

# MANAGEMENT PLAN

For the area of

## ALEXANDRINA PLANTATION

In the Borough Of Broxtowe

(Minimum Format)

Prepared and researched by

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### **Acknowledgements.**

## Stage 1 Description

### Chapter 1.1 General Description

#### Section 1.1.1 Location

The site considered in this management plan is the section of Alexandrina Plantation that is situated in the Borough of Broxtowe (Vice county 56). It is approximately 6Km west of Nottingham, lying between the suburbs of Bramcote Hills and Wollaton, the area is bordered by Thoresby Road to the west and the Nottingham City boundary to the east, with residential areas to the north and south. Access is via Sandy Lane, Maidstone Drive, Brookside Avenue, Thoresby Road or from the remainder of Alexandrina Plantation to the east. The public have unrestricted access to the site at all times.

Grid reference; SK 516386

(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 3.5 hectares, and lies between the fifty and eighty metre contour lines, with a north/north east aspect. The site lies on free draining acid soils, over Bunter Sandstone. The underlying rock is exposed, occurring as outcrops, at several sites on the plantation.

The area is a mosaic of mature oak (*Quercus robur*) plantation, scrub (*Ulex europaeus*, *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 and adventurous play. A bridleway follows the eastern boundary of the site from Sandy Lane to Brookside Avenue, where it becomes a public footpath which terminates at Thoresby Road. The local community have enjoyed de-facto access to the site for several decades. Recent management has been minimal, and the site has been left to develop into a 'wild state', although the grassland bordering the residential areas, to the north and south, is maintained as fire-break.

#### Section 1.1.3 Land Tenure

Part of the site to the south is owned by Broxtowe Borough Council, with the rest of the land in private ownership. There is no physical boundary on the site to define ownership. The private owner is not known to Broxtowe B.C. and the land is not registered with the Land Registry. Therefore, tenure of the northern section has not been ascertained, but it believed to be owned by a property development company.

(See Section 4.3.2 for map)

## 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 by Meteorological Office, Climatological Recording Station at Watnall, Nottinghamshire - no longer in existence). Data taken for the period 1950 to 1980. This data will have changed slightly, as there has been a drought period of late.

Average annual daily mean temperature	-	9.1°C.
Average annual rainfall	-	711.3mm
Average number of days of air frost, per year	-	49.7
Average number of days of ground frost, per year	-	110.5
Average number of total sunshine hours	-	1257.3
Average daily mean of sunshine hours	-	3.4
Average number of days with snow lying at 0900 GMT	-	16.1

#### 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

Alexandrina Plantation is situated on the eastern half 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 interesting 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 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 a average pH of 5.0 and, due to the minimal disturbance, a deep humus layer.

### Section 1.2.2 Biological

#### Subsection 1.2.2.1 Flora

The site consists of three main habitats; namely acid broadleaved woodland, acid grassland and dense/scattered scrub, with a small area of planted amenity grassland. Various non-native flora are found throughout the site - these appear to be either garden escapees or deliberately planted. The following section is an appraisal of the site as at April 1998.

Compartment 'A' (See Section 4.3.2 for map)) is an area of improved grassland, adjacent to Thoresby Road, with *Lolium perenne* (Perennial Ryegrass) dominating the sward. There are large amounts of planted *Narcissus sp* (Daffodil) amongst the natural herbs, which include *Ranunculus repens* (Creeping Buttercup), *Taraxacum officinale* agg (Common Dandelion) and the introduced *Trifolium repens* (White Clover). This area is managed (ie mown several times per year) by Broxtowe Borough Council as part of their road verge management policy.

Compartment 'B' is an small area of grassland and mixed scrub, which contains several small thickets of garden escapee, *Prunus sp*, near adjoining gardens. Small areas are dominated by *Rubus fruticosus* agg (Bramble) with scattered *Sarothamnus scoparius* (Broom). The field layer has a dense rank sward, due to lack of management, and diversity is therefore low - dominant grasses are *Lolium perenne* (Perennial Ryegrass) and *Dactylis glomerata* (Cocksfoot). Other flora present at the field layer are *Lamium album* (White Dead Nettle), *Anthriscus sylvestris* (Cow parsley) and *Cirsium vulgare* (Spear Thistle). Extensive stands of *Urtica dioica* (Stinging Nettle) and *Chamaenerion angustifolium* (Rosebay Willowherb) exist, due to nutrient input from dog faeces and the dumping of garden rubbish. There is a small fenced area of planted *Pinus sylvestris* (Scots Pine) to the south of this Compartment, abutting the woodland - although through lack of management *Crataegus monogyna* (Hawthorn) has become co-dominant.

Compartment 'C' contains a plantation of regenerating *Quercus robur* (Pedunculate Oak), of which some appear to have been coppiced approximately 40-50 years ago. 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), *Prunus spinosa* (Blackthorn) and *Sorbus aucuparia* (Rowan), as well as other scrub vegetation mentioned elsewhere in this Section - all of which appear to be re-generating, despite disturbance. The field layer shows low diversity with a mosaic of bare ground, deep leaf litter and large areas of grass 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 sizeable areas of *Hyacinthoides non-scriptus* (Bluebell) and *Allium ursinum* (Ransoms). The compartment contains several glades where *Pteridium aquilinum* (Bracken) is dominant. There are a small number of *Acer pseudoplatanus* (Sycamore) seedlings in the western side of the compartment.

Compartment 'D' is a mosaic of mixed age scrub and semi-improved grassland (similar to Compartment 'A', but much larger), giving good lateral diversity. The scrub contains a mix of species, such as *Quercus robur* (Pedunculate Oak), *Crataegus monogyna* (Hawthorn), *Rosa canina* agg (Dog Rose), *Ulex europaeus* (Common Gorse), *Sarothamnus scoparius* (Broom), *Rubus fruticosus* agg (Bramble) and *Sambucus nigra* (Elder). There are sizeable areas of grassland which have a dense sward, comprised of *Dactylis glomerata* (Cocksfoot), *Agrostis capillaris* (Common bent), *Lolium perenne* (Perennial Ryegrass), *Bromus ramosus* (Hairy Brome), *Arrhenatherum elatius* (False Oat-grass) among others. Other herbs in the field layer include *Anthriscus sylvestris* (Cow parsley), *Plantago lanceolata* (Ribwort Plantain), *P. major* (Greater Plantain), *Senecio jacobaea* (Common Ragwort) and *Rumex acetosella* (Sheep's Sorrel). Scattered over the grassland are numerous self-set seedlings of (as yet unidentified) *Malus* and *Pinus spp.* Around the perimeter, adjoining the housing, there are numerous overgrown hummocks of accumulated garden rubbish, dumped by residents rubbish over the years. This, along with the high levels of dog faeces, has enable stands of *Urtica dioica* (Stinging Nettle) and *Chamaenerion angustifolium* (Rosebay Willowherb) to dominate in a number of areas. 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, birds and amphibia (see Subsection 4.2.1.2).

More detailed surveys are required, especially of invertebrates.

Several locations on the site show signs of recent excavation by larger mammals (possibly *Meles meles*, but none appear to be in current use.

#### Subsection 1.2.2.3 Communities

W23 *Ulex europaeus* - *Rubus fruticosus* agg Underscrub.  
and *Rumex acetosella* Sub-community.  
and *Anthoxanthum odoratum* Sub-community.

W24 *Rubus fruticosus* agg - *Holcus lanatus* Underscrub.  
and *Arrhenatherum elatius* - *Heracleum sphondylium* Sub-community.

W25 *Rubus fruticosus* agg - *Pteridium aquilinum* Underscrub.  
and *Hyacinthoides non-scriptus* Sub-community.

- U1     *Festuca ovina* - *Agrostis capillaris* - *Rumex acetosella* Grassland.  
and         *Galium saxatile* - *Potentilla erecta* Sub-community.  
and         *Anthoxantum odoratum* - *Lotus corniculatus* Sub-community.  
and         *Hypochoeris radicata* Sub-community.
- U4     *Festuca ovina* - *Agrostis capillaris* - *Galium saxatile* Grassland.  
and         *Holcus lanatus* - *Trifolium repens* Sub-community.
- MG7    *Lolium perenne* Ley and related grassland.  
and         *Lolium perenne* - *Trifolium repens* Ley.  
and         *Lolium perenne* - *Plantago lanceolata* Ley.

### 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 Bridleway, running along the east side 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 derelict remnants of hedgerows along this path and at other locations on the site, which now exist as either dead-wood or widely spaced standard trees. The location of which imply that they were once boundaries to both the city and the plantation.

The local community has had de-facto access to the site for several decades, and 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, as such the site has been allowed to develop into its present wild state. 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 frequent 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. The site suffers from the accumulation of general litter and dog faeces throughout the area, 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 fire are deliberately set.



## 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.

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 have also designated the site under consideration in this plan as an 'Area of Restricted Development' (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 number of habitat types, namely a mosaic of dry acid grassland, scattered and dense scrub, and acid broadleaved woodland (See Section 4.3.3 for Map).

#### Section 2.1.3 Site Definition and Boundaries

The site has been reduced in size by the encroachment of surrounding residential areas over the past 50 years. Due to the present conservation status, its future (and present size) should hopefully be assured.

The site is bordered by open areas (to the east), residential gardens (to the north and south) and a road to the west - across from which is a golf course.

## Chapter 2.2 Evaluation of Features

### Section 2.2.1 Evaluation

#### Subsection 2.2.1.1 Size

The site covers an area of approximately 3.5 Hectares and is therefore slightly 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 the field layer. There are many non-native species growing on the site - these are either self-set garden 'escapees' or have been introduced by deliberate planting.

Aggressive species have become dominant in some areas of the site, eg *Pteridium aquilinum* (Bracken), *Chamaenerion angustifolium* (Rosebay Willowherb) and *Urtica dioica* (Common Nettle) - the latter being due to nutrient input from dog faeces and dumping of garden rubbish.

#### 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. However, natural regeneration is occurring within the understorey, especially *Quercus robur* (Pedunculate Oak), *Crataegus monogyna*, (Hawthorn) and *Sorbus aucuparia* (Rowan).

The areas of grassland and scrub appear to have developed naturally, over time, from its former agricultural land use.

The village name of Bramcote is derived from 'Cottages in the broom' and so, the areas of *Sarothamnus scoparius* (Broom) 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 1950's, and therefore can be considered as 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. Most of the standard 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 the encroachment of atypical species such as *Dactylis glomerata* (Cocksfoot)

Obviously the woodland is planted, but *Quercus sp* (Oak) can occur on light, free draining, acid soils - although biodiversity would probably be greater in a semi-natural ancient woodland.

#### Subsection 2.2.1.7 Recorded History

The general area was enclosed by Act of Parliament in 1771 - there are fragments of derelict hedgerows in the woodland areas.

The site has been covered by Broxtowe Borough Council's recreation ground byelaws since October 1987.

Very little further information regarding history has been found, to date - see Section 1.1.3 Land Tenure and Section 1.2.3 Cultural.

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

The sites forms part 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 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 locals and wildlife. Involvement of the local community in management projects may help to ensure the site's future.

A change in ownership of the privately own section could affect the site, along with changes in 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 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 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 wild state possesses 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 wild 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, Although the canopy and understorey is dominated by *Quercus robur*, they 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. Also the views from the outcrops should be preserved by appropriate management of the obscuring trees, by either pollarding or coppicing. Within the wood there are small numbers of invasive *Acer pseudoplatanus* seedlings that require eradication before gaining a firm foothold. The amount of dead wood on 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. Also requiring attention are the areas where *Urtica dioica* and *Chamaenerion angustifolium* are dominant - the former due to nutrient input from dog faeces. All cut vegetation should be removed from the site in order to reduce nutrient levels.

Dense stands of *Rubus fruticosus* agg need to be thinned in rotation (5 years), but should be maintained 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 help minimise disturbance, and create 'sanctuary' areas. It should therefore, be maintained at it's present extent with the minimum of intervention, and allowed to succeed to 'natural' woodland. The control of aggressive species mentioned in 1a in also desirable.

1c. The sizable 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. Any scrub invasion of the present grassland should be controlled by cutting and/or uprooting. Again, all cuttings should be subsequently removed from the site.

## 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 tenure, history and geology.

### Objective 3

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

##### Rationale

The local community have 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 a good network of informal paths and these 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, ie, 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, Hawthorn, should be used to block feint paths, thereby discouraging their use. This will endeavour to preserve '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 planing 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, ie wheelchair users.

## 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. 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. These could be included in the Community Association Newsletters, as well as being made available to all interested parties.

The provision of a surfaced path to the western outcrop in Compartment 'D' would allow greater access to the site for other user groups - ie, wheelchairs, pushchairs etc, as well as management equipment.

Interpretive 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 introduced 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, cooperation 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 Option 3 (A3)	2.4.2.1.1 Continuous Surveying of existing floral communities.  2.4.2.1.2 Monitor any changes in plant communities.
1a Maintain and enhance the existing areas of woodland.	Habitat Management Option 3 (A3)	2.4.2.1.3 Protect regeneration from damage and competition.  2.4.2.1.4 Implement regular clearance of Bracken.  2.4.2.1.5 Implement regular removal of Sycamore seedlings.  2.4.2.1.6 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas.  2.4.2.1.7 Implement regular thinning (in rotation) of dense areas of Bramble.  2.4.2.1.8 Implement selective coppicing/pollarding to maintain views from outcrops.
1b Maintain and enhance the existing areas of scrub.	Habitat Management Option 2 (A2)	2.4.2.1.9 Implement regular clearance of Common Nettle and Rosebay Willowherb dominated areas.
1c Maintain and enhance the existing area of grassland.	Habitat Management Option 3 (A3)	2.4.2.1.10 Implement annual mowing regime and removal of cuttings from site.  2.4.2.1.11 Implement regular clearance and removal of all encroaching scrub/trees.
2 Promote a research and monitoring programme, coupled to Objective 1.	Study and Research 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.
3	Maintain the current policy of unrestricted access.	General Access and Recreation Option 4 (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.
4	Increase awareness of the site's value within the local community	Education and Interpretation 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 4 (E4)
		2.4.2.4.4 Enhance site to allow wheelchair access to viewpoint.
5	Reduce deleterious impact on the site by the general public	Habitat Management 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.
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).

## 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, MS10.
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 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, AR00.
	2.4.2.1.7 Implement regular thinning (in rotation) of dense areas of Bramble.	RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH07, AR00.
	2.4.2.1.8 Implement selective coppicing/pollarding to maintain views from outcrops.	RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH00, 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, AR00.
1c Maintain and enhance the existing area of grassland.	2.4.2.1.10 Implement annual mowing regime and removal of cuttings from site.	RF00/01, RF00/02, RF20, ML00, ML40, ML50, MH12, AR00.
	2.4.2.1.11 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, 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 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, MH00, MH03/01, MH03/02, MH07, MH12, MH14, MH22, MS10, ME40, ME70/01, ME70/02, AR20, AR30, AT10, AR00.
	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 to viewpoint.	ML00, ML40, ML50, 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, 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).	MH00, MH03/01, MH03/02, MH07, MH12, MH14, MH22, MS10, 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 Records 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.  
Liaise 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, 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, 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 practical management tasks. Attempts should be made to establish a 'Friends of Bramcote Hills Open Space' committee within 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 byelaws and/or Protection acts.

#### Management - Estate, Habitat Manipulation

MH00 Manage habitat, woodland, by coppicing.

The views from the outcrops have become obscured by trees. A rotational (7 years) coppicing/pollarding regime needs to be implemented on the relevant trees. Pollarding should be used where possible to protect regrowth from damage. 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, limiting natural regeneration and diversity; this requires a rotational thinning regime (five yearly). Total eradication is undesirable as Bramble provides 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, ie 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

MS10 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.

### Estate - Estate Fabric

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

The site is popular with local dog owner's, and the incidence of dog faeces is high. Bins should be sited at 'official' 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.

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. There should be periodic inspection and remedial work undertaken. The short path adjacent to 92 Thoresby Road is particularly in need of attention. The use of desire lines should be discouraged; Bramble/Hawthorn cuttings (see MH07) being used to block routes. Any path maintenance or construction should blend into the landscape.

ME70/02 Equip site, by providing paths.

The path leading to the westerly sandstone outcrop, from the Sandy Lane access point, is virtually level and well used. As a result there is standing water after rainfall (due to soil compaction) and lateral erosion. The site would benefit from the renovation of this path, making it suitable for wheelchair/pushchair access. The land is owned by Broxtowe Borough Council and they should be approached concerning assistance with this project. Ideally this could be run as a series of days (weekends) over two years, and involve the Local Community.

### 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 news letter), 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, ie 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>'99</u>	<u>'00</u>	<u>'01</u>	<u>'02</u>	<u>'03</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/sub-compartment.	1	1	1	1	1
RF20	Collect data, other vascular plants, by compartment/sub-compartment.	1	1	1	1	1
RF30	Collect data, bryophytes, by compartment/sub-compartment.	1	1	1	1	1
RF60	Collect data, fungi, by compartment/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 owners/tenants/public bodies neighbours.	3	3	3	3	3
RH90	Collect data, other activities, by owners/tenants/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, factsheet.	1	-	1	-	1
MI50/02	Provide interpretive material, 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 enforcing byelaws or Protection acts.	1	1	1	1	1
MH00	Manage habitat, woodland, by coppicing.	2	2	2	2	2
MH03/01	Manage habitat, woodland, by assisting natural regeneration.	1	1	1	1	1
MH03/02	Manage habitat, woodland, by removal of Sycamore seedlings.	1	1	1	1	1
MH07	Manage habitat, woodland/scrub, by scrub 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

MS10	Manage species, Rosebay Willowherb and Common Nettle.	1	1	1	1	1
ME20	Equip site, by providing 'dog litter' bins.	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	-	-	-
AP20	Revise plan, management, site.	-	-	-	-	1
AP60	Prepare plan, annual work.	1	1	1	1	1
AR00	Prepare report, project recording forms.	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 (SM)	0	3	ALL
RV10/01	List/collect photographs, ground.	A/R (SM)	0	2	ALL
RV10/02	List/collect photographs, fixed point annually.	A/R (SM)	0	2	ALL
RV51	Collect press cuttings.	A/R (SM)	0	2	ALL
RP20	Collect data, geological.	3 (SM)	0	2	ALL
RP40	Collect data, pedological.	3 (SM)	0	2	ALL
RF00/02	Collect data, vegetation, effects of management.	A/R (SM)	0	1	APR-OCT
RF10	Collect data, trees/shrubs, by compartment/sub-compartment.	A/R (SM)	B,C,D	1	APR-OCT
RF20	Collect data, other vascular plants, by compartment/sub-compartment.	A/R (SM)	0	1	APR-OCT
RF30	Collect data, bryophytes, by compartment/sub-compartment.	A/R (SM)	0	1	ALL
RF60	Collect data, fungi, by compartment/sub-compartment.	A/R (SM)	0	1	ALL
RA00	Collect data, mammals.	A/R (SM)	0	1	APR-OCT
RA10/01	Collect data, birds, by casual observation.	A/R (SM)	0	1	APR-OCT
RA10/02	Collect data, birds, common bird census.	A/R (SM)	0	1	APR-OCT
RA20	Collect data, herptiles.	A/R (S/M)	0	1	APR-OCT
RA40	Collect data, lepidoptera.	A/R (SM)	0	1	APR-OCT
RA60	Collect data, orthoptera.	A/R (SM)	0	1	APR-OCT
RA70	Collect data, other/general insects.	A/R (SM)	0	1	APR-OCT



RA80/01	Collect data, arachnida.	A/R (SM)	0	1	APR-OCT
RA80/02	Collect data, other/general invertebrates.	A/R (SM)	0	1	APR-OCT
RH10	Collect data, land use history.	A/R (SM)	0	2	ALL
RH50	Collect data, public use recreation.	A/R (W)	0	2	ALL
RH60	Collect data, public use, damage.	A/R (W)	0	2	ALL
RH70	Collect data, public use, undesirable activity.	A/R (W)	0	2	ALL
RH80	Collect data, management, by owners/tenants/public bodies/neighbours.	A/R (SM)	0	3	ALL
RH90	Collect data, other activities, by owners/tenants/public bodies/neighbours	A/R (SM)	0	3	ALL
MI00	Inform public, offsite.	A/R (SM)	0	1	ALL
MI20	Inform public, educational.	A/R (SM)	0	1	ALL
MI50/01	Provide interpretive material, factsheet.	3 (SM+BBC)	0	1	ALL
MI50/02	Provide interpretive material, signs.	2 (SM+BBC)	N/A	1	SEPT-MAR
ML00	Liase, owners/occupiers.	A/R (SM)	N/A	1	ALL
ML40	Liase, local/national authorities.	A/R (SM)	N/A	1	ALL
ML50	Liase, local community/groups.	A/R (SM)	N/A	1	ALL
MP00/01	Protect site/species by patrol.	50-100 (W)	0	1	ALL
MP00/02	Protect site/species, by enforcing Byelaws or Protection Acts	A/R (SM)	0	1	ALL
MH00	Manage habitat, woodland, by coppicing.	10+ (SM+BBC+LC)	C	2	OCT-MAR
MH03/01	Manage habitat, woodland, by assisting natural regeneration.	5 (W+LC)	C	1	SEPT-MAR

MH03/02	Manage habitat, woodland, by removal of Sycamore seedlings.	5+ (W+LC)	B,C,D	1	SEPT-MAR
MH07	Manage habitat, woodland/scrub, by scrub control.	15+ (SM+BBC+LC)	B,C,D	1	SEPT-MAR
MH12	Manage habitat, grassland, by mowing.	15+ (SM+BBC+LC)	A,B,C,D	1	SEPT
MH14	Manage habitat, grassland, by scrub control.	10+ (SM+LC)	A,B,D	1	SEPT-MAR
MH22	Manage habitat, bracken-tall herb, by rolling/mowing/selective cutting.	45+	C (SM+BBC+LC)	1	MAY,JULY
MH87	Manage habitat, rock, by non-intervention.	N/A	C	3	N/A
MS10	Manage species, Rosebay Willowherb and Common Nettle.	45+ (SM+BBC+LC)	A,B,C,D	1	MAY,JUNE,AUG
ME20	Equip site, by providing 'dog litter' bins.	3 (BBC)	N/A	1	N/A
ME40	Maintain site, by removing unwanted rubbish.	20+ (SM+BBC+LC)	A,B,C,D	1	SEPT-MAR
ME70/01	Equip site, by maintaining paths.	20+ (SM+BBC+LC)	A,B,C,D	1	SEPT-MAR
ME70/02	Equip site, by providing paths.	20+ (SM+BBC+LC)	C,D	2	SEPT-MAR
AR00	Prepare report, project recording forms.	A/R (SM)	N/A	1	ALL
AR20	Prepare report, annual progress.	3 (SM)	N/A	2	SEPT-DEC.
AR30	Prepare correspondence, general.	A/R (SM)	N/A	2	ALL
AT10	Train staff, management techniques.	10 (SM)	N/A	1	ALL

**\*Key to Abbreviations:**

Pr	- Priority (1 to 3, descending).
SM	- Site Management.
W	- Warden(s).
BBC	- Broxtowe Borough Council Staff.
LC	- Local Community.
A/R	- As Required.
0	- All Compartments.

**All work of a specialist nature will be organised and coordinated 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.
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- Kiser (1996); 'Trees and Aftercare' B.T.C.V.
- N.C.C. (1987); 'Site Management Plans for Nature Conservation' N.C.C.
- Rodwell (1991); 'British Plant Communities, Vol 1; Woodland and Scrub' Cambridge University Press.
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- Rose (1991); 'The Wild Flower Key (British Isles and N.W. Europe)' Warne.
- 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.

## Chapter 4.2 Lists

### Section 4.2.1 Species Lists

#### 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

###### 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. Carophyllaceae

*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

*Sorbus aucuparia* (Rowan) f-lc  
*Prunus avium* (Wild Cherry) f-lc  
*P. spinosa* (Blackthorn) c-la  
*Malus sylvestris* (Crab Apple) f  
*Crataegus monogyna* (Hawthorn) vc  
*Rosa canina agg* (Dog Rose) vc

	<i>Rubus fruticosus agg</i>	(Bramble)	va
	<i>Potentilla erecta</i>	(Tormentil)	vc
f. Onagraceae			
	<i>Chamaenerion angustifolium</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 robor</i>	(Pedunculate Oak)	vc
f. Aceraceae			
	<i>Acer 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>Anthriscus sylvestris</i>	(Cow Parsley)	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
f. Plantaginaceae			
	<i>Plantago lanceolata</i>	(Ribwort Plantain)	va
	<i>P. Major</i>	(Greater Plantain)	va
f. Caprifoliaceae			
	<i>Sambucus nigra</i>	(Elder)	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
<i>Allium ursinum</i>	(Ransoms)	c

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. Amphibia

*Rana temporaria* (Common Frog)

#### s.p. Aves

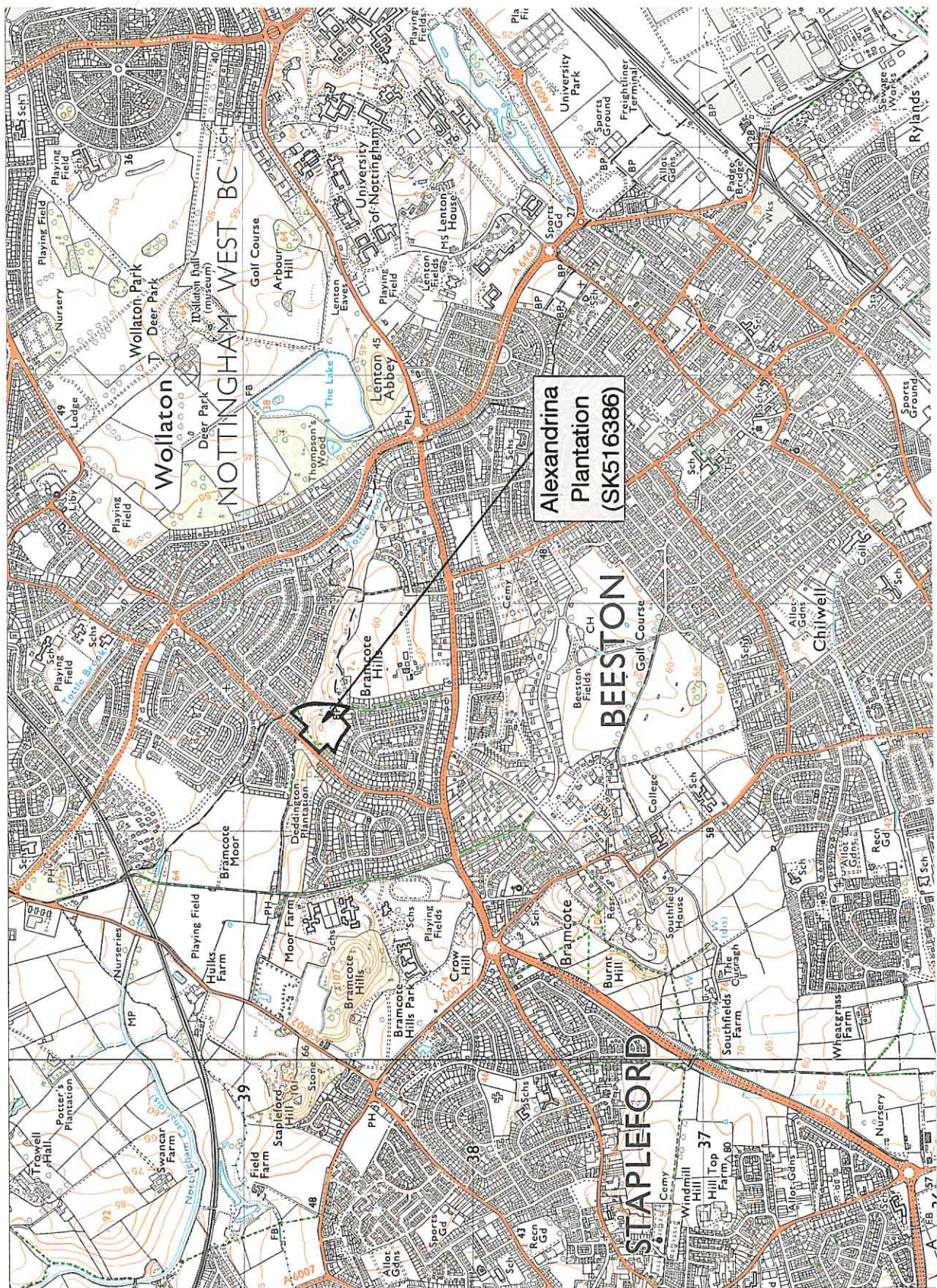
*Falco tinnunculus* (Kestrel)  
*Columba palumbus* (Woodpigeon)  
*Streptopelia decaocto* (Collared Dove)  
*Apus apus* (Swift)  
*Prunella modularis* (Dunnock)  
*Regulus regulus* (Goldcrest)  
*Erithacus rubecula* (Robin)  
*Turdus merula* (Blackbird)  
*Aegithalos caudatus* (Long-tailed Tit)  
*Parus major* (Great Tit)  
*P. caeruleus* (Blue Tit)  
*Troglodytes troglodytes* (Wren)  
*Fringilla coelebs* (Chaffinch)  
*Passer montanus* (Tree Sparrow)  
*P. domesticus* (House Sparrow)  
*Sturnus vulgaris* (Starling)  
*Pica pica* (Magpie)  
*Corvus corone corone* (Carrion Crow)

#### s.p. Mammalia

*Erinaceus europaeus* (Hedgehog)  
*Sciurus carolinensis* (Grey Squirrel)  
*Meles meles* (Badger)  
*Vulpes vulpes* (Fox)

Chapter 4.3 Maps

Section 4.3.1 Location (1:25,000)

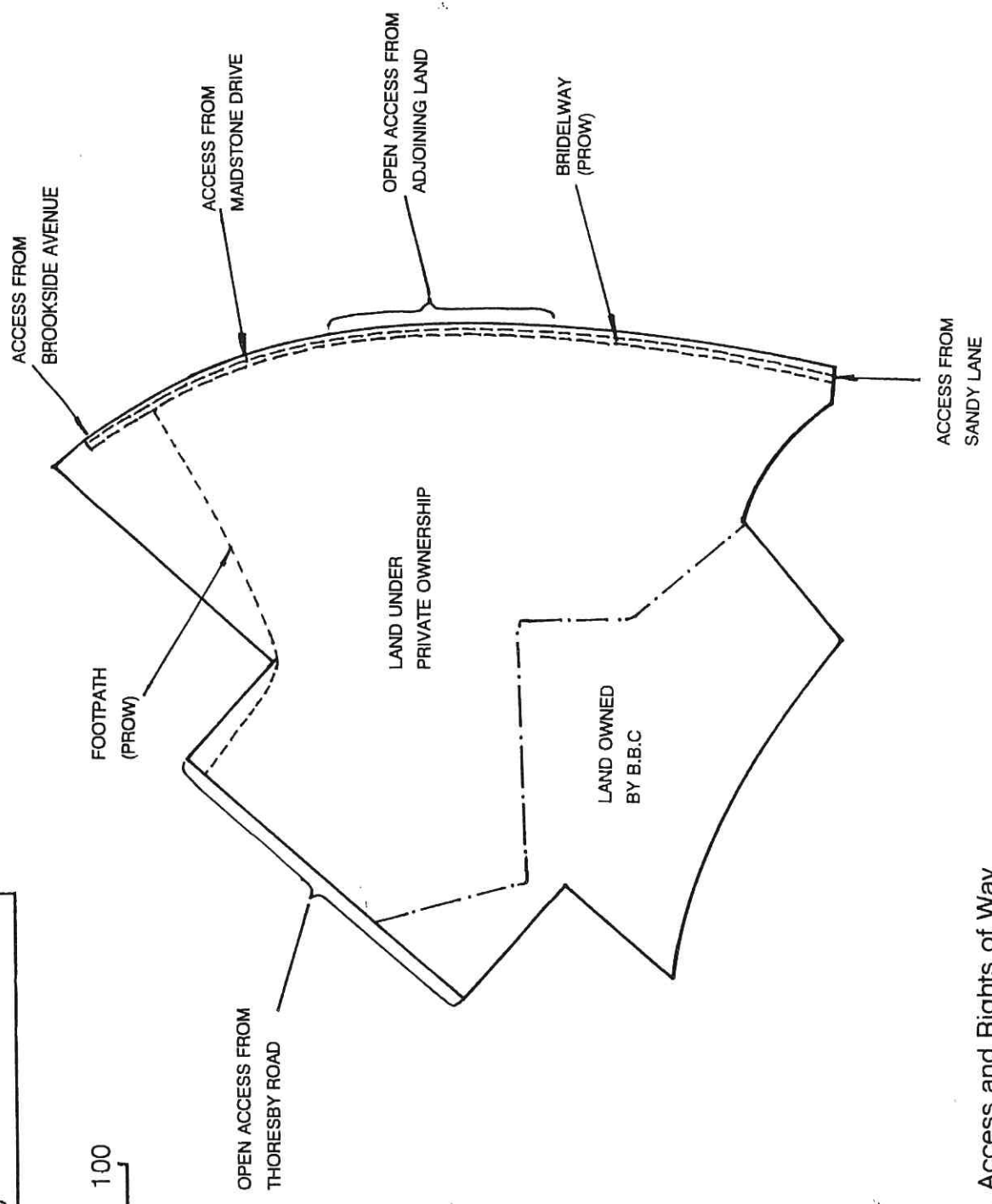
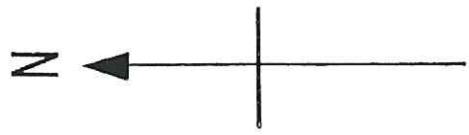


Source: OS Pathfinder, Sheet 833 (SK43/53)



ALEXANDRINA PLANTATION
SK 515386
SCALE 1:2100

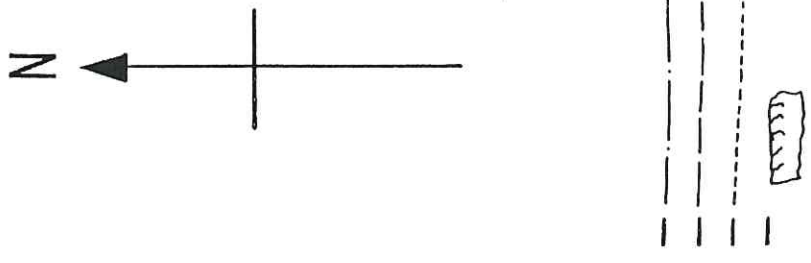
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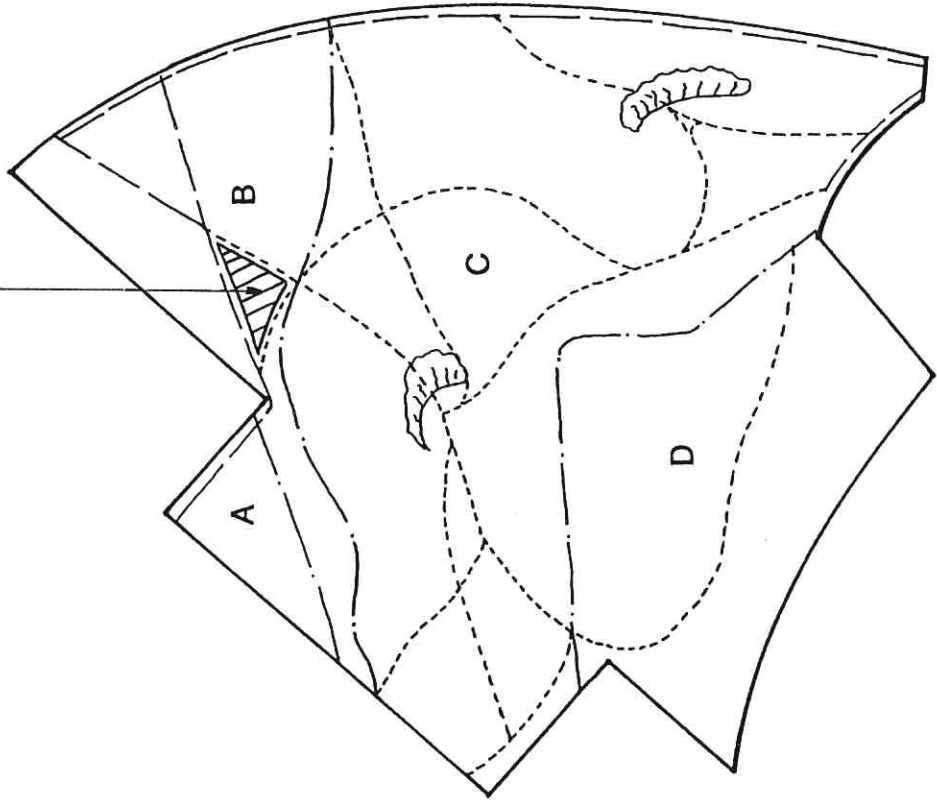
ALEXANDRINA PLANTATION
SK 515386
SCALE 1:2100



- Compartments
- A - Amenity Grassland
  - B - Scrub/Grassland
  - C - Secondary Woodland
  - D- Scrub/Grassland



Area of planted *Pinus Sylvestris*



ALEXANDRINA PLANTATION
SK 51 5386
SCALE 1:2100

0 metres 100

Regeneration affected by disturbance.

Scrub invasion of grassland areas.

Coarse sward grasses and hardy herbs out competing other flora.

View obscured by trees.

Path badly eroded.

Water pooling on path due to soil compaction and causing lateral erosion.

Scrub invasion of grassland areas.

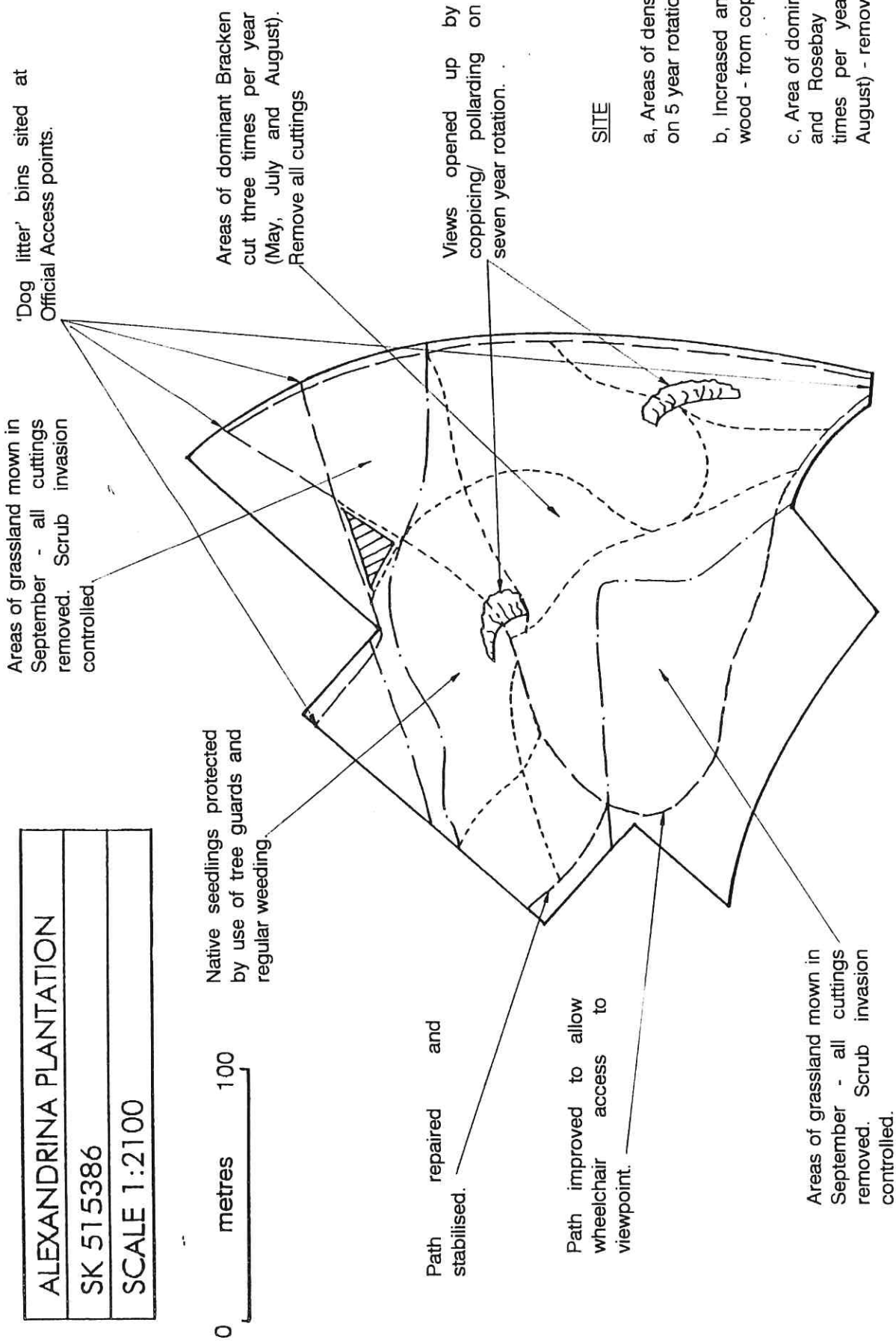
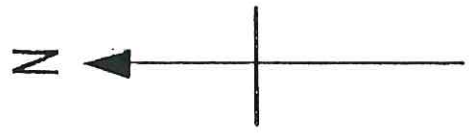
Sizeable area where Bracken is dominant.



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 Bramble affecting diversity.
- d, Site is crossed by many desire lines causing high disturbance.
- e, Garden refuse being dumped by adjoining properties.
- f, High incidence of non-native garden escapees.

ALEXANDRINA PLANTATION
SK 515386
SCALE 1:2100



SITE

- a, Areas of dense Bramble thinned on 5 year rotation.
- b, Increased amount of lying dead wood - from coppicing/pollarding.
- c, Area of dominant Common Nettle and Rosebay Willowherb cut 3 times per year (May, July and August) - remove all cuttings.
- d, Reduced amount of desire lines - blocked with Bramble cuttings.
- e, Reduced levels of rubbish on site, both litter and garden refuse.

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