03	SJ 21967	87025	grass	male
02/08/2013	13.46	SJ 21815	87190	grass	juvenile
02/08/2013	13.48	SJ 21841	87194	grass	juvenile
02/08/2013	13.51	SJ 21838	87196	bracken	juvenile
02/08/2013	13.55	SJ 21821	87232	bracken	female
02/08/2013	13.55	SJ 21822	87228	bracken	male
02/08/2013	14.05	SJ 21821	87229	grass	male
02/08/2013	14.13	SJ 21803	87262	grass	male
02/08/2013	14.23	SJ 21801	87261	grass	juvenile
02/08/2013	14.33	SJ 21794	87301	gorse	female
02/08/2013	14.35	SJ 21796	87305	gorse	female
02/08/2013	14.50	SJ 21813	87355	grass	juvenile
02/08/2013	14.51	SJ 21816	87360	gorse	juvenile
02/08/2013	14.52	SJ 21814	87361	grass	juvenile
02/08/2013	14.57	SJ 21815	87378	grass	juvenile
02/08/2013	14.59	SJ 21816	87376	gorse	juvenile
06/08/2013	12.08	SJ 21993	87058	grass (together)	juvenile
06/08/2013	12.08	SJ 21993	87058	grass (together)	juvenile
06/08/2013	12.13	SJ 21982	87037	grass	female
06/08/2013	15.27	SJ 21938	87092	bracken	female
06/08/2013	15.35	SJ 21938	87094	grass	adult
06/08/2013	15.38	SJ 21884	87200	grass	juvenile

06/08/2013	15.40	SJ 21867	87272	grass	juvenile
06/08/2013	15.44	SJ 21849	87225	bracken	male
06/08/2013	16.01	SJ 21862	87281	bracken	juvenile
06/08/2013	16.06	SJ 21894	87267	rock	female
06/08/2013	16.26	SJ 21883	87212	grass	juvenile
06/08/2013	16.31	SJ 21983	87029	grass	adult
06/08/2013	16.33	SJ 21981	87033	grass	juvenile
06/08/2013	16.35	SJ 21993	87058	brash/dead wood	juvenile
06/08/2013	16.39	SJ 21996	87063	brash/dead wood	male
06/08/2013	16.44	SJ 21992	87054	brash/dead wood	female
06/08/2013	16.47	SJ 21980	87018	grass	female
07/08/2013	11.05	SJ 21877	87228	gorse	female
07/08/2013	11.39	SJ 21863	87294	grass	sub-adult
07/08/2013	11.45	SJ 21885	87200	grass	juvenile
07/08/2013	11.47	SJ 21896	87177	grass	juvenile
07/08/2013	11.48	SJ 21900	87173	grass	juvenile
07/08/2013	11.48	SJ 21903	87168	grass	adult
07/08/2013	11.55	SJ 21970	87025	grass	adult
07/08/2013	12.08	SJ 21868	87267	gorse	adult
07/08/2013	12.12	SJ 21850	87224	bracken	male
01700/2010	12	002:000	0.22.	D. Gorton	maio
08/08/2013	11.42	SJ 21884	87324	grass	male
08/08/2013	11.42	SJ 21881	87315	grass	adult
08/08/2013	12.24	SJ 21985	87060	brash/dead wood	juvenile
08/08/2013	12.27	SJ 21989	87054	brash/dead wood	juvenile
08/08/2013	12.32	002.000	0.00.	brash/dead wood	male
08/08/2013	12.37	SJ 22004	87065	bracken	adult
00,00,20.0	12.01	00 = 200 :	0.000		
20/08/2013	13.07	SJ 21864	87284	grass	juvenile
20/08/2013	13.08	SJ 21867	87297	grass / bracken	juvenile
20/08/2013	13.30	SJ 21896	87166	grass	female
20/08/2013	13.36	SJ 21996	87061	grass	juvenile
20/00/2010	10.00	00 21000	07001	grado	javornio
21/08/2013	13.20			grass / gorse	juvenile
21/08/2013	13.39	SJ 21885	87196	grass	juvenile
21/08/2013	13.50	00 2 1000	07 100	bracken	female
21/00/2010	10.00			DIGONOTI	70111010
22/08/2013	12.12	SJ 21869	87263	grass	juvenile
22/08/2013	12.12	SJ 21996	87057	grass	juvenile
22/00/2010	12.21	00 2 1000	0,00,	grado	javornio
30/08/2013	14.10	SJ 21995	87059	brash/dead wood	juvenile
30/08/2013	14.35	SJ 22009	87181	bracken	juvenile
00/00/2010	17.00	00 22003	07 101	DIGUNOII	Javornie
01/10/2013	14.00	SJ 21993	87056	brash/dead wood	sub-adult
01/10/2013	14.00	00 2 1880	107030	DIASII/UEAU WUUU	J Sub-auuit



Appendix 11: Map of zone numbers

MANAGEMENT ZONES



27

Public Rights of Way

Fire vehicle access

6 Gorse, Birch and Oak

7 Gorse

#### Appendix 13: Burning guide

Cut material must be burned at the approved burn site on the same day wherever possible to prevent fire risk. Always take into account weather conditions as the Hill is susceptible to accidental fires during dry periods. Fires must be closely managed and properly extinguished before leaving the site.

If it is not possible to burn material on the same day (perhaps due to rain, or an excess of fresh green material) arrangements should be made under one of the following options:

- to burn the material as soon as is practical
- to remove the material from the site
- to chip the material and either remove it, or leave it onsite

In exceptional circumstances when it has been agreed with the Local Area Team Leader that it is not practical to convey material to the agreed burn site - due to the distance and amount of arisings - a temporary burn site may be agreed, under the explicit instruction of the Local Area Team Leader.

**Appendix 14: Project bank** 

PROJECT BANK			
Project	Cost estimate (inc design and contract management fee)	Justification, policy fit and evidence of need	
Refurbish or replace concrete path around the garden of remembrance	Unknown at present	To be agreed.	
Replace old lamp by the Memorial Garden with new suitable energy efficient illumination and repair plinth	Cost estimate and suitable designs to be explored	To enhance the visual and heritage appearance of the area.  Asset management, working with the Friends of Grange Hill and other key stakeholders. No works are to be carried out to the lamp post or electrical supply box by any other parties or volunteer groups other than Asset Management or its electrical War Memorials contractors.	
Webcam to link in with the Wirral webcam service/ Wirralcam? to	Unknown at present	For consideration. The potential for connection via the mains supply box would need to be discussed with Asset Management and the details agreed (inc who is paying for the sub metered supply etc)	

further promote Grange Hill		
Information boards near garden of remembrance suggested: History of War Memorial; Flora & Fauna; Panorama	To be determined	For consideration

#### Appendix 15: Bat survey

#### Report of preliminary bat survey at Grange Hill, West Kirby 27.10.2014.

Reasons for survey.

Following a bat walk that I conducted at Grange Hill Friday 19th September for some local residents and also following some correspondence with Paul Greenslade, the Ranger for the site, and with the Friends of Grange Hill it was decided that I would accompany Paul on a site visit. This was carried out on Monday 27.10.2014 from 11am until 12.45pm. The weather was dry and warm. The bat walk that I conducted and other bat surveys conducted by members of the public show that the site is used for foraging by common pipistrelle (Pipistrellus pipistrellus), possibly by soprano pipistrelle (Pipistrellus pygmaeus) and also possibly by noctule (Nyctalus noctula). There aren't any known roosts of bats on site. It is likely that the pipistrelle bats have their summer roosts principally in the houses near to the site and the noctules in woodland such as Stapledon Woods or Royden Park.

#### Aims.

The principal aim was to examine 4 sycamores at the beginning of the footpath to the war memorial, which leads from Old Grange Road. These sycamores need an inspection by the Highways Department and it is possible that some work may be needed on them. It was also decided to have a look at the other parts of the site and discuss the management plans.

#### Results.

It was not possible to examine 3 of these 4 sycamores in anything other than a fairly cursory fashion, since they would need to be climbed and I do not have the training, equipment of expertise to do this. They were in a difficult position, being sited on top of a sandstone wall and they were covered densely in ivy. Tree no 4, marked on the attached Checklist guide, does not have any potential for roosting bats. However, I also had a walk over the site with Paul and we looked at other potential bat roosting places. Since no other tree work is envisaged on site we did not examine any other trees in detail.

Conclusions and proposals.

The first 3 of these trees have a relatively high potential for bat roosts, since the ivy cover is so dense and ivy is known to be used for roosts, both in winter and in summer. It depends what the Highways department say in their assessment of these trees but if it is deemed that lopping or felling is needed then the trees must be closely inspected by someone with the relevant experience and expertise for the presence of bats before such work is undertaken. If some tree work is necessary and it is acceptable in terms of safety the trunk of the trees could be left in situ since the bulk of the ivy cover is on the trunks. If tree work is needed but is not urgent and could be left until next autumn, then I would be willing to carry out bat surveys of these trees at dawn next April and subsequently later in the summer. I put up 4 bat boxes on 2 sycamores further along the footpath up to the memorial to give the bats other possibilities for roosting. It should be noted that the walls along Hilbre View are densely covered in ivy so the opportunities for bat roosts are not in short supply. However, this does not mean that the 3 sycamores in question should not be examined closely for roosting bats, if the need arises.

Regarding the remainder of the site, it is probable that the mature trees which are mostly situated on the perimeters are the principle main sites for foraging for bats and so it is important that these are retained, as much as is possible.

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Chairman, Merseyside and West Lancashire Bat Group

References.

Hundt L. et al (2012). Bat Survey Guidelines 2nd Edition Bat Conservation Trust.