

# **MANAGEMENT PLAN**

For the area of

## **ALEXANDRINA PLANTATION**

To the east of Sandy Lane

**(Minimum Format)**

**Prepared and researched by**

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**(March - April 1999)**

## Preface

The accompanying management plan is intended to be a companion document to the 'Management Plan for the area of Alexandrina Plantation in the Borough of Broxtowe', created by myself in April 1998, whilst studying for an Advanced National Certificate in Countryside Management Skills at Brackenhurst College, Nottinghamshire.

The final plan was presented to various organisations with an interest in the site, and has resulted in the recent formation of the 'Friends of Bramcote Ridge' (April 19<sup>th</sup> 1999) from within the local community. Their desire is to have the remit to manage the entire site; hence the following plan to complete the 'set'.

It is intended to act as a stand-alone document by considering the remainder of the site in isolation. For the sake of uniformity, this plan is compiled following the same format as the original plan; hopefully this will aid reading, comparison, understanding and implementation of the individual plans over the whole site.

These similarities have meant that some sections are repetition of the original plan, especially in relation to geographical, physical and environmental features. However, the site is subject to sufficiently different in biological and cultural factors to warrant a dedicated plan, as the required management techniques must vary. To ensure completeness and accuracy, the entire plan has been reviewed and all sections have been updated, adjusted or completely rewritten - and in some cases corrected!

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### **Acknowledgments.**

## Stage 1 Description

### Chapter 1.1 General Description

#### Section 1.1.1 Location

The area considered in this management plan is the section of Alexandrina Plantation situated to the east of the Sandy Lane bridleway. It is approximately 6Km west of Nottingham, lying between the suburbs of Bramcote Hills, Wollaton and Lenton Sands; the area is bordered by the remainder of Alexandrina Plantation to the west, with residential areas to the north, east and south. Access is via Richborough Place, Kingsdown Mount, Coopers Green, Heather Rise, Charlotte Grove, Markham Road and from the remainder of Alexandrina Plantation, to the east. The public has unrestricted access to the site at all times.

Grid reference; SK 518386

(See Sections 4.3.1 and 4.3.2 for maps)

#### Section 1.1.2 Summary Description

The site covered by the management plan has an area approximately 8 hectares, and lies between the fifty and eighty metre contour lines, with a mainly north/north east aspect. The site lies on free draining acid soils, over Bunter Sandstone. The underlying rock is exposed, occurring as small outcrops, at several sites on the plantation.

The area is a mosaic of mature oak (*Quercus robur*) plantation, scrub (*Rosa canina*, *Sarothamnus scoparius* and *Crataegus monogyna*) and acid grassland (see Section 1.2.2 for details), with the land being used as an open space amenity area - the main activities are walking, dog exercise, cycling and adventurous play. Two public footpaths (one connecting Heather Rise with Kingsdown Mount and the other connecting Markham Road with Coopers Green) cross the site, however many other access points exist - both official and unofficial. The local community has enjoyed de-facto access to the site for several decades. Recent management has been restricted to the provision of amenities (i.e. playground and football pitch), but habitat management has been negligible, with the site having been left to develop into a 'wild state'. The grassland bordering the residential area to the south is maintained as firebreak.

#### Section 1.1.3 Land Tenure

The boundary between Nottingham City Council and Broxtowe Borough Council crosses the site, with the southern section owned by Broxtowe BC and the rest of the land (within Nottingham City) in private ownership. The current owner is:

Mr R. Willoughby.  
Woodlands,  
Little Lime Lane,  
Redhill,  
Arnold,  
Nottingham.

Mr Willoughby purchased the land in the 1950's as an investment - hopefully to sell at a future date for development. However, the planning restrictions placed on the land during the 1970's (see Chapter 2.1) have meant that this investment will not be realised for the foreseeable future. Broxtowe Council is at present in contact with the landowner in order to seek a guarantee of continued public access (via dedication), or a commitment to provide for this by maintaining the paths etc.

There is no physical boundary on the site to define ownership

#### Section 1.1.4 Map Coverage

##### Subsection 1.1.4.1 - Ordnance Survey Sheet Coverage

1:50,000 Second Series. Sheet Number 129  
1:25,000 Second Series. Sheet Number 833 (SK43/53)  
1:10,000 First Series Sheet Number SK53NW

##### Subsection 1.1.4.2 Geological Survey Sheet Coverage

Geological Survey of Great Britain (England and Wales) - 1972.  
1:50,000 Sheet 125 (Solid and Drift edition)

##### Subsection 1.1.4.3 Soil Survey Sheet Coverage

Soil Survey of England and Wales - 1983.  
1:250,000 Sheet 3

## **Chapter 1.2 Environmental Information**

### **Section 1.2.1 Physical**

#### **Subsection 1.2.1.1 Climate**

Information taken from data provided by the Meteorological Office, for the Nottingham area, over the period 1957 to 1995.

|  |   |         |
|--|---|---------|
| Average annual daily mean temperature              | - | 10.0°C. |
| Average annual rainfall                            | - | 709mm   |
| Average number of days of air frost, per year      | - | 45.4    |
| Average number of days of ground frost, per year   | - | 102.8   |
| Average number of total sunshine hours             | - | 1037    |
| Average daily mean of sunshine hours               | - | 2.84    |
| Average number of days with snow lying at 0900 GMT | - | 12.3    |

#### **Subsection 1.2.1.2 Hydrology**

The underlying sandstone ensures that the site is free draining and, due to the topography of the land, there are very few areas that are affected by drainage from adjoining gardens. Therefore, virtually all water input is via precipitation.

#### **Subsection 1.2.1.3 Geology**

This section of Alexandrina Plantation is situated at the eastern end of a long ridge of Bunter Sandstone Pebble Beds stretching east-west for a distance of 3Km, with the majority of the site having a north/north-easterly aspect. In several places bare sandstone forms small outcrops; it is believed that these are of geological significance but, at time of writing, no confirmation of any designation has been found.

#### **Subsection 1.2.1.4 Geomorphology**

The southern section of the site, within Broxtowe, has a south facing aspect (less than 10° declination), whilst the part within Nottingham City boundary has a north/north-easterly aspect (approximately 20° declination).

#### **Subsection 1.2.1.5 Soils**

The soil is described as 'well drained and coarse loamy soils over soft sandstone' by The Soil Survey of England and Wales (1983): Classified as 551b Bridgenorth. The soil on the site has an average pH of 5.0 and, due to the minimal disturbance, a deep humus layer, that can become quite muddy after prolonged precipitation.

## Section 1.2.2 Biological

### Subsection 1.2.2.1 Flora (see subsection 4.3.3)

The site consists of three main habitat types; namely acid broadleaved woodland, acid grassland and dense/scattered scrub, with a small area of amenity grassland (football pitch). Various non-native flora are found throughout the site - these appear to be either due to former land use, garden escapees or deliberately planted. The following section is an appraisal of the site as at March/April 1999.

Compartment 'A' contains a plantation of mixed age *Quercus robur* (Pedunculate Oak), of which some appear to have been coppiced approximately 40-50 years ago. Also within the canopy are *Betula pendula* (Silver Birch) and some mature *Fraxinus excelsior* (Common Ash). Disturbance within the wood is high and there are a numerous desire lines between the trees: with virtually all trees showing signs of damage. The understorey/shrub layer, although sparse, contains *Crataegus monogyna* (Hawthorn), *Sorbus aucuparia* (Rowan), *Sambucus nigra* (Elder) and *Ilex aquifolium* (Holly), as well as other vegetation i.e. *Rubus fruticosus* agg (Bramble), *R. idaeus* (Raspberry), and *Sarothamnus scoparius* (Broom) - all of which appear to be re-generating, despite disturbance. The field layer exhibits low diversity with a mosaic of bare ground, deep leaf litter and large areas of grassland with *Holcus lanatus* (Yorkshire Fog), *Festuca ovina* (Sheep's Fescue) and *Deschampsia flexuosa* (Wavy Hair-grass) being the main components. Also within the woodland there are many sizeable stands of *Hyacinthoides non-scriptus* (Bluebell). The compartment contains areas where *Pteridium aquilinum* (Bracken) and *Rubus fruticosus* agg (Bramble) dominate. There are a number of *Acer pseudoplatanus* (Sycamore) seedlings in the western end of the compartment. Towards the eastern end of the compartment the tree cover become sparse, with Birch the dominant species.

Compartment 'B' is a mosaic of mixed age scrub and semi-improved grassland giving good lateral diversity. The scrub contains a mix of species, such as *Quercus robur* (Pedunculate Oak), *Crataegus monogyna* (Hawthorn), *Malus sylvestris* (Crab apple) and *Sambucus nigra* (Elder). There are many areas where *Rosa canina* agg (Dog Rose), *Sarothamnus scoparius* (Broom), *Pteridium aquilinum* (Bracken) and *Rubus fruticosus* agg (Bramble) have become dominant, creating sizeable dense thickets. The sections of open grassland have a dense sward, comprised of *Dactylis glomerata* (Cocksfoot), *Agrostis capillaris* (Common Bent), *Lolium perenne* (Perennial Ryegrass), *Bromus ramosus* (Hairy Brome), and *Arrhenatherum elatius* (False Oat-grass) among others. Other herbs in the field/ground layer include *Anthriscus sylvestris* (Cow parsley), *Plantago lanceolata* (Ribwort Plantain), *P. major* (Greater Plantain), *Senecio jacobaea* (Common Ragwort) and *Rumex acetosella* (Sheep's Sorrel). Around the perimeter, adjoining the housing, there are numerous overgrown hummocks of accumulated garden rubbish, dumped by residents over the years - this, along with the high levels of dog faeces, has enabled stands of *Urtica dioica* (Stinging Nettle) and *Chamaenerion angustifolium* (Rosebay Willowherb) to dominate. Along the boundary are numerous examples of garden escapees - a result garden refuse dumped on the site.

Compartment 'C' is a small area of open grassland and sparse mixed scrub. *Crataegus monogyna* (Hawthorn) is the dominant tree with a few small *Quercus robur* (Pedunculate Oak). Small areas of *Rubus fruticosus* agg (Bramble) and scattered *Sarothamnus scoparius* (Broom) are present in the shrub/field layer. The ground layer has a relatively good sward, despite lack of management, with *Lolium perenne* (Perennial Ryegrass), *Festuca rubra* (Red Fescue) and *Bromus ramosus* (Hairy Brome) appearing to dominate. There is a range of natural herbs, which include *Ranunculus repens* (Creeping Buttercup), *R. ficaria* (Lesser Celandine), *Hypochoeris radicata* (Common Cat's-ear) and *Taraxacum officinale* agg (Common Dandelion). Also frequent in the ground layer is *Conopodium majus* (Pignut), which is indicative of old grasslands and acidic woodlands. Stands of *Urtica dioica*



(Stinging Nettle) and *Chamaenerion angustifolium* (Rosebay Willowherb) exist near the access points, due to nutrient input from dog faeces, the dumping of garden rubbish and disturbance.

Compartment 'D' is an area of dense broadleaf woodland with open glade areas: mainly *Quercus robur* (Pedunculate Oak) and *Betula pendula* (Silver Birch) with *Crataegus monogyna* (Hawthorn), *Prunus spinosa* (Blackthorn), *Sorbus aucuparia* (Rowan), *Sambucus nigra* (Elder) and *Ilex aquifolium* (Holly) in the understorey. Also in the compartment are small areas where tree planting has taken place in the past, with blocks of *Acer campestre* (Field Maple), *Prunus sp* (Cherry species) and *Populus sp.* (Poplar species) - no accurate identification of these has been made at the time of writing. Much of the field layer throughout the compartment is a mosaic of very dense *Rubus fruticosus agg* (Bramble), *R. idaeus* (Raspberry) and *Rosa canina agg* (Dog rose). At several locations across the compartment the invasive garden escapee *Reynoutria japonica* (Japanese Knotweed) is out-competing virtually all other vegetation. In areas where the ground layer is present, it typically consists of *Anthriscus sylvestris* (Cow parsley), *Heracleum sphondylium* (Hogweed), *Aegopodium podagraria* (Ground Elder) and *Urtica dioica* (Common nettle). There is a mature hedge along each side of the public footpath that defines the western boundary of this compartment.

Compartment 'E' is another area of scrub with many examples of the tree species mentioned already in evidence throughout the compartment. There are also areas containing amenity plantings of *Populus nigra cv. Italica* (Lombardy Poplar), *Fraxinus excelsior* (Ash), *Prunus avium* (Wild Cherry) and *Quercus borealis* (Red Oak). However much of the grassland area has succeeded to scrub with *Rosa canina* (Dog rose) dominating large areas, however *Rubus fruticosus agg* (Bramble) and *R. idaeus* (Raspberry) also form large clumps in places. The rest of the floral species are similar to those already mentioned in Compartment 'B'. A mature hedge runs down the centre of the compartment (east-west), and a line of mature coppiced *Populus sp* (Poplar), underplanted with *Prunus laurocerasus* (Cherry Laurel), lies immediately to the west of the football/pitch. *Reynoutria japonica* (Japanese Knotweed) is also present, dominating the secluded area immediately to the east of Sandy Lane - it is also beginning to invade the woodland in Compartment 'A'. (See Subsection 4.2.1.1 for species list).

#### Subsection 1.2.2.2 Fauna

No formal studies/surveys have been located, and present information is limited to casual observation and chance sighting's (and/or tell tale signs) of mammals and birds. Recently, A. Carruthers (Nottinghamshire Wildlife Trust) has commenced regular bird surveys on the site - this information has been incorporated into Subsection 4.2.1.2.

More detailed surveys are required, especially of invertebrates.

Within Compartment 'A' there are two sizeable *Meles meles* (Badger) setts, but these appear to have been abandoned, however there are numerous well-worn tracks and frequent signs of recent excavation by larger mammals throughout the site.

### Section 1.2.3 Cultural

At the time of writing, very little has been found concerning historical land use or ownership; a further search may reveal more information.

It is known that the general area of Bramcote was enclosed by Act of Parliament in 1771, and the land was put over to (unknown) agricultural use.

From contemporary maps, (The Village Atlas, 1990) the woodland appears to have been planted between 1836 and 1880 - possibly to commemorate the marriage of Edward VII to Princess Alexandra in 1863.

The land within Broxtowe Borough was, until the late 1960's, part of a large Rose Nursery (Lowe's) - this could explain the apparent dominance of *Rosa* spp in this area i.e. Compartment 'D' and 'E'. Since this time the nursery has been gradually developed for residential use, reducing the extent of the site.

The Bridleway, running along the western boundary of the site, follows the Nottingham City boundary and was once the main route to the village of Wollaton, from the Nottingham/Derby road (the present A52). There are several mature hedgerows on the site, the locations of which imply that they were once boundaries to both the city and/or the plantation.

The local community has had de-facto access to the site for several decades, and the original boundary fence, to the west and north, has fell into disrepair. Many of the adjoining residences have direct access via their gardens.

Current ownership is covered in Section 1.1.3, and recent management has been minimal, mainly in the creation and management of a playground and football pitch, hence the site has been allowed to develop into its present wild state. In 1997 a Hutchinson Telecom cellular phone transmitter was erected at the highest point, near to the football pitch.

The area is frequently used by local residents as a recreational amenity - primarily for walking, cycling, dog exercise and adventurous play. As a result of this use, there is widespread disturbance on the more accessible areas, with numerous permanent paths crossing the site (see Section 4.3.3 for map), with many other ephemeral desire lines. Many of the trees in Compartment 'A' show signs of damage. The entire site suffers from the accumulation of general litter and dog faeces, and from the fly tipping (mainly garden rubbish from adjacent properties) near the fringes. Also the free draining soils make the site very dry during hot summers, and as such numerous fires are deliberately set.

The site is crossed by a long distance footpath, The Robin Hood Way, which was created in 1982 to commemorate Nottingham Wayfarers's Rambling Club's Golden Jubilee.

On 19<sup>th</sup> April 1999, an open meeting was held in the Rose Grower public house in Bramcote Hills, with the purpose of establishing a 'Friends of...' group - volunteers from within the local community seeking to restore management to the western section of the plantation. Broxtowe Council is seeking dedication of the land on the eastern section, from the private owner; it is possible the entire site will come into the management of the local community in the future. However, the group cannot be considered active at this stage and so the need for community involvement is still considered as an essential objective of this management plan, and therefore included in the prescriptions.

## **Stage 2 Evaluation and Objectives**

### **Chapter 2.1 Conservation Value of the Site**

#### **Section 2.1.1 Historic**

Broxtowe Borough Council realised the value of the area as a recreational resource and the whole ridge was designated as an 'Area of Restricted Development', under the Bramcote Hills Open Space Plan (1975). This has safeguarded the area against further development and maintained the area for recreation. It was this document that proposed that the area should 'be conserved in its wild state'. The plan does not cover ecological provisions/issues.

Furthermore, a review of the plan in 1981 proposed the repair of eroded rights of way on the site. Also, it proposed that an access agreement should be sought with the owner of the northern section - no evidence of any agreement has been found.

The 'Broxtowe Local Plan' (1994) re-affirmed the commitment to preserve the area in its wild state as a recreational amenity, and recognised the environmental and ecological importance of the site.

The area within the Nottingham City Council boundary, although under private ownership, has also been designated as a site of restricted development.

A Phase I survey was completed in June 1996 (by M. Woods), with Phase II's in both August 1995 (by M. Woods and P. McCormack) and June 1996 (by P. Acton) - all surveys were commissioned by the Nottinghamshire Biological Records Centre, in association with Nottinghamshire County Council and Broxtowe Borough Council.

#### **Section 2.1.2 Conservation Status**

The site is part of a larger area denoted as a 'Grade 2, Site Important for Nature Conservation' (SINC 2/314); described as 'A mixture of habitats with characteristic sandstone plant communities'.

Broxtowe Borough Council has also designated the site under consideration in this plan as an 'Area of Restricted Development', with Nottingham City Council designating the area as a 'Biological Site for Nature Conservation and a ' Designated Public Open Space' - part of their 'Green Network' Programme. (See Section 2.1.1.).

There are several sandstone outcrops on the site and these are believed to be geologically important, but at the time of writing no information regarding any designation has been ascertained (See Subsection 1.2.1.3).

The site contains a range of woodland of habitat types, namely a mosaic of dry acid grassland, scattered and dense scrub, and acid broadleaved woodland (See Section 4.3.3).

#### **Section 2.1.3 Site Definition and Boundaries**

The site has been greatly reduced in size by the encroachment of surrounding residential areas over the past 20 years. Due to the present conservation status, its future (and present size) should hopefully be assured. The site is bordered by open land (to the west) and residential gardens (to the north, east and south).

## Chapter 2.2 Evaluation of Features

### Section 2.2.1 Evaluation

#### Subsection 2.2.1.1 Size

The site covers an area of approximately 8 Hectares and is therefore larger than the usually applied minimum size for a biological site.

#### Subsection 2.2.1.2 Diversity

The site contains a diverse range of habitats as described in Subsection 1.2.2.1.

However due to the lack of management and widespread disturbance, species diversity is low, especially in the field and ground layers. There are many non-native species growing on the site - these are either remnants of former land use, self-set garden 'escapees' or have been introduced by deliberate planting.

Some species have become dominant in some areas of the site, especially *Reynoutria japonica*, *Rubus fruticosus* and *Rosa sp.* - the latter being due to past use as a rose nursery.

#### Subsection 2.2.1.3 Naturalness

The woodland is obviously planted (The Village Atlas, 1990), with the canopy dominated by *Quercus robur* (Pedunculate Oak), and therefore cannot be considered as natural. Also, throughout the site, there are planted areas in which other tree species dominate. However, natural regeneration is occurring within the understorey, especially *Quercus robur*, *Crataegus monogyna* and *Sorbus aucuparia*.

Much of the areas of grassland and scrub appear to have developed naturally, over time, from its former agricultural/nursery use.

The village name of Bramcote is derived from 'Cottages in the Broom' and so, the areas of *Sarothamnus scoparius* can therefore be considered characteristic and indicative of the area.

#### Subsection 2.2.1.4 Rarity

The site is the remnant of a much larger area that has been slowly lost to residential development since the 1970's and therefore can be considered as, increasingly, locally rare - especially as the site has been left to develop into a wild, natural state.

A regional rarity, *Solidago virgaurea* (Goldenrod), has been recorded on the site (Phase II Survey, P. Acton, 1996).

#### Subsection 2.2.1.5 Fragility

Despite high levels of disturbance the habitats appear to be robust with re-generation, albeit limited, occurring. The slow encroachment of scrub threatens the remaining grassland areas, and the presence of aggressive species (see Subsection 2.2.1.2) can affect diversity.

Many of the larger trees exhibit signs of damage from vandalism.

#### Subsection 2.2.1.6 Typicalness

The site contains characteristic sandstone communities on the areas of grassland/scrub and can therefore be considered as once typical of the area. Nevertheless, this has been affected by encroachment of atypical species such as *Dactylis glomerata*, *Rosa canina* and the introduced *Reynoutria japonica*.

Obviously the woodland areas are planted and contain many non typical species, but *Quercus sp* (the dominant tree) can occur on light, free draining, acid soils - although biodiversity would probably be greater in semi-natural ancient woodland.

#### Subsection 2.2.1.7 Recorded History

The general area was enclosed by Act of Parliament in 1771 - there are several examples of mature hedgerows throughout the site.

Since October 1987, the southern section of the site has been covered by Broxtowe Borough Council's recreation ground byelaws.

Very little further information regarding history has been found, to date - see Section 1.1.3 Land Tenure, Section 1.2.3 Cultural and Chapter 2.1 Conservation Value of the Site.

#### Subsection 2.2.1.8 Position in Ecological/Geological Unit

The site forms the eastern extremity of a virtually continuous 4Km long 'green wedge' connecting agricultural land on the outskirts of Nottingham with the large parkland areas of Wollaton Park and the Nottingham University campus. This wedge is only crossed by three roads.

It also valuable to the local community as a recreation resource and as a landscape feature.

#### Subsection 2.2.1.9 Potential for Future Development

The potential value of the site will be dependent on any future conservation management. The introduction of an integrated management regime will increase its value to both the local community and to wildlife. Involvement of the local community in management projects may help to ensure the site's future.

A change in ownership and/or usage of the privately owned section could affect the site, along with changes in development restrictions and/or surrounding land use.

#### Subsection 2.2.1.10 Intrinsic Appeal

The range of habitats on the site, coupled with the geological and historical features mentioned in Chapter 1.2, and excellent views over Nottingham and the Trent Valley combine to make the area a valuable local amenity both from recreational and conservational view points.

### Section 2.2.2 Identification/Confirmation of Important Features

| <u>Site Features</u>      | <u>National</u> | <u>Importance<br/>Regional</u> | <u>Local</u> |
|---------------------------|-----------------|--------------------------------|--------------|
| 1, Geology/Geomorphology  |                 |                                |              |
| Sandstone exposures       | —               | —                              | Average      |
| Acidic sandy soils        | —               | —                              | Low          |
| 2. Vegetation Types       |                 |                                |              |
| Broadleaved plantation    | —               | —                              | Average      |
| Broom/Gorse scrub         | —               | —                              | High         |
| 3. Species                |                 |                                |              |
| <i>Solidago virgaurea</i> | —               | —                              | High         |

### Section 2.2.5 Ideal Management Objectives

In order to safeguard the conservation interests of the site, any long-term management action should ideally be directed towards maintaining and enhancing the present habitats.

Ideal management objectives should be;

- 1, Maintain and enhance the existing flora and fauna on the site, by increasing the opportunities for greater biodiversity, notably in the following areas;
  - a, The existing areas of broadleaved woodland.
  - b, The existing areas of scrub.
  - c, The existing areas of grassland
- 2, Promote a research and monitoring programme, coupled to Objective 1.
- 3, Maintain the current policy of unrestricted access.
- 4, Increase awareness of the site's value within the local community.
- 5, Reduce deleterious impact on the site by the general public.
- 6, Fulfilment of all obligations - legal, moral or otherwise.

## **Chapter 2.4 Operational Objective and Management Options**

### **Section 2.4.1 Rationale**

After consideration of the present constraints on the site's management, the ideal management objectives have not been substantially affected. However, it is realised that problems may be caused by implementation of the objectives, and that their effect may be limited.

This section gives the rationale behind each objective and suggests the management policy needed to achieve the objective.

### **Objective 1**

**Maintain and enhance the existing flora and fauna on the site, by increasing the opportunities for greater biodiversity, notably in the following areas;**

**a, The existing areas of broadleaved woodland.**

**b, The existing areas of scrub.**

**c, The existing areas of grassland**

### **Rationale**

The site in its present unmanaged state has developed a range of habitats that are both valuable to wildlife and appreciated by the local community. However, a lack of sympathetic management has meant that biodiversity has suffered.

The open access policy, coupled with the uncertain tenure of part of the site, has implications for the scope and effectiveness of any management. Nevertheless, a number of improvements to the site have been considered and have been included in this and other objectives.

### **Policy**

The site, in its present state, is a valuable wildlife asset with the numerous habitat edges creating high diversity. It is also valued by the local community and any attempt to change the character of the site would be unpopular; both from site users, and possibly site owners.

1a, Within Compartment 'A' the canopy and understorey is dominated by *Quercus robur*, which are of mixed age and good spacing, allowing light to reach the lower levels, where regeneration of species such as *Quercus robur*, *Crataegus monogyna*, and *Sorbus aucuparia* is occurring. The regenerating trees would benefit from protection from both damage and competition. Within this compartment there are small numbers of invasive *Acer pseudoplatanus* seedlings that require control before gaining a firm foothold, as well as *Reynoutria japonica* that is invading from Compartment 'E'.

Within other compartments ('D' and 'E') much of the woodland areas would benefit from selective thinning, especially in areas where recent planting has taken place. The amount of dead wood throughout the site should be increased - only large branches and trunks should be left on site, all brash should be removed to reduce fire risk.

The field and shrub layers have a low diversity, due to high disturbance and the presence of undesirable species that require control. The areas of *Pteridium aquilinum* require management in order to reduce shading and increase diversity.

Dense stands of *Rosa* and *Rubus spp* need to be controlled by thinning (5 year rotation), but should be retained for their wildlife value. Cuttings can be used on site to restrict access to other areas.

1b, The present areas of scrub are of high conservation value, providing habitat and cover for a range of wildlife; the presence of many thorned species helps minimise disturbance, and create 'sanctuary' areas. However the dominance of the previously mentioned *Rosa* and *Rubus spp* require control (thinning) to reduce their extent and create a more laterally diverse 'natural' woodland, with increased grassland areas. The areas of *Reynoutria japonica* dominance require immediate control - preferably total eradication.

1c. The areas of grassland on the site exhibit low diversity and rank vegetation. They would benefit from the implementation of a mowing regime to reduce domination from coarse sward forming grasses and aggressive herbs. Thinning of dominant scrub species mentioned in 1b will open up more areas of grassland, where natural regeneration will be encouraged. Any scrub invasion of the present grassland areas should be controlled by cutting and/or uprooting. Again, all cuttings should be subsequently removed from the site, or stacked within the scrub areas and in amongst cut wood stacks.

## Objective 2

### **Promote a research and monitoring programme, coupled to Objective 1.**

#### Rationale

Biological data on the site is scarce and somewhat limited. Only general vegetation surveys appear to exist, hence more research on flora and fauna (especially invertebrates) is required.

Also, there is limited history available for the site at present - further research is needed in all areas.

The effectiveness of any management will require monitoring, to enable appropriate decisions to be made in the future.

#### Policy

The research and collection of any data is time consuming and therefore may be restricted by available manpower. As such, collection of data regarding the effects of any management is considered paramount, along with the maintenance of detailed floral and faunal information. Any other data pertaining to the site is of value, and should be researched where possible: especially history and geology.

Compartment 'C' with its sparse scrub and relatively good sward should receive minimal intervention, in order to be used as a 'control' for the rest of the site - so that the effectiveness of future management practices can be monitored.



### Objective 3

#### **Maintain the current policy of unrestricted access.**

##### Rationale

The local community has enjoyed unrestricted de-facto access for several decades, resulting in the site becoming a highly valued local amenity. Hence any attempt to restrict access would be both unpopular and difficult to implement.

There already exists an extensive network of informal paths, which are used by the majority of site users. Although disturbance is caused by the current access policy, actual damage appears to be low.

The ephemeral desire lines through the scrub/woodland are of more concern.

##### Policy

Access to the site will remain unrestricted, thus retaining local tradition. However, the network of well-worn paths should not be allowed to increase in either number or size, i.e., desire lines becoming paths or paths widening due to lateral erosion. Therefore, some footpath restoration work may be required, which should be of a style in keeping with the area. The present network of (stable) 'informal' paths are well defined and used by the majority of site users, therefore it felt that these should not be 'formalised' unless absolutely necessary - thus maintaining the 'wild' character of the area.

Cut vegetation from elsewhere on the site, such as Bramble, Dog Rose, Hawthorn should be used to block feint paths, thereby discouraging their use. This will endeavour to create and/or enhance 'sanctuary' areas by confining the majority of disturbance to areas adjacent to the main paths.

### Objective 4

#### **Increase awareness of the site's value within the local community.**

##### Rationale

The site should not be considered as a pure amenity/wasteland by the local community and efforts should be made to increase awareness of the ecological and environmental issues affecting the area. The site has great potential as an educational resource and this should be considered when planning any project.

The involvement of the local community in the practical management of the site is a vital component to both the long-term success of the objectives and future protection of the site.

Provisions should be made, where feasible, to increase the opportunity for access to user groups that are not presently catered for, i.e. wheelchair users (although this may be limited due to the site's topography).

##### Policy

Good Relationships should be fostered and maintained with all interested parties, such as local schools, youth groups and residents associations. Community involvement is beneficial to the success

of all the objectives, and should therefore be considered when planning any project(s), and incorporated where feasible. The creation and involvement of the 'Friends of Alexandrina Plantation' is considered essential for the implementation of all the objectives discussed here - not only to safeguard the site by increasing awareness and involvement, but also for the procurement of funding for the majority of projects, via the various Local Agenda 21 initiatives. Other local specialist groups such as Nottinghamshire Biological Records Centre, Nottingham University's Ecology and Geology Departments, and Conservation Society should be contacted for support and assistance.

Bulletins should be produced to inform the community of forthcoming projects, success of previous projects and ways to become involved, along with the reasoning behind the management policy and decisions. These could be included in the Community Association Newsletters, as well as being made available to all interested parties.

The creation of more surfaced paths on the site (where feasible) would allow greater access to the site for other user groups - i.e., wheelchairs, pushchairs etc. - as well as management equipment.

Interpretative fact sheets for the site (available on request) should be produced for use by interested individuals/groups. These should be updated periodically.

#### Objective 5

##### **Reduce deleterious impact on the site by the general public**

#### Rationale

There are certain human activities on or near the site that are considered anti-social and undesirable, from both an amenity and conservation viewpoint. These include dumping of rubbish (general litter, garden refuse and fly tipping), accumulation of dog faeces, vandalism and the planting (accidental or otherwise) of exotic species.

#### Policy

The problems appear to be mainly caused by a small number of individuals acting through laziness and ignorance rather than malice, and efforts must be made to reduce the scale of these pressures. Accumulated rubbish should be regularly removed, where feasible, and continued abuse of the site should be actively discouraged.

Involvement, co-operation and education of the local community, coupled with active wardening, is essential to the success of this objective, and the methods detailed in Objective '4' should be utilised.

#### Objective 6

##### **Fulfilment of all obligations - legal, moral or otherwise.**

#### Policy

The Site Management shall be respectful of all legal, moral and ethical obligations arising from management and public use of the site. Of special importance is the maintenance of good relations with landowners, locals and other involved organisations.

## **Section 2.4.2 Identification Of Operational Objectives and Outline Prescriptions**

| <u>Operation Objective</u>   | <u>Management Option</u>            | <u>Outline Prescription</u>   |
|--|-------------------------------------|---|
| 1 Maintain and enhance the existing flora and fauna on the site, by increasing the opportunities for greater biodiversity. | Habitat Management<br>Option 3 (A3) | 2.4.2.1.1 Continuous Surveying of existing floral communities.<br><br>2.4.2.1.2 Monitor any changes in plant communities.   |
| 1a Maintain and enhance the existing areas of woodland.  | Habitat Management<br>Option 3 (A3) | 2.4.2.1.3 Protect regeneration from damage and competition.<br><br>2.4.2.1.4 Implement regular clearance of Bracken.<br><br>2.4.2.1.5 Implement regular removal of Sycamore seedlings.<br><br>2.4.2.1.6 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas.<br><br>2.4.2.1.7 Implement regular thinning (in rotation) of dense areas of Bramble and Dog rose.<br><br>2.4.2.1.8 Implement selective thinning of tree/shrub species. |
| 1b Maintain and enhance the existing areas of scrub.   | Habitat Management<br>Option 2 (A2) | 2.4.2.1.9 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas.<br><br>2.4.2.1.10 Implement reduction in extent of Dog Rose dominated areas.<br><br>2.4.2.1.11 Eradicate Japanese Polygonum by treatment with appropriate herbicide.   |
| 1c Maintain and enhance the existing area of grassland.  | Habitat Management<br>Option 3 (A3) | 2.4.2.1.12 Implement annual mowing regime and removal of cuttings from site.  |

2.4.2.1.13 Implement regular clearance and removal of all encroaching scrub/trees.

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| 2 Promote a research and monitoring programme, coupled to Objective 1. | Study and Research<br>Option 2 (C3) | 2.4.2.2.1 Permit use of site for specialist flora and fauna surveys.   |
|  |                                     | 2.4.2.2.2 Permit limited use of site for research projects - especially those which increase scientific data relevant to the site. |
|  |                                     | 2.4.2.2.3 Continue research, surveying and monitoring, and maintain work programmes - daily or otherwise.                          |

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| 3 Maintain the current policy of unrestricted access. | General Access and Recreation Option (E4) | 2.4.2.3.1 Maintain policy of unrestricted access.                |
|   |   | 2.4.2.3.2 Maintain the current network of paths.                 |
|   |   | 2.4.2.3.3 Reduce use of desire lines to protect sanctuary areas. |

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| 4 Increase awareness of the site's value within the local community. | Education and Interpretation<br>Option 3 (D3) | 2.4.2.4.1 Liaise with local community to increase involvement.   |
|  |   | 2.4.2.4.2 Promote the area for educational research, especially that which is of benefit to wildlife on the site |
|  |   | 2.4.2.4.3 Make available (on request) interpretation to site users.  |
|  | General Access and Recreation Option (E4)     | 2.4.2.4.4 Enhance site to allow wheelchair access where feasible   |

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| 5 Reduce deleterious impact on the site by the general public | Habitat Management<br>Option 3 (A3) | 2.4.2.5.1 Maintain regular clearance of rubbish from site. |
|---|-------------------------------------|--|

2.4.2.5.2 Equip site with dog litter bins.

2.4.2.5.3 Remove all garden refuse from site.

2.4.2.5.4 Maintain naturalness of site.

Education and Interpretation  
Option 3 (D3)

2.4.2.5.5 Protect site by Wardening.

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6 Fulfilment of all obligations - legal, moral or otherwise.

2.4.2.6.1 Maintain good relations with all interested parties.

2.4.2.6.2 Have due regard for any potentially damaging operations.

2.4.2.6.3 Ensure that all conservation work complies with the Health and Safety at Work Act (1974).

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## Stage 3 Prescription

### Chapter 3.1 Projects

#### Section 3.1.1 Project Groups

| <u>Operation Objective</u>   | <u>Outline Prescription</u>  | <u>Project Groups</u>   |
|--|--|---|
| 1 Maintain and enhance the existing flora and fauna on the site, by increasing the opportunities for greater biodiversity. | 2.4.2.1.1 Continuous Surveying of existing floral communities.                                 | RF00/01, RF00/02, RF10, RF20, RF30, RF60.   |
|  | 2.4.2.1.2 Monitor any changes in plant communities.  | RV10/01, RV10/02, RF00/01, RF00/02, RF10, RF20, RF30, RF60, MH00, MH03/01, MH03/02, MH07, MH12, MH14, MH22, MH87, MS00, MS10/01, MS10/02. |
| 1a Maintain and enhance the existing areas of woodland.  | 2.4.2.1.3 Protect regeneration from damage and competition.                                    | RF00/01, RF00/02, RF10, ML50, MP00/01, MH03/01, MH14, MH22, AR00.   |
|  | 2.4.2.1.4 Implement regular clearance of Bracken.  | RF00/01, RF00/02, RF20<br>ML00, ML40, ML50, MH22, AR00.   |
|  | 2.4.2.1.5 Implement regular removal of Sycamore seedlings.                                     | RF00/01, RF00/02, RH10, ML50, MP00/01, MH03/02, AR00.   |
|  | 2.4.2.1.6 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas. | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MS10/01, AR00.  |
|  | 2.4.2.1.7 Implement regular thinning (in rotation) of dense areas of Bramble and Dog rose.     | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH07, AR00.   |
|  | 2.4.2.1.8 Implement selective thinning of tree/shrub species.                                  | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH02, AR00.   |
|  | 2.4.2.1.9 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas. | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MS10/01, AR00.  |
| 1b Maintain and enhance the existing areas of scrub.   | 2.4.2.1.9 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas. | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MS10/01, AR00.  |

|  |  |   |
|--|--|---|
|  | 2.4.2.1.10 Implement reduction in extent of Dog Rose dominated areas.  | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MS00, AR00.   |
|  | 2.4.2.1.11 Eradicate Japanese Knotweed by treatment with appropriate herbicide.  | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MS10/02, AR00.  |
| 1c Maintain and enhance the existing area of grassland.                | 2.4.2.1.12 Implement annual mowing regime and removal of cuttings from site.   | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH12, AR00.   |
|  | 2.4.2.1.13 Implement regular clearance and removal of all encroaching scrub/trees.   | RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH14, AR00.   |
| 2 Promote a research and monitoring programme, coupled to Objective 1. | 2.4.2.2.1 Permit use of site for specialist flora and fauna surveys.   | RV10/01, RV10/02, RF00/01, RF00/02, RF10, RF20, RF30, RF60, RA00, RA10/01, RA10/02, RA20, RA40, RA60, RA70, RA80/01, RA80/02, MI20, ML50, AP20, AR00. |
|  | 2.4.2.2.2 Permit limited use of site for research projects - especially those which increase scientific data relevant to the site. | As Above, plus: RP20, RP40, RH10, RH50, RH60, RH70, RH80, RH90.   |
|  | 2.4.2.2.3 Continue research, surveying and monitoring, and maintain work programmes - daily or otherwise.                          | As Above, plus: RV00, RV51, MI00, ML00, ML40, ML50, MP00/02, AP60, AR20, AR30, AT10.  |
| 3 Maintain the current policy of unrestricted access.                  | 2.4.2.3.1 Maintain policy of unrestricted access.  | MI00, MI20, ML00, ML40, MP00/01.  |
|  | 2.4.2.3.2 Maintain the current network of paths.   | ML00, ML40, ML50, MP00/01 ME20/02, ME70/01.   |
|  | 2.4.2.3.3 Reduce use of desire lines to protect sanctuary areas.   | RH50, RH60, RH70, MI00, MI20, MI50/01, ML50, MP00/01, MH07, ME70/01.  |
| 4 Increase awareness of the site's value within the local community.   | 2.4.2.4.1 Liaise with local community to increase involvement.   | RV51, MI00, MI20, MI50/01, ML00, ML40, ML50, MH02, MH03/01, MH03/02, MH07   |

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|---|--|---|
|   |  | MH12, MH14, MH22, MS10/01, ME40, ME70/01, ME70/02, AR00, AR20, AR30, AT10.                            |
|   | 2.4.2.4.2 Promote the area for educational research, especially that which is of benefit to wildlife on the site | MI00, MI20, MI50/01, ML40, ML50, AR30.  |
|   | 2.4.2.4.3 Make available (on request) interpretation to site users.  | MI00, MI20, MI50/01, AR30.  |
|   | 2.4.2.4.4 Enhance site to allow wheelchair access where feasible   | ML00, ML40, ML50, ME20/02, ME70/02.   |
| 5 Reduce deleterious impact on the site by the general public | 2.4.2.5.1 Maintain regular clearance of rubbish from site.   | RH70, RH90, ML00, ML40, ML50, MP00/01, MP00/02, ME40, AT10.   |
|   | 2.4.2.5.2 Equip site with dog litter bins.   | RH70, ML00, ML40, ML50, ME20/01, AR00.  |
|   | 2.4.2.5.3 Remove all garden refuse from site.  | ML00, ML40, ML50, MP00/01, ME40, AR00.  |
|   | 2.4.2.5.4 Maintain naturalness of site.  | RF10, RF20, RH90, ML50, MP00/01, MP00/02, AT10.   |
|   | 2.4.2.5.5 Protect site by Wardening.   | RH50, RH60, RH70, ML50, MP00/01, MP00/02, AT10.   |
| 6 Fulfilment of all obligations - legal, moral or otherwise.  | 2.4.2.6.1 Maintain good relations with all interested parties.   | ML00, ML40, ML50, AR30.   |
|   | 2.4.2.6.2 Have due regard for any potentially damaging operations.   | RH60, RH70, RH90.   |
|   | 2.4.2.6.3 Ensure that all conservation work complies with the Health and Safety at Work Act (1974).              | MH02, MH03/01, MH03/02, MH07, MH12, MH14, MH22, MS00, MS10/01, MS10/02, ME40, ME70/01, ME70/02, AR00. |



### Section 3.1.2 Project Register and Description

#### Project Code      Project Title and Description

##### Records - Archives

- RV00              List/collect references, published and unpublished.
- Search for, collect and collate any information relating to the site, and/or surrounding area. Incorporate into Stage 1 of the management plan.
- RV10/01          List/collect photographs, ground.
- Site management and others to record, photographically, details of features and special events on site (either still or video).
- RV10/02          List/collect photographs, fixed point annually.
- Site management to record and use to provide a photographic history.
- RV51              Collect press cuttings.
- Collect and collate any references to site in local/national press, especially community events.

##### Records - Physical

- RP20              Collect data, geological.
- Nottingham University Geology Department should be approached for assistance.
- RP40              Collect data, pedological.
- Nottingham University Geology Department, Nottinghamshire Biological Centre and Nottinghamshire Wildlife Trust should be approached for assistance.

##### Records - Flora

- RF00/01          Collect data, vegetation by compartment/sub-compartment.
- Map every five years.
- RF00/02          Collect data, vegetation, effects of management.
- Monitor the effects of management on vegetation.

- RF10 Collect data, trees/shrubs, by compartment/sub-compartment.
- RF20 Collect data, other vascular plants, by compartment/sub-compartment.
- With reference to non-native garden escapees - these should be assessed for wildlife value, aggressiveness, etc and managed accordingly
- RF30 Collect data, bryophytes, by compartment/sub-compartment.
- RF60 Collect data, fungi, by compartment/sub-compartment.

#### Records - Fauna

- RA00 Collect data, mammals.
- RA10/01 Collect data, birds, by casual observation.
- RA10/02 Collect data, birds, common bird census.
- RA20 Collect data, herptiles.
- RA40 Collect data, lepidoptera.
- RA60 Collect data, orthoptera.
- RA70 Collect data, other/general insects.
- RA80/01 Collect data, arachnida
- RA80/02 Collect data, other/general invertebrates.

#### Records - Human Impact

- RH10 Collect data, land use history.
- Liase with local history societies/local experts etc.
- RH50 Collect data, public use recreation.
- Collect and assess user's views on site, both amenity and ecological.
- RH60 Collect data, public use, damage.
- Collect and record information of wilful damage on the site. This should be passed to landowner, Broxtowe Borough Council, Nottingham City Council, Police and/or Community Association, where relevant.

- RH70 Collect data, public use, undesirable activity.  
Collect and record information of undesirable activity on the site. This should be passed to landowner, Police, Broxtowe Borough Council, Nottingham City Council, and/or Community Association, where relevant.
- RH80 Collect data, management, by owner/tenants/public bodies/neighbours.
- RH90 Collect data, other activities, by owner/tenants/public bodies/neighbours.

#### Management - Wardening, information

- MI00 Inform public, offsite.  
Site management to reply to enquiries from general public.
- MI20 Inform public, educational.  
Where appropriate, visiting educational parties should be accompanied by site management representative.
- MI50/01 Provide interpretive material, reserve factsheet.  
Produce a factsheet to be made available (upon request) to visiting groups and/or individuals. This needs to be updated, as more information becomes available.
- MI50/02 Provide interpretive material, by signs.  
There is need for a sign that requests/suggests visitors leave no litter, use dog litter bins, and outlines other site user responsibilities.

#### Management - Wardening, liaison

- ML00 Liaise, owners/occupiers.  
Establish and maintain good relationship with owners, involve in planning of projects and, possibly the procurement of materials/tools and specialist personnel etc, for use in 'larger' projects.
- ML40 Liaise, local/national authorities.  
Liaise with relevant bodies to secure practical advice and/or funding via grants, especially for community projects, (Local Agenda 21 grants/funds).
- ML50 Liaise, local community/groups.  
Foster and maintain good relations with groups within the local community in order to involve locals/residents in all management tasks. The 'Friends of Bramcote Hills Open Space' should promote the management objectives and practices via the Local Community Association.

### Management - Wardening, patrol

MP00/01 Protect site/species by patrol.

Warden(s) should preferably be appointed from within the local community. A pro-active (educational) role should be taken, to reduce human impact/disturbance on the site. Regular patrols should be established, with special attention being given during nesting season and/or school holidays.

MP00/02 Protect site/species, by lawful enforcement of bylaws and/or Protection acts.

### Management - Estate, Habitat Manipulation

MH02 Manage habitat, woodland, by thinning.

The lack of management has resulted in some areas of woodland becoming dense, and the shading has affected the lower layers. Selective removal of some trees is required - especially where planting has taken place i.e. Compartments 'D' & 'E'. Stems and larger branches should be used elsewhere to increase the amount of dead wood on the site; small branches to be removed due to fire risk.

MH03/01 Manage habitat, woodland, by assisting natural regeneration.

Natural regeneration of native species is occurring within the woodland, which would benefit from the use of tree guards and regular weeding, to reduce both damage and competition.

MH03/02 Manage habitat, woodland, by removal of Sycamore seedlings.

Any Sycamore seedlings on the site should be removed by uprooting.

MH07 Manage habitat, woodland/scrub, by scrub control.

There are several areas on the site where there are dense areas of Bramble, Raspberry and Dog Rose, limiting natural regeneration and diversity; this requires a rotational thinning regime (five yearly) - Compartments 'A', 'B', and 'D' only. Total eradication is undesirable as these species provide food and cover for wildlife, as well as controlling access. The cuttings can be used elsewhere on site to limit use of desire lines (see ME70/01).

MH12 Manage habitat, grassland, by mowing.

The implementation of an annual mowing regime will increase diversity. Mowing should take place in late summer after the vegetation has seeded. All cuttings must be removed from the site, in order to reduce nutrient levels and fire risk.

- MH14            Manage habitat, grassland, by scrub control.
- Any new scrub invasion on the present areas of grassland should be removed by either uprooting or cutting. Older established shrubs/trees should be preserved to provide cover for wildlife.
- MH22            Manage habitat, bracken-tall herb, by rolling/mowing/selective cutting.
- Implementation of a management regime is needed to control dominant areas of bracken. Rolling is preferable to mowing/cutting (with a strimmer/brush-cutter) - but due to the topography of the site the former is infeasible in some areas, however the latter will suffice. In either case, this should be carried out three times a year, i.e. May, July and August. All cuttings should be removed from the site.
- MH87            Manage habitat, rock, by non-intervention.
- The small outcrops of sandstone are an essential part of the adventurous play that takes place on the site, and any limitation on their use would be both unpopular and difficult to implement. Protection would be best achieved by effective wardening/education.

#### Estate - Species Manipulation

- MS00            Manage species, Dog Rose.
- Due to former land use, there are sizeable areas where this species is dominant, and as a result diversity has been affected. It is therefore desirable that these areas are gradually reduced in size (10% per year, for three years initially), in order to create a more diverse mosaic of scrub and (naturally regenerated) grassland, whilst still maintaining thickets to provide cover for wildlife. The cuttings can be used elsewhere on site to limit the use of desire lines (see ME70/01).
- MS10/01        Manage species, Rosebay Willowherb and Common Nettle.
- The high incidence of garden rubbish and dog faeces, along with the general accumulation of dead vegetation has led to an increase of nutrients on the site, allowing these two species to dominate certain areas, reducing diversity. However, total eradication is not required as both are useful to fauna (especially invertebrates) when not dominant. A regular mowing/cutting regime of up to two times per year is therefore required - this should be done in mid-May and late July. All cuttings should be removed from the site.
- MS10/02        Manage species, Japanese Knotweed.
- The presence of this invasive and competitive species is undesirable, and control (with a view to total eradication) is essential. This will require cutting three times per year (May, July and August), coupled with the use of an appropriate herbicide. However, bearing in mind the open public access policy, it is essential that only trained operators carry out this operation - preferably from Broxtowe Borough Council and/or Nottingham City Council. Digging up the rhizomes in autumn will allow frost action to aid in depleting the root system.

## Estate - Estate Fabric

ME20/01 Equip site, by providing 'dog litter' bins.

The site is popular with local dog owners, and the incidence of dog faeces is high. Bins should be sited at all access points and their use encouraged with the help of the local community association and active wardening. The bins should be of a design that is both noticeable and yet unobtrusive.

ME20/02 Equip site, by providing Waymarking.

The present Waymarking, for the Public Rights of Way, on the site have been vandalised - i.e. the fingers have been removed. Replacement with 'routed' posts (no fingers) should help to alleviate the problem. Suitable Waymarking for a 'special needs' route may also be required at some point - see ME70/02.

ME40 Maintain site, by removing unwanted rubbish.

Regular clearance of accumulated rubbish should be implemented, and efforts should be made to deter fly-tipping, especially garden rubbish from local residents. The Local community should be involved in this project.

ME70/01 Equip site, by maintaining paths.

The site, at present, contains a good network of well-used paths, but in a few places there are signs of erosion and compaction, with the surface either washed off or becoming muddy after precipitation. Recently, there has been a spate of deliberate damage occurring on the paths - i.e. the digging of 'pits' to create jumps for mountain bikes. There should be periodic inspection and remedial work undertaken. The use of desire lines should be discouraged; Bramble/Hawthorn cuttings (see MH07 and MS00) being used to block routes. Any path maintenance or construction should blend into the landscape.

ME70/02 Equip site, by providing paths.

The footpath leading from Markham Road is virtually level and has a good (limestone) surface. With slight modification this could be used as part of a circular route suitable for wheelchair/pushchair access - improvement of other suitable paths along the ridge would complete the circuit. Grants are available to increase access for people with special needs, and funding should be sought via this avenue. Ideally this project could be run as series of days (weekends) over three years, and involve the Local Community, in conjunction with the relevant Local Authority.

## Administration - Planning

AP20 Revise plan, management, site.

The present plan should be formally re-assessed after five years (2004) and any sections that are in need of amendment should be re-written. Other amendments can be made as necessary.

AP60 Prepare plan, annual work.

The site management to prepare the annual work plan each January - liaison with associated parties is essential to ensure success of all planned projects.

Administration - Reports, Correspondence and Site Details.

AR00 Prepare report, project recording forms.

Appointed person to prepare detailed project sheets for all projects as specified in the Annual Work Plan.

AR20 Prepare report, annual progress.

A report to be prepared each January to detail previous and future projects. Copies to be sent to all involved organisations and Community Association (for distribution in newsletter), and made available to others on request.

AR30 Prepare correspondence, general.

To be prepared as and when required.

Administration - Training

AT10 Train staff, management techniques.

Warden(s) to be adequately trained to fulfil all roles demanded of that post, i.e. public liaison, relevant legislation and other management techniques.

## **Chapter 3.2 Work Schedule**

### **Section 3.2.1 Work Programme (Five Year)**

| <u>Project Code</u> | <u>Project title and description</u>                                    | <u>Years Active with Priority*</u> |            |            |            |            |
|---------------------|---|------------------------------------|------------|------------|------------|------------|
|                     |   | <u>'00</u>                         | <u>'01</u> | <u>'02</u> | <u>'03</u> | <u>'04</u> |
| RV00                | List/collect references, published and unpublished.                     | 3                                  | 3          | 3          | 3          | 3          |
| RV10/01             | List/collect photographs, ground.                                       | 2                                  | 2          | 2          | 2          | 2          |
| RV10/02             | List/collect photographs, fixed point annually.                         | 2                                  | 2          | 2          | 2          | 2          |
| RV51                | Collect press cuttings.   | 2                                  | 2          | 2          | 2          | 2          |
| RP20                | Collect data, geological.   | 2                                  | 2          | -          | -          | -          |
| RP40                | Collect data, pedological   | 2                                  | 2          | -          | -          | -          |
| RF00/01             | Collect data, vegetation by mapping every five years.                   | -                                  | -          | -          | -          | 1          |
| RF00/02             | Collect data, vegetation, effects of management.                        | 1                                  | 1          | 1          | 1          | 1          |
| RF10                | Collect data, trees/shrubs, by compartment/<br>sub-compartment.         | 1                                  | 1          | 1          | 1          | 1          |
| RF20                | Collect data, other vascular plants, by<br>compartment/sub-compartment. | 1                                  | 1          | 1          | 1          | 1          |
| RF30                | Collect data, bryophytes, by compartment/<br>sub-compartment.           | 1                                  | 1          | 1          | 1          | 1          |
| RF60                | Collect data, fungi, by compartment/<br>sub-compartment.                | 1                                  | 1          | 1          | 1          | 1          |
| RA00                | Collect data, mammals.  | 1                                  | 1          | 1          | 1          | 1          |
| RA10/01             | Collect data, birds, by casual observation.                             | 1                                  | 1          | 1          | 1          | 1          |
| RA10/02             | Collect data, birds, common bird census.                                | 1                                  | 1          | 1          | 1          | 1          |
| RA20                | Collect data, herptiles.  | 1                                  | 1          | 1          | 1          | 1          |
| RA40                | Collect data, lepidoptera.  | 1                                  | 1          | 1          | 1          | 1          |
| RA60                | Collect data, orthoptera.   | 1                                  | 1          | 1          | 1          | 1          |
| RA70                | Collect data, other/general insects.                                    | 1                                  | 1          | 1          | 1          | 1          |



|         |  |   |   |   |   |   |
|---------|--|---|---|---|---|---|
| RA80/01 | Collect data, arachnida  | 1 | 1 | 1 | 1 | 1 |
| RA80/02 | Collect data, other/general invertebrates.                                       | 1 | 1 | 1 | 1 | 1 |
| RH10    | Collect data, land use history.  | 2 | 2 | - | - | - |
| RH50    | Collect data, public use recreation.   | 2 | 2 | 2 | 2 | 2 |
| RH60    | Collect data, public use, damage.  | 2 | 2 | 2 | 2 | 2 |
| RH70    | Collect data, public use, undesirable activity.                                  | 2 | 2 | 2 | 2 | 2 |
| RH80    | Collect data, management, by owner/tenants/<br>public bodies/neighbours.         | 3 | 3 | 3 | 3 | 3 |
| RH90    | Collect data, other activities, by owner/tenants/<br>public bodies/neighbours.   | 3 | 3 | 3 | 3 | 3 |
| MI00    | Inform public, offsite.  | 1 | 1 | 1 | 1 | 1 |
| MI20    | Inform public, educational.  | 1 | 1 | 1 | 1 | 1 |
| MI50/01 | Provide interpretive material, reserve factsheet.                                | 1 | - | 1 | - | 1 |
| MI50/02 | Provide interpretive material, by signs.   | 1 | - | - | - | - |
| ML00    | Liaise, owners/occupiers.  | 1 | 1 | 1 | 1 | 1 |
| ML40    | Liaise, local/national authorities.  | 1 | 1 | 1 | 1 | 1 |
| ML50    | Liaise, local community/groups.  | 1 | 1 | 1 | 1 | 1 |
| MP00/01 | Protect site/species by patrol.  | 1 | 1 | 1 | 1 | 1 |
| MP00/02 | Protect site/species, by lawful enforcement of<br>bylaws and/or Protection acts. | 1 | 1 | 1 | 1 | 1 |
| MH02    | Manage habitat, woodland, by thinning  | 2 | 2 | 2 | 2 | 2 |
| MH03/01 | Manage habitat, woodland, by assisting<br>natural regeneration.                  | 1 | 1 | 1 | 1 | 1 |
| MH03/02 | Manage habitat, woodland, by removal of<br>Sycamore seedlings.                   | 1 | 1 | 1 | 1 | 1 |
| MH07    | Manage habitat, woodland/scrub, by scrub<br>control.                             | 1 | 1 | 1 | 1 | 1 |
| MH12    | Manage habitat, grassland, by mowing.  | 1 | 1 | 1 | 1 | 1 |
| MH14    | Manage habitat, grassland, by scrub control.                                     | 1 | 1 | 1 | 1 | 1 |

|         |   |   |   |   |   |   |
|---------|---|---|---|---|---|---|
| MH22    | Manage habitat, bracken-tall herb, by rolling/mowing/selective cutting. | 1 | 1 | 1 | 1 | 1 |
| MH87    | Manage habitat, rock, by non-intervention.                              | 3 | 3 | 3 | 3 | 3 |
| MS00    | Manage species, Dog Rose.   | 1 | 1 | 1 | 1 | 1 |
| MS10/01 | Manage species, Rosebay Willowherb and Common Nettle.                   | 1 | 1 | 1 | 1 | 1 |
| MS10/02 | Manage species, Japanese Knotweed.                                      | 1 | 1 | 1 | 1 | 1 |
| ME20/01 | Equip site, by providing 'dog litter' bins.                             | 1 | - | - | - | - |
| ME20/02 | Equip site, by providing Waymarking.                                    | 1 | - | - | - | - |
| ME40    | Maintain site, by removing unwanted rubbish.                            | 1 | 1 | 1 | 1 | 1 |
| ME70/01 | Equip site, by maintaining paths.                                       | 1 | 1 | 1 | 1 | 1 |
| ME70/02 | Equip site, by providing paths.   | 2 | 2 | 2 | - | - |
| AR00    | Prepare report, project recording forms.                                | 1 | 1 | 1 | 1 | 1 |
| AP20    | Revise plan, management, site.  | - | - | - | - | 1 |
| AP60    | Prepare plan, annual work.  | 1 | 1 | 1 | 1 | 1 |
| AR20    | Prepare report, annual progress.  | 2 | 2 | 2 | 2 | 2 |
| AR30    | Prepare correspondence, general.  | 2 | 2 | 2 | 2 | 2 |
| AT10    | Train staff, management techniques.                                     | 1 | 1 | 1 | 1 | 1 |

\* **Priority 1 - High**  
**2 - Medium**  
**3 - Low**

Section 3.2.2 Annual Work Plan

| <u>Project Code</u> | <u>Project Title and Description</u>                                 | <u>Man Days*</u> | <u>Compartment</u> | <u>Pr*</u> | <u>Month*</u> |
|---------------------|--|------------------|--------------------|------------|---------------|
| RV00                | List/collect references, published and unpublished.                  | A/R<br>(SM)      | 0                  | 3          | ALL           |
| RV10/01             | List/collect photographs, ground.                                    | A/R<br>(SM)      | 0                  | 2          | ALL           |
| RV10/02             | List/collect photographs, fixed point annually.                      | A/R<br>(SM)      | 0                  | 2          | ALL           |
| RV51                | Collect press cuttings.  | A/R<br>(SM)      | 0                  | 2          | ALL           |
| RP20                | Collect data, geological.  | 4<br>(SM)        | 0                  | 2          | ALL           |
| RP40                | Collect data, pedological.   | 4<br>(SM)        | 0                  | 2          | ALL           |
| RF00/02             | Collect data, vegetation, effects of management.                     | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RF10                | Collect data, trees/shrubs, by compartment/sub-compartment.          | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RF20                | Collect data, other vascular plants, by compartment/sub-compartment. | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RF30                | Collect data, bryophytes, by compartment/sub-compartment.            | A/R<br>(SM)      | 0                  | 1          | ALL           |
| RF60                | Collect data, fungi, by compartment/sub-compartment.                 | A/R<br>(SM)      | 0                  | 1          | ALL           |
| RA00                | Collect data, mammals.   | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RA10/01             | Collect data, birds, by casual observation.                          | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RA10/02             | Collect data, birds, common bird census.                             | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RA20                | Collect data, herptiles.   | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |
| RA40                | Collect data, lepidoptera.   | A/R<br>(SM)      | 0                  | 1          | APR - OCT     |

|         |  |                |     |   |            |
|---------|--|----------------|-----|---|------------|
| RA60    | Collect data, orthoptera.  | A/R<br>(SM)    | 0   | 1 | APR - OCT  |
| RA70    | Collect data, other/general insects.                                       | A/R<br>(SM)    | 0   | 1 | APR - OCT  |
| RA80/01 | Collect data, arachnida.   | A/R<br>(SM)    | 0   | 1 | APR - OCT  |
| RA80/02 | Collect data, other/general invertebrates.                                 | A/R<br>(SM)    | 0   | 1 | APR - OCT  |
| RH10    | Collect data, land use history.  | A/R<br>(SM)    | 0   | 2 | ALL        |
| RH50    | Collect data, public use recreation.                                       | A/R<br>(W)     | 0   | 2 | ALL        |
| RH60    | Collect data, public use, damage.  | A/R<br>(W)     | 0   | 2 | ALL        |
| RH70    | Collect data, public use, undesirable activity.                            | A/R<br>(W)     | 0   | 2 | ALL        |
| RH80    | Collect data, management, by owners/tenants/public bodies/neighbours.      | A/R<br>(SM)    | 0   | 3 | ALL        |
| RH90    | Collect data, other activities, by owners/tenants/public bodies/neighbours | A/R<br>(SM)    | 0   | 3 | ALL        |
| MI00    | Inform public, offsite.  | A/R<br>(SM)    | 0   | 1 | ALL        |
| MI20    | Inform public, educational.  | A/R<br>(SM)    | 0   | 1 | ALL        |
| MI50/01 | Provide interpretive material, factsheet.                                  | 4<br>(SM)      | 0   | 1 | ALL        |
| MI50/02 | Provide interpretive material, signs.                                      | 3<br>(SM+LA)   | N/A | 1 | SEPT - MAR |
| ML00    | Liaise, owners/occupiers.  | A/R<br>(SM)    | N/A | 1 | ALL        |
| ML40    | Liaise, local/national authorities.  | A/R<br>(SM)    | N/A | 1 | ALL        |
| ML50    | Liaise, local community/groups.  | A/R<br>(SM)    | N/A | 1 | ALL        |
| MP00/01 | Protect site/species by patrol.  | 100-150<br>(W) | 0   | 1 | ALL        |

|         |   |                   |       |   |                |
|---------|---|-------------------|-------|---|----------------|
| MP00/02 | Protect site/species, by enforcing Bylaws or Protection Acts            | A/R<br>(W+SM+LA)  | 0     | 1 | ALL            |
| MH02    | Manage habitat, woodland, by thinning.                                  | 10+<br>(SM+LA+LC) | A,D,E | 2 | OCT - MAR      |
| MH03/01 | Manage habitat, woodland, by assisting natural regeneration.            | 5+<br>(W+LC)      | A,D,E | 1 | SEPT - MAR     |
| MH03/02 | Manage habitat, woodland, by removal of Sycamore seedlings.             | 5+<br>(W+LC)      | A,D,E | 1 | SEPT - MAR     |
| MH07    | Manage habitat, woodland/scrub, by scrub control.                       | 20+<br>(SM+LA+LC) | A,D,E | 1 | SEPT - MAR     |
| MH12    | Manage habitat, grassland, by mowing.                                   | 15+<br>(SM+LA+LC) | B,E   | 1 | SEPT           |
| MH14    | Manage habitat, grassland, by scrub control.                            | 10+<br>(SM+LC)    | B,D,E | 1 | SEPT - MAR     |
| MH22    | Manage habitat, bracken-tall herb, by rolling/mowing/selective cutting. | 45+<br>(SM+LA+LC) | A,B   | 1 | MAY, JULY      |
| MH87    | Manage habitat, rock, by non-intervention.                              | N/A               | A     | 3 | N/A            |
| MS00    | Manage species, Dog Rose.   | 30+<br>(SM+LC)    | B,D,E | 1 | SEPT - MAR     |
| MS10/01 | Manage species, Rosebay Willowherb and Common Nettle.                   | 50+<br>(SM+LC)    | 0     | 1 | MAY, JUNE, AUG |
| MS10/02 | Manage species, Japanese Knotweed.                                      | 10<br>(SM+LA)     | 0     | 1 | MAY - JULY     |
| ME20/01 | Equip site, by providing 'dog litter' bins.                             | 5<br>(LA)         | N/A   | 1 | N/A            |
| ME20/02 | Equip site, by providing Waymarking.                                    | 3<br>(LA)         | 0     | 2 | ALL            |
| ME40    | Maintain site, by removing unwanted rubbish.                            | 40+<br>(SM+LA+LC) | 0     | 1 | SEPT - MAR     |
| ME70/01 | Equip site, by maintaining paths.                                       | 30+<br>(SM+LA+LC) | 0     | 1 | SEPT - MAR     |
| ME70/02 | Equip site, by providing paths.   | 30+<br>(SM+LA+LC) | A,E   | 2 | SEPT - MAR     |
| AR00    | Prepare report, project recording forms.                                | A/R<br>(SM)       | N/A   | 1 | ALL            |

|      |                                     |             |     |   |             |
|------|-------------------------------------|-------------|-----|---|-------------|
| AR20 | Prepare report, annual progress.    | 4<br>(SM)   | N/A | 2 | SEPT - DEC. |
| AR30 | Prepare correspondence, general.    | A/R<br>(SM) | N/A | 2 | ALL         |
| AT10 | Train staff, management techniques. | 15<br>(SM)  | N/A | 1 | ALL         |

**\*Key to Abbreviations:**

**Pr- Priority (1 to 3, descending).**

- SM** - Site Management.
- W** - Warden(s).
- LA** - Local Authority (depending on jurisdiction).
- LC** - Local Community.
- A/R** - As Required.
- 0** - All Compartments.

**All work of a specialist nature will be organised and co-ordinated by the Site Management, and must be undertaken by trained operatives holding appropriate Licences and/or Certificates.**

## Stage 4 Appendices

### Chapter 4.1 Bibliography

#### Section 4.1.1 General Bibliography

- Anon (1990); 'The Village Atlas' The Village Press Ltd.
- Broxtowe Borough Council (1975); 'Bramcote Hills Open Space Plan' B.B.C.
- Broxtowe Borough Council (1994); 'Broxtowe Local Plan' B.B.C.
- Fitter, Fitter & Farrer (1984); 'Grasses, Sedges, Rushes & Ferns: of Britain and Northern Europe' Collins.
- Heinzel, Fitter & Parslow (1977); 'The Birds of Britain and Northern Europe' Collins.
- Kiser (1996); 'Trees and Aftercare' B.T.C.V.
- N.C.C. (1987); 'Site Management Plans for Nature Conservation' N.C.C.
- Nottingham Wayfarers's Rambling Club (1985); 'The Robin Hood Way' Newstead Industrial Press.
- Rose (1991); 'The Wild Flower Key (British Isles and N.W. Europe)' Warne.
- Schacht & Fessler (1990); 'Hardy Herbaceous Perennials, Vol. II, L-Z' Timber Press
- Sutherland & Hill (1995); 'Managing Habitats for Conservation' Cambridge University Press.
- Tait *et al* (1988); 'Practical Conservation' Open University.
- Warren & Goldsmith (1993); 'Conservation in Perspective' J. Wiley & Sons.

#### Section 4.1.2 Register of Unpublished Works

- Anon; 'Bramcote Village Pack' Nottinghamshire County Library (Beeston Branch).
- Broxtowe Borough Council (1987); 'Byelaws - Recreation Grounds' B.B.C.
- Gomes & Woods (1985); 'Stonepit Plantation Management Plan' N.T.N.C.
- The Urban Wildlife Partnership (1998); 'Grants Information Guide 1998' The Urban Wildlife Partnership

## Chapter 4.2 Lists

### Section 4.2.1 Species List

#### Subsection 4.2.1.1 Flora Species List

##### Tracheophyta

- f. Hypolepidaceae  
*Pteridium aquilinum* (Bracken)

##### Gymnospermae

##### *Coniferopsida*

- f. Pinaceae  
*Pinus sylvestris* (Scot's pine)

##### Angiospermae

##### Dicotyledons

Frequency

- f. Ranunculaceae  
*Ranunculus repens* (Creeping buttercup) vc  
*R. ficaria* (Lesser Celandine) vc
- f. Berberidaceae  
*Mahonia aquifolium* (Oregon Grape) -
- f. Cruciferae  
*Sisymbrium officinale* (Hedge Mustard) a  
*Alliaria petiolata* (Garlic Mustard) c  
*Armoracia rusticana* (Horse Radish) f-lc
- f. Hypericaceae  
*Hypericum perforatum* (Perforate St John's-wort) vc
- f. Violaceae  
*Viola riviniana* Common Dog-violet
- f. Caryophyllaceae  
*Silene alba* (White Campion) vc  
*S. dioica* (Red Campion) vc  
*S. vulgaris* (Bladder Campion) c  
*Stellaria media* (Common Chickweed) vc
- f. Leguminosae  
*Ulex europaeus* (Common Gorse) c  
*Sarothamnus scoparius* (Broom) c  
*Trifolium repens* (White Clover) a  
*Vicia sativa* (Common Vetch) c  
*Lotus corniculatus* (Common Bird's-foot-trefoil) vc



|                                   |                      |        |
|-----------------------------------|----------------------|--------|
| f. Rosaceae                       |                      |        |
| <i>Sorbus aucuparia</i>           | (Rowan)              | f-lc   |
| <i>Prunus avium</i>               | (Wild Cherry)        | f-lc   |
| <i>P. spinosa</i>                 | (Blackthorn)         | c-la   |
| <i>Malus sylvestris</i>           | (Crab Apple)         | f      |
| <i>Crataegus monogyna</i>         | (Hawthorn)           | vc     |
| <i>Rosa canina</i> agg            | (Dog Rose)           | vc     |
| <i>Rubus fruticosus</i> agg       | (Bramble)            | va     |
| <i>R. idaeus</i>                  | (Raspberry)          | f-lc   |
| <i>Potentilla erecta</i>          | (Tormentil)          | vc     |
| <i>P. anserina</i>                | (Silverweed)         | vc     |
| f. Onagraceae                     |                      |        |
| <i>Chamaenerion augustifolium</i> | (Rosebay Willowherb) | vc-lva |
| f. Urticaceae                     |                      |        |
| <i>Urtica dioica</i>              | (Common Nettle)      | c      |
| f. Aquifoliaceae                  |                      |        |
| <i>Ilex Aquifolium</i>            | (Holly)              | c      |
| f. Araliaceae                     |                      |        |
| <i>Hedera helix</i>               | (Ivy)                | vc     |
| f. Fagaceae                       |                      |        |
| <i>Quercus robur</i>              | (Pedunculate Oak)    | vc     |
| <i>Q. borealis</i>                | (Red Oak)            | o      |
| f. Aceraceae                      |                      |        |
| <i>Acer campestre</i>             | (Field Maple)        | vc     |
| <i>A. pseudoplatanus</i>          | (Sycamore)           | c      |
| f. Hippocastanaceae               |                      |        |
| <i>Aesculus hippocastanum</i>     | (Horse Chestnut)     | vc     |
| f. Betulaceae                     |                      |        |
| <i>Betula pendula</i>             | (Silver Birch)       | o-vlf  |
| f. Oleaceae                       |                      |        |
| <i>Fraxinus excelsior</i>         | (Ash)                | c-la   |
| f. Umbelliferae                   |                      |        |
| <i>Conopodium majus</i>           | (Pignut)             | c      |
| <i>Anthriscus sylvestris</i>      | (Cow Parsley)        | vc     |
| <i>Aegopodium podagraria</i>      | (Ground Elder)       | vc     |
| <i>Heracleum sphondylium</i>      | (Hogweed)            | vc     |
| f. Polygonaceae                   |                      |        |
| <i>Rumex obtusifolius</i>         | (Broad-leaved Dock)  | vc     |
| <i>R. acetosa</i>                 | (Common Sorrel)      | vc     |
| <i>R. acetosella</i>              | (Sheep's Sorrel)     | vc     |
| f. Convolvulaceae                 |                      |        |
| <i>Convolvulus arvensis</i>       | (Field Bindweed)     | c      |

|                                 |                       |      |
|---------------------------------|-----------------------|------|
| f. Labiatae                     |                       |      |
| <i>Lamium purpureum</i>         | (Red Dead Nettle)     | a    |
| <i>L. album</i>                 | (White Dead Nettle)   | vc   |
| <i>Galeobdolon luteum</i>       | (Yellow Archangel)    | c    |
| f. Plantaginaceae               |                       |      |
| <i>Plantago lanceolata</i>      | (Ribwort Plantain)    | va   |
| <i>P. Major</i>                 | (Greater Plantain)    | va   |
| f. Caprifoliaceae               |                       |      |
| <i>Sambucus nigra</i>           | (Elder)               | vc   |
| <i>Lonicera periclymenym</i>    | (Honeysuckle)         | vc   |
| f. Rubiaceae                    |                       |      |
| <i>Galium aparine</i>           | (Cleavers)            | vc   |
| <i>G. saxatile</i>              | (Heath Bedstraw)      | c    |
| f. Compositae                   |                       |      |
| <i>Senecio jacobaea</i>         | (Common Ragwort)      | vc   |
| <i>S. vulgaris</i>              | (Groundsel)           | a    |
| <i>Solidago virgaurea</i>       | (Goldenrod)           | c    |
| <i>Artemisia vulgaris</i>       | (Mugwort)             | vc   |
| <i>Cirsium vulgare</i>          | (Spear Thistle)       | vc   |
| <i>Taraxacum officinale agg</i> | (Dandelion)           | va   |
| <i>Lactuca serriola</i>         | (Prickly Lettuce)     | o    |
| <i>Hypochoeris radicata</i>     | (Common Cat's-ear)    | vc   |
| <i>Lapsana communis</i>         | (Nipplewort)          | vc   |
| <i>Crepis capillaris</i>        | (Smooth Hawk's-beard) | vc   |
| <i>Hieracium umbellatum</i>     | (Hawkweed)            | o-lf |

### Monocotyledons

|                                   |                       |    |
|-----------------------------------|-----------------------|----|
| f. Liliaceae                      |                       |    |
| <i>Hyacinthoides non-scriptus</i> | (Bluebell)            | vc |
| f. Gramineae                      |                       |    |
| <i>Festuca ovina</i>              | (Sheeps Fescue)       |    |
| <i>F. rubra</i>                   | (Red Fescue)          |    |
| <i>Lolium perenne</i>             | (Perennial Ryegrass)  |    |
| <i>Poa annua</i>                  | (Annual Meadow Grass) |    |
| <i>P. pratensis</i>               | (Smooth Meadow Grass) |    |
| <i>Dactylis glomerata</i>         | (Cocksfoot)           |    |
| <i>Bromus hordeaceus</i>          | (Least Soft Brome)    |    |
| <i>B. ramosus</i>                 | (Hairy Brome)         |    |
| <i>Elymus caninus</i>             | (Bearded Couch)       |    |
| <i>E. repens</i>                  | (Common Couch)        |    |
| <i>Arrhenatherum elatius</i>      | (False Oat-grass)     |    |
| <i>Deschampsia caespitosa</i>     | (Tufted Hair-grass)   |    |
| <i>D. flexuosa</i>                | (Wavy Hair-grass)     |    |
| <i>Anthoxanthum odoratum</i>      | (Sweet Vernal Grass)  |    |
| <i>Holcus lanatus</i>             | (Yorkshire Fog)       |    |
| <i>H. mollis</i>                  | (Creeping Soft-Grass) |    |
| <i>Agrostis capillaris</i>        | (Common Bent)         |    |
| <i>Phleum pratense</i>            | (Timothy)             |    |

## Subsection 4.2.1.2 Fauna Species List

### Vertebrates

#### s.p. Aves

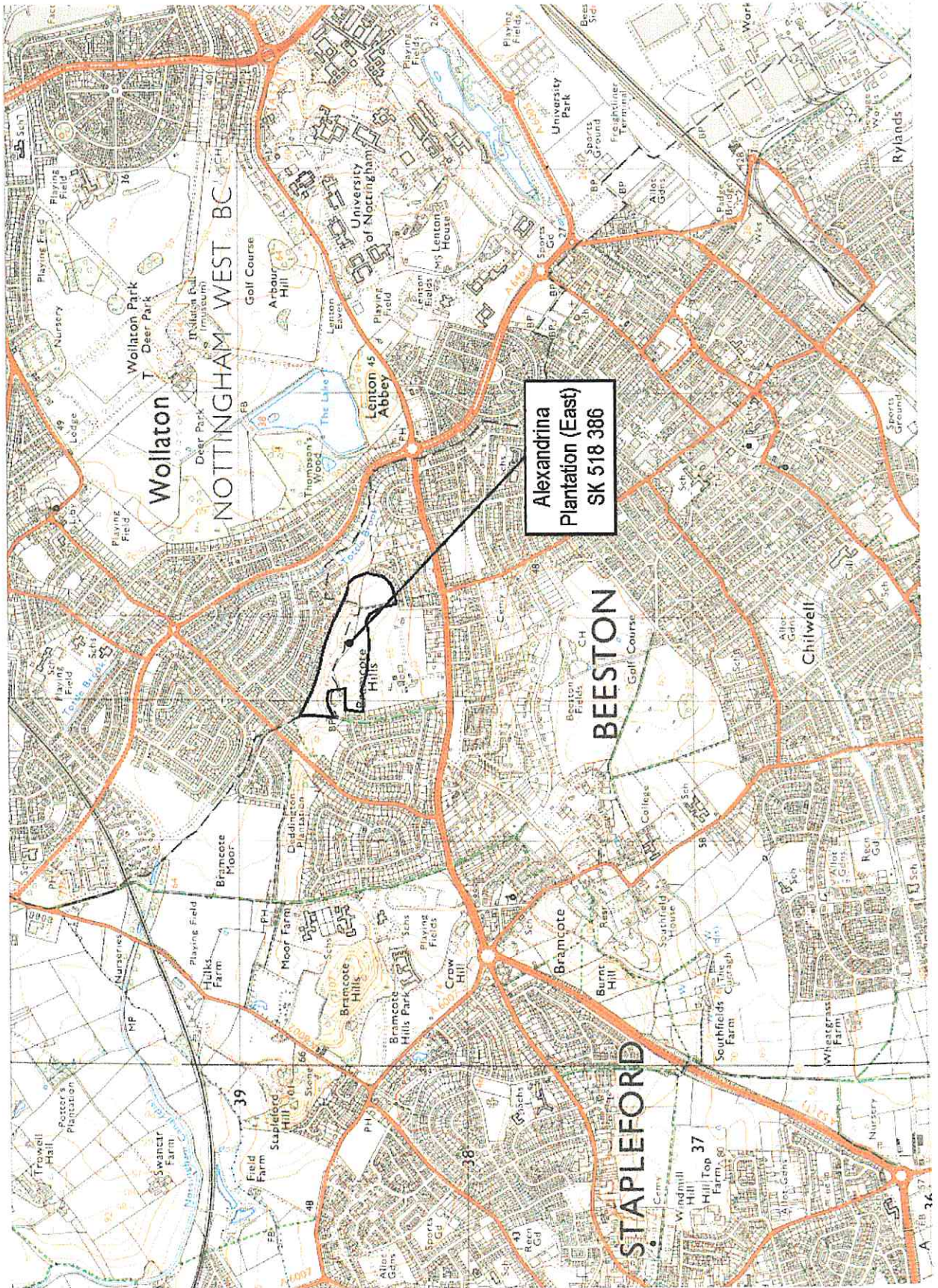
|                                |                    |
|--------------------------------|--------------------|
| <i>Accipiter nisus</i>         | (Sparrowhawk)      |
| <i>Falco tinnunculus</i>       | (Kestrel)          |
| <i>Columba palumbus</i>        | (Woodpigeon)       |
| <i>Streptopelia decaocto</i>   | (Collared Dove)    |
| <i>Strix aluco</i>             | (Tawny Owl)        |
| <i>Apus apus</i>               | (Swift)            |
| <i>Picus viridis</i>           | (Green Woodpecker) |
| <i>Prunella modularis</i>      | (Dunnock)          |
| <i>Sylvia atricapilla</i>      | (Blackcap)         |
| <i>Phylloscopus trochilus</i>  | (Willow Warbler)   |
| <i>P. collybita</i>            | (Chiffchaff)       |
| <i>Regulus regulus</i>         | (Goldcrest)        |
| <i>Erithacus rubecula</i>      | (Robin)            |
| <i>Turdus merula</i>           | (Blackbird)        |
| <i>T. iliacus</i>              | (Redwing)          |
| <i>T. philomelos</i>           | (Song Thrush)      |
| <i>Aegithalos caudatus</i>     | (Long-tailed Tit)  |
| <i>Parus major</i>             | (Great Tit)        |
| <i>P. caeruleus</i>            | (Blue Tit)         |
| <i>Troglodytes troglodytes</i> | (Wren)             |
| <i>Fringilla coelebs</i>       | (Chaffinch)        |
| <i>Carduelis chloris</i>       | (Greenfinch)       |
| <i>Passer montanus</i>         | (Tree Sparrow)     |
| <i>P. domesticus</i>           | (House Sparrow)    |
| <i>Sturnus vulgaris</i>        | (Starling)         |
| <i>Garrulus glandarius</i>     | (Jay)              |
| <i>Pica pica</i>               | (Magpie)           |
| <i>Corvus monedula</i>         | (Jackdaw)          |
| <i>C. corone corone</i>        | (Carrion Crow)     |

#### s.p. Mammalia

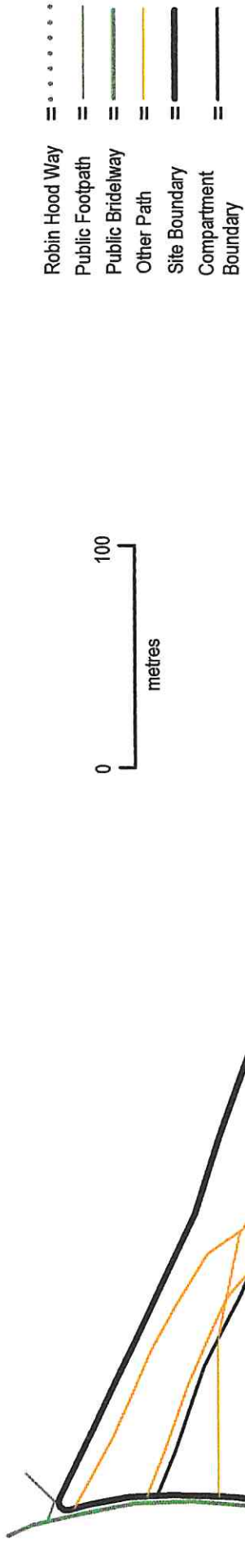
|                             |                 |
|-----------------------------|-----------------|
| <i>Erinaceus europaeus</i>  | (Hedgehog)      |
| <i>Sciurus carolinensis</i> | (Grey Squirrel) |
| <i>Meles meles</i>          | (Badger)        |
| <i>Vulpes vulpes</i>        | (Fox)           |

**Chapter 4.3 Maps**

**Section 4.3.1 location (1:25,000)**



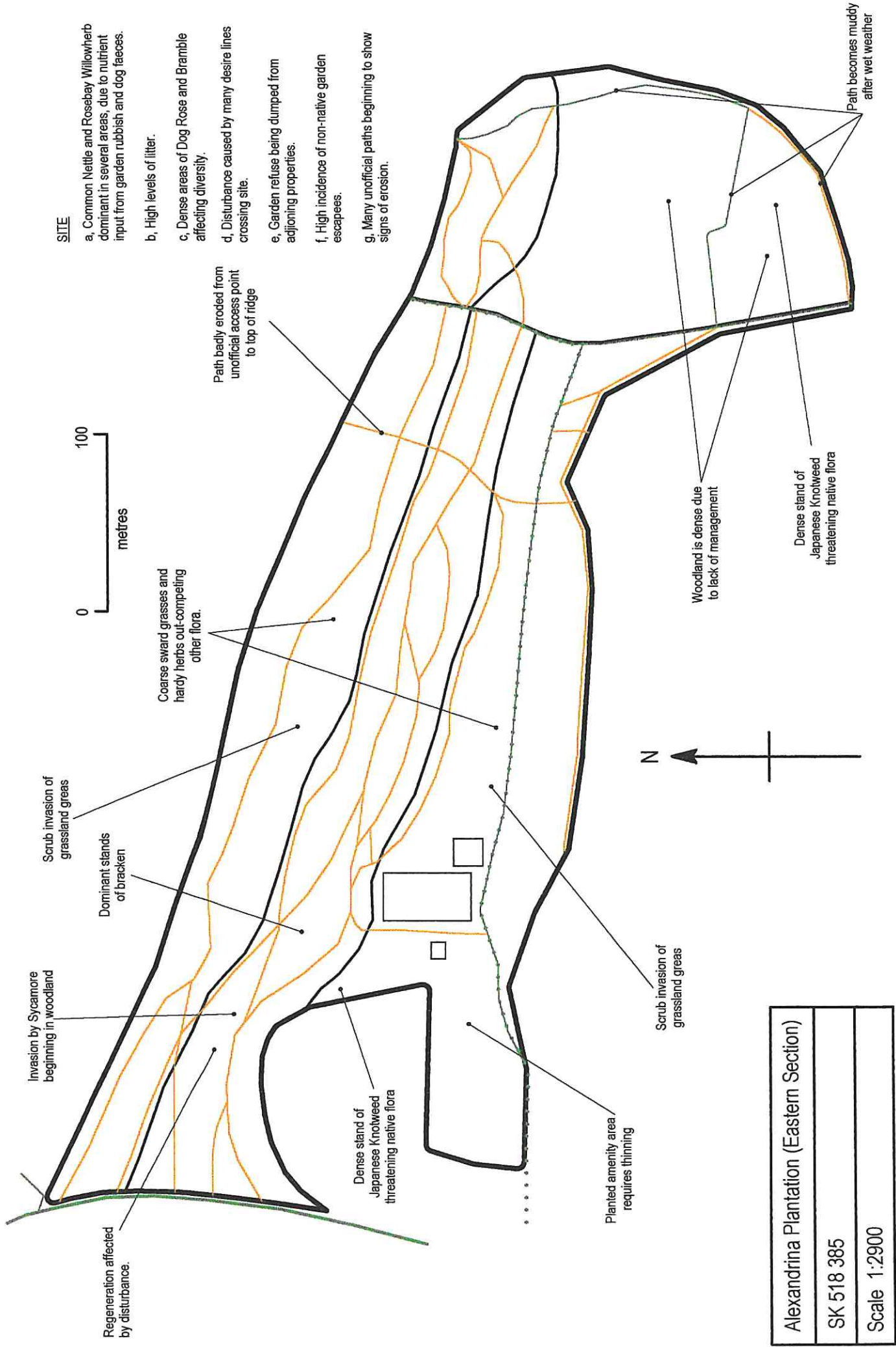
**Source: OS Pathfinder, Sheet 833 (SK43/53)**



- Compartments**
- A - Woodland
  - B - Grassland/Scrub
  - C - Grassland
  - D - Woodland/Dense Thicket
  - E - Dense Scrub/Grassland

|  |
|--|
| Alexandrina Plantation (Eastern Section) |
| SK 518 385                               |
| Scale 1:2900                             |

**Section 4.3.3 Habitat Compartments and Paths**

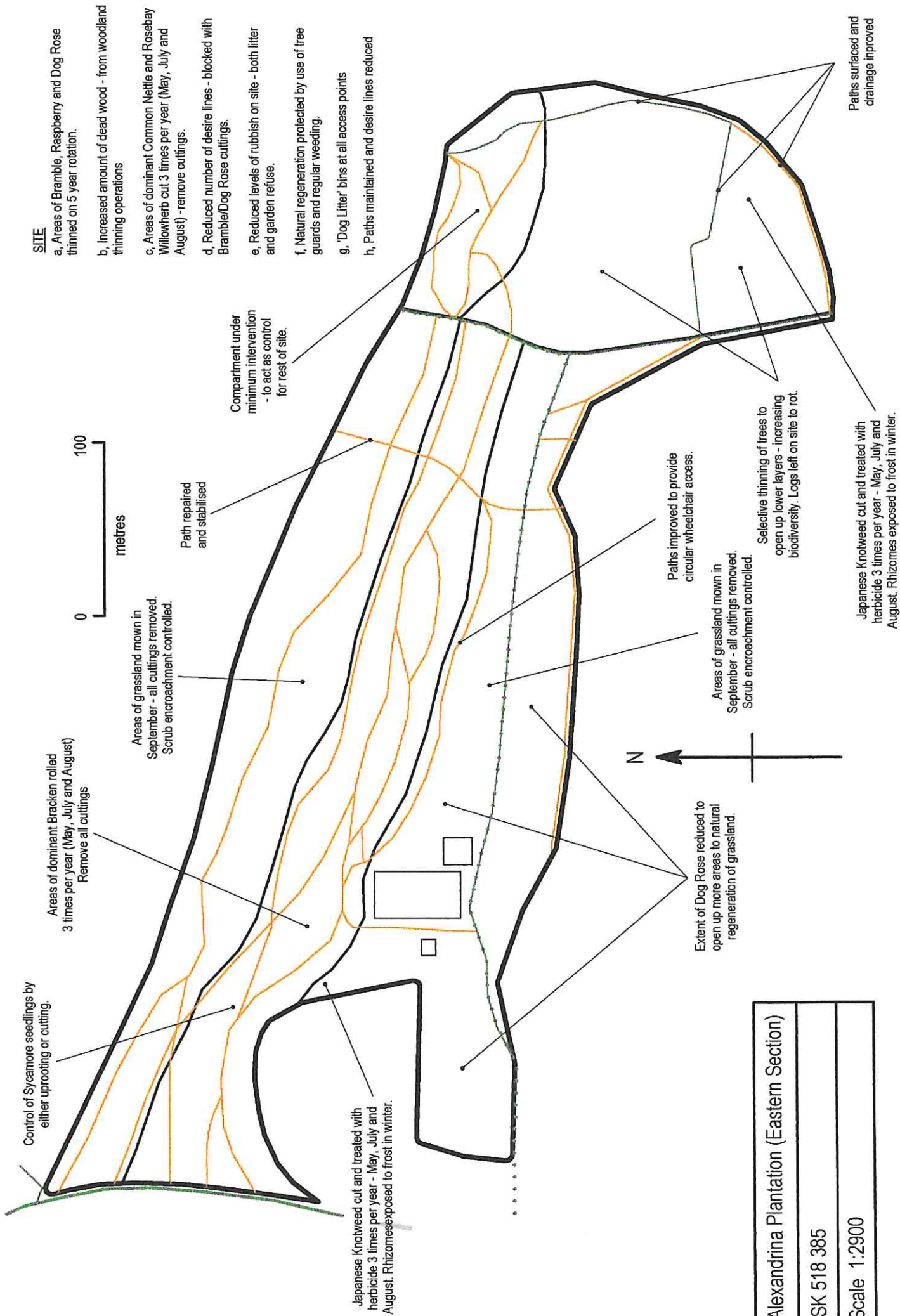


**SITE**

- a, Common Nettle and Rosebay Willowherb dominant in several areas, due to nutrient input from garden rubbish and dog faeces.
- b, High levels of litter.
- c, Dense areas of Dog Rose and Bramble affecting diversity.
- d, Disturbance caused by many desire lines crossing site.
- e, Garden refuse being dumped from adjoining properties.
- f, High incidence of non-native garden escapees.
- g, Many unofficial paths beginning to show signs of erosion.

|  |
|--|
| Alexandrina Plantation (Eastern Section) |
| SK 518 385                               |
| Scale 1:2900                             |

**Section 4.3.4 Factors Influencing Management**



**SITE**

- a, Areas of Bramble, Raspberry and Dog Rose thinned on 5 year rotation.
- b, Increased amount of dead wood - from woodland thinning operations
- c, Areas of dominant Common Nettle and Rosebay Willowherb cut 3 times per year (May, July and August) - remove cuttings.
- d, Reduced number of desire lines - blocked with Bramble/Dog Rose cuttings.
- e, Reduced levels of rubbish on site - both litter and garden refuse.
- f, Natural regeneration protected by use of tree guards and regular weeding.
- g, 'Dog Litter' bins at all access points
- h, Paths maintained and desire lines reduced

|  |
|--|
| Alexandrina Plantation (Eastern Section) |
| SK 518 385                               |
| Scale 1:2900                             |

**Sartin 4 3.5 Management Proposals**

Paths surfaced and drainage improved

Japanese Knotweed cut and treated with herbicide 3 times per year - May, July and August. Rhizomes exposed to frost in winter.

Selective thinning of trees to open up lower layers - increasing biodiversity. Logs left on site to rot.

Paths improved to provide circular wheelchair access.

Areas of grassland mown in September - all cuttings removed. Scrub encroachment controlled.

Extent of Dog Rose reduced to open up more areas to natural regeneration of grassland.

Compartment under minimum intervention - to act as control for rest of site.

Path repaired and stabilised

Areas of grassland mown in September - all cuttings removed. Scrub encroachment controlled.

Areas of dominant Bracken rolled 3 times per year (May, July and August) - Remove all cuttings

Control of Sycamore seedlings by either uprooting or cutting.

Japanese Knotweed cut and treated with herbicide 3 times per year - May, July and August. Rhizomes exposed to frost in winter.

## **Acknowledgments**

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|                |   |
|----------------|---|
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