



Sydenham Garden
A growing community

**Queenswood Road
Nature Reserve**

Management Plan

Produced for the London
Borough of Lewisham

November 2009

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Contents

INTRODUCTION.....	1
1 SITE DESCRIPTION.....	2
1.1 GENERAL INFORMATION.....	2
1.2 LOCATION.....	3
1.3 LAND TENURE.....	3
1.4 SUMMARY DESCRIPTION.....	3
2 EVALUATION AND OBJECTIVES.....	8
2.1 CONSERVATION STATUS.....	8
2.2 CRITERIA FOR EVALUATION.....	8
2.3 IDENTIFICATION OF IMPORTANT FEATURES.....	11
2.4 BIODIVERSITY ACTION PLAN ISSUES.....	12
2.5 OVERALL AIM FOR THE RESERVE.....	13
2.6 IDEAL LONG TERM MANAGEMENT OBJECTIVES.....	13
2.7 IMPACT ASSESSMENT.....	14
3 PRESCRIPTION AND ACTION.....	15
3.1 COMPARTMENTS.....	15
3.2 OTHER PROJECTS.....	19
3.3 FIVE YEAR WORK PROGRAMME.....	22
3.4 ANNUAL WORK PROGRAMME 2004-2005.....	24
4 ADVICE ON THE USE OF MANAGEMENT PLANS.....	26
FIGURES.....	27
APPENDIX 1: LIST OF PLANTS RECORDED FROM QUEENSWOOD ROAD NATURE RESERVE	30

Introduction

Queenswood Road Nature Reserve is a small urban nature reserve, located in Lower Sydenham, Lewisham, London. It is designated as a Site of Local Nature Conservation Importance and contains a range of habitats including secondary woodland, scrub, grassland and standing water. The site is known to support common lizards and a range of common birds, mammals and invertebrates. The reserve suffered from scrub invasion at the time of the original Management Plan being written, resulting in a loss of grassland habitat. Action has since been undertaken to restore this grassland habitat.

In agreement with Lewisham Council part of the site has been developed into a horticultural therapy project, known as ***Sydenham Garden***. This involved the loss of c.25% of the reserve area and includes the creation of a growing area, raised planters and the erection of a greenhouse. It is intended that an associated building and access road are also constructed on this site. In mitigation for this loss, the London Borough of Lewisham and ***Sydenham Garden*** have agreed that ***Sydenham Garden*** will take responsibility for managing the remaining part of the nature reserve.

Ecology Consultancy Ltd. were commissioned by the London Borough of Lewisham to produce a 5 year management plan for the site in November 2004. This plan is due to expire in November 2009 so ***Sydenham Garden*** have proposed a new 5 year plan, drawing on the existing plan, for the continued management of the nature reserve. The new plan contains much of the same information as the previous plan under the sections Site Development, Evaluations and Objectives and Advice on Using Management Plans (although updated where needed) as these sections are felt to be of value to staff implementing the new plan. The Prescriptions and Advice section has been renewed fully according to the continuing needs of the reserve and the management requirements, by Sydenham garden staff. The plan covers the period November 2009 - November 2014.

1 Site Description

1.1 General Information

Name:	Queenswood Road Nature Reserve
Area:	0.3ha
Grid reference:	TQ 361723 (centre of site)
District:	London Borough of Lewisham
County:	Greater London
Date acquired:	1988
Local Planning Authority:	London Borough of Lewisham
Maps:	1:50,000 Landranger Sheet 177 1:25,000 Pathfinder Sheet TQ27/37 British Geological Survey 1:50,000 Sheet 270
Contacts:	Nick Pond, LB Lewisham Ecological Regeneration Manager
Key natural features:	Mixed native and non-native broadleaved woodland Scattered trees Scrub Tall herb vegetation Semi improved neutral grassland Open water

1.2 Location

Queenswood Road Nature Reserve is located in Lower Sydenham, in the London Borough of Lewisham, south-east London. It lies between Queenswood Road and Wynell Road. To the south and west it is bordered by residential buildings and gardens. A bowling green and pavilion are found to the north. An area of lawn lies adjacent to the eastern edge of the reserve at the rear of Holland Drive (see figure 1).

A disused access track leads to the north-west corner of the site from Wynell Road and runs between houses and the bowling club car park. There is access through this car park and entrance through a gate in to the garden. In the south-east corner a triangular extension of the reserve leads to the access gate on Holland Drive. This is the main entrance for co-workers and visitors to **Sydenham Garden** and is for pedestrian access only. There are no public rights of way through the reserve and the site is staffed when open throughout the week. Access can be arranged through the **Sydenham Garden** office – tel. 0208 291 1650 or by emailing info@sydenhamgarden.org.uk

1.3 Land Tenure

The London Borough of Lewisham obtained the freehold for the site under a planning agreement from the developer of the adjacent housing estate in 1988. It has been managed as a nature reserve since this time. The land is leased to **Sydenham Garden** by the London Borough of Lewisham on a 25 year lease.

1.4 Summary description

1.4.1 Physical

Topography

Queenswood Road Nature Reserve lies on the eastern flank of a ridge of high ground that stretches from Honor Oak in the north, through Forest Hill to Crystal Palace. The reserve itself is fairly level and lies at about 45 metres O.D.

Geology

The reserve is situated in an area where Head Deposits – a mix of silt, sand, and clay with variable amounts of gravel – overly London Clay. However it is not clear to what extent these deposits occur within the reserve.

Hydrology

The site is relatively free draining and apart from an artificial pond there are no surface water features.

1.4.2 Biological

Habitats

Native and non-native broadleaved woodland is found along the southern, eastern and northern margins of the site. Of the trees found within this habitat, sycamore *Acer pseudoplatanus* is the most frequent. Ash *Fraxinus excelsior* also occurs and elm *Ulmus procera* forms dense thickets of suckers in some areas. A semi-mature pedunculate oak *Quercus robur* tree is located in the south-west corner, together with several young yew *Taxus baccata* trees. Some of the trees, such as pine *Pinus sp.* and Lawson's cypress *Chamaecyparis lawsonia*, are clearly of planted origin. In some areas an understorey is formed by snowberry *Symphoricarpos albus* and scattered elder *Sambucus nigra*. The field layer of these wooded areas is mainly dominated by bramble *Rubus fruticosus agg.*, ivy *Hedera helix*, nettle *Urtica dioica* and cow parsley *Anthriscus sylvestris*. Species such as lesser celandine *Ranunculus ficaria ssp. bulbifer*, cuckoo pint *Arum maculatum*, wood false-brome grass *Brachypodium sylvaticum* and sweet violet *Viola odorata* occur less frequently.

Scattered trees occur along the margins of the old track that leads from the north-western corner of the site. Again, most of these are sycamore, but ash, yew and elm are also found. Ivy occurs in abundance both on and below the trees. Work has been carried out here to transplant ground flora plants to elsewhere within the nature reserve and to remove a number of trees (in consultation with LBL Ecological Regeneration Officer Nick Pond and Sheila Yates) as preparation for the intended building construction project.

Scrub habitat occurs mainly within the north-eastern part of the site, where there is a thicket of wild plum *Prunus domestica* and cherry plum *P. cerasifera*, as well as occasional apple *Malus sylvestris*, goat willow *Salix caprea*, holly *Ilex aquifolium* and dog rose *Rosa canina agg.* Saplings of sycamore and ash are beginning to emerge through the scrub. The field layer is covered by ivy and cow parsley, with some wood avens *Geum urbanum* and garlic mustard *Alliaria petiolata* along the margins.

Another area of scrub is located in the central area of the site. This contains a mix of hawthorn *Crataegus monogyna*, dog rose, dogwood *Cornus sanguinea* and bramble. Again, ash and pedunculate oak saplings occur within the scrub.

Patches of scrub also occur along the site boundaries and are comprised of species such as bramble and elder, with occasional butterfly bush *Buddleja davidii*, goat willow, pedunculate oak and verbascum.

Tall herb vegetation dominated by nettle is found in an open area around the Holland Drive entrance. This habitat type also fringes the circular path in the north of the site, where it includes nettle, wood dock *Rumex sanguineus* and creeping thistle *Cirsium arvense*, as well as abundant Chinese mugwort *Artemisia verlotiorum*.

Semi-improved neutral grassland occurs in the south central part of the reserve, which is managed as a summer meadow. The dominant species here is false-oat grass *Arrhenatherum elatius*, with Yorkshire fog *Holcus lanatus* and rough stalked meadow grass *Poa trivialis* also occurring frequently. Creeping thistle is abundant, and becoming dominant in places, with goat's-rue *Galega officinalis* also common. Less frequent species include common toadflax *Linaria vulgaris*, hoary ragwort *Senecio erucifolius*, common vetch *Vicia sativa* and fodder burnet *Sanguisorba minor* ssp. *muricata*. Bramble *Rubus fruticosus*, is encroaching into the meadow and will need to be managed.

Standing water occurs in a large renovated pond in the north western area of the reserve. This contains common duckweed *Lemna minor*. A variety of wetland plants occur here and these include fool's water cress *Apium nodiflorum*, yellow flag *Iris pseudacorus*, water mint *Mentha aquatica* and white water lily *Nymphaea alba*. Other plants introduced purple loosestrife *Lythrum salicaria*. The pond is susceptible to blanket weed *Spirogyra adnate*.

Fauna

Reptiles and amphibians A reptile survey was undertaken in June 2003, during which only one common lizard was found near the derelict greenhouse. This suggests that there is a small relict population of this species within the

reserve and neighbouring gardens. It is thought that domestic cats could have an impact on the lizard population. Substantial populations of common frog and smooth newt have been established within the reserve.

Birds A systematic bird survey has not been carried out. However, members of Sydenham Garden regularly record species noted on the site (informally) and these include wood pigeon *Columba palumbus*, collared dove *Streptopelia decaocto*, blackbird *Turdus merula*, robin *Erithacus rubecula*, magpie *Pica pica*, wren *Troglodytes troglodytes*, chaffinch *Fringilla coelebs*, goldfinch *Carduelis carduelis*, London pigeon *Columba livia*, blue tit *Parus caeruleus*, long tailed tit *Aegithalos caudatus*, coal tit *Parus ater*, great tit *Parus major*, greater spotted woodpecker *Dendrocopos major*, starling *Sturnus vulgaris*, house sparrow *Passer domesticus*, dunnock *Prunella modularis*, jay *Garrulus glandarius*, song thrush *Turdus philomelos*. Blackcap *Sylvia atricapilla*, sparrowhawk *Accipiter nisus*, heron *Ardea cinerea* and ring necked parakeets *Psittacula krameri*, have also been recorded at the site.

Mammals Fox *Vulpes vulpes* populations have been recorded on the site. A bat survey, carried out in August 2009 revealed that no bats roost on the site.

Invertebrates Anthills of the yellow meadow ant *Lasius flavus* continue to develop within some of the grassland areas. Butterflies noted by Sydenham Garden members include speckled wood *Pararge aegeria*, gatekeeper *Pyronia tithonus*, painted lady *Vanessa cardui*, Peacock *Inachis io*, comma *Polygonia c-album*, common blue *Polyommatus icarus* and cabbage white *Pieris brassicae*. Other butterflies that have been recorded on the reserve include holly blue *Celastrina argiolus* and meadow brown *Maniola jurtina* (Archer and Yarnham 2000). Blue-tailed damselflies *Ishnura elegans* have been noted over the ponds during the summer months as well as Common Blue Damselflies *Enallagma cyathigerum*, Emperor dragonflies *Anax imperator* and broad bodied chaser *Libellula depressa*. Records for Stag Beetle *Lucanus cervus* exist within the vicinity of the site, and the reserve provides suitable habitat for this species. Both larval and adult forms of stag beetle have been recorded in the summer months of 2009.

1.4.3 Historical

Ordnance Survey plans dating from 1863 show that the site was once part of an orchard. It subsequently became part of the Wynnell Road Nursery.

2 Evaluation and Objectives

2.1 Conservation status

Queenswood Nature Reserve was designated as a Site of Local Importance for Nature Conservation by the former London Ecology Unit (Archer & Yarham 2000), and this designation has been adopted by the Greater London Authority (Greater London Authority 2002).

Sites of Local Importance are defined as those which are, or may be, of particular value to nearby residents or schools. These sites may already be used for educational purposes, or be run by management committees comprised of local people. They are especially important in areas otherwise deficient in wildlife sites, and are chosen to alleviate regions that have been highlighted as being Areas of Deficiency. Areas of Deficiency are defined as built-up areas more than one kilometre actual walking distance from an accessible Sites of Metropolitan or Borough Importance (Greater London Authority 2002). Only those sites that make a significant contribution to the ecology of an area are identified. There are a total of 20 Sites of Local Importance within the London Borough of Lewisham.

2.2 Criteria for Evaluation

The following criteria are those utilised by the Greater London Authority for the evaluation of nature conservation sites in Greater London. Although many of these criteria closely correspond with the criteria produced by the Nature Conservancy Council (based on the Ratcliffe Criteria), the GLA criteria are considered more appropriate for assessing sites in an urban context. The criteria are applied in the context of national and regional planning policy guidance on nature conservation and they take into the account the range of habitats and species found throughout Greater London and their importance for nature conservation.

2.2.1 *Representation*

None of the habitats within the reserve can be considered as the best examples of their type, either within London or the Borough of Lewisham.

2.2.2 Habitat Rarity

None of the habitats within the reserve are rare. Although only 2.5% of Lewisham is wooded, the sycamore dominated secondary woodland of Queenswood Nature Reserve is one of the most frequent types of woodland found within the Borough (outside of the ancient native broadleaved woodlands located in several parks). Grassland covers just under 4% of Lewisham's land area. Neutral grassland is the most common type due to the nature of the underlying geology, which mainly consists of London Clay. Although there are very few areas of standing open water within the Borough, the ponds within the reserve provide similar habitat to that found in garden ponds, which are not a rare habitat within this residential area.

2.2.3 Species Rarity

No rare or uncommon species have been recorded from the reserve. Common lizards are fairly widespread on the railsides throughout the Borough of Lewisham and the smooth newts and common frogs that inhabit the reserve are regular garden residents.

2.2.4 Habitat Richness

The reserve has a good range of habitats given its small size, and both terrestrial and aquatic habitats are represented. There is a good range of structural diversity, with graded edges between the areas of woodland, grassland and scrub being an evident feature.

2.2.5 Species Richness

The small size of the reserve limits the number of species that it can support. Nevertheless a good variety of plant and animal species occur at the site and it undoubtedly contributes to the overall biodiversity of the area.

2.2.6 Size

Queenswood Nature Reserve is currently 0.3 ha in size. Although small, it is of sufficient size to function as a viable conservation unit for most of the species with which it is associated, especially when taken in conjunction with adjacent garden areas. The use of 25% of the land for the Sydenham Garden Project has reduced the area devoted to nature conservation, although the horticultural area provides a habitat for some species. Small sites such as this are inevitably more vulnerable to disturbance.

2.2.7 *Important Populations of Species*

So far as it is known the reserve does not support any significant species populations, either in the context of the London Borough of Lewisham or of Greater London.

2.2.8 *Ancient Character*

Most of habitats present are of comparatively recent origin. Some of the trees and shrubs date back to the former use as a nursery site. Ordnance Survey plans dating from 1863 show that the site was once part of an orchard, and some of the fruit trees may be descendents of species planted at that time (e.g. apple, plum).

2.2.9 *Recreatability*

Although it would be relatively easy to recreate the habitats found within the reserve, it would take a number of years for newly created habitats to reach the stage of maturity of those that are currently present.

2.2.10 *Typical Urban Character*

Queenswood Road Nature Reserve supports habitats that are typical of sub-urban backlands, where many gardens are under-managed and as a result comparatively wild. With the threat to large gardens from infill development and the fashion for designer gardening, such features are however becoming less common.

2.2.11 *Cultural or historic character*

The reserve stands on the site of the former Wynnell Road Nursery, and the greenhouse was once used by members of the reserve's management committee to grow vegetables which were sold to raise money for the reserve (Archer and Yarnham 2000). The re-establishment of part of the reserve for use as a horticultural therapy project is therefore in keeping with historical uses. An old pump was restored in the past to supply the nursery with water, and still provides an interesting historical feature on the site. Since becoming a nature reserve in 1988 the reserve has had a history of local involvement, being used extensively by the local community.

2.2.12 *Geographic position*

The site is isolated from other nature conservation sites although it is contiguous with back gardens and the adjacent bowling green, which provide for some ecological connectivity. The location of the reserve near an Area of Deficiency has resulted in its designation as a Site of Local Importance for Nature

Conservation, providing an area of (relatively) accessible semi-natural wildlife habitat for the local community in a part of Lewisham where such sites are rare.

2.2.13 Access

The site is open for use by clients, volunteers and staff of Sydenham Garden 3 days a week and there is open public access one morning a week. The site is also open on the 1st and 3rd Saturdays each month (spring-autumn) and Sydenham Garden holds a number of public events each year during which the site is open. With the creation of the Sydenham Garden access and use of the site has been greatly increased.

2.2.14 Use

The site has a recent history of use as a community nature reserve for educational purposes. The development of *Sydenham Garden* on the site has meant that the site has experienced changes in use since 2004. The 25% of the site that is now used in the horticultural therapy project has undergone a complete change in use, and the rest of the reserve has experienced greater use by the local community for the enjoyment of nature and for conservation education. *Sydenham Garden* staff are present on site everyday and this allows increased use and appreciation of the site by members of the local community. *Sydenham Garden* also runs a number of Conservation and Ecology courses (accredited by the Open College Network) which increase the opportunities for education in this area for the local community.

2.2.15 Aesthetic appeal

The reserve provides a quiet and secluded green oasis, contrasting with the largely built-up nature of the surrounding residential area. The variety of habitats and the presence of attractive species such as butterflies and birds contribute to the appeal of the site.

2.3 Identification of Important Features

The importance of the features found within Queenswood Nature Reserve can be assessed on a variety of scales from international to local (see table 1 below). As reflected in its designation as a Site of Local Importance for Nature Conservation, the reserve as a whole is of importance in providing a wildlife site for the local community.

Table 1: Evaluation of Important Features

Site Features	Importance		
	International	National	Local
Habitats			
Woodland			London BAP
Species			
Plants			
Three-cornered garlic			Recorded from 0.25% of Greater London Tetrads in the Flora of the London Area (Burton 1983)
Ramson's			Recorded from 0.25% of Greater London Tetrads in the Flora of the London Area (Burton 1983)
Animals			
House sparrow		HR, W&C Act 1981, UK BAP	London BAP Lewisham BAP
Common lizard		W&C Act 1981	London BAP
Bats		HR, W&C Act 1981, UK BAP,	London BAP
Song thrush		W&C Act 1981, UK BAP	Lewisham BAP
Stag beetle		W&C Act 1981, UK BAP	London BAP Lewisham BAP

W&C Act 1981 – Wildlife & Countryside Act 1981 (as amended)

HR - Conservation (Natural Habitats, & c.) Regulations 1994

UK BAP - UK Biodiversity Action Plan

London BAP - London Biodiversity Action Plan

Lewisham BAP- Lewisham Biodiversity Action Plan

2.4 Biodiversity Action Plan Issues

The UK is a signatory to the Convention of Biological Diversity, which was formulated at the Earth Summit in Rio de Janeiro in 1992 and came into force in late 1993. As part of its commitment to the convention, the UK Government undertook to prepare a national biodiversity action plan, which it published in 1994 (UK Govt. 1994). Implementation and development of the action plan is being overseen by the Biodiversity Action Plan Steering Group and its various sub-committees, which include representatives from government, country conservation agencies, voluntary bodies and local authorities. In order to take the process forward a number of regional groups have also been formed to help formulate local biodiversity action plans (LBAPs). The London Biodiversity Partnership was formed in 1996, and has so far published the London

Biodiversity Action Plan Audit and two volumes of the London Biodiversity Action Plan (London Biodiversity Partnership 2000, 2002, 2003). The Lewisham BAP is currently in production and so far draft Action Plans have been produced for stag beetle, black redstart, rivers and streams, green roofs, song thrush, sparrows and a statement for railway linesides.

Song thrush, which has been recorded at the reserve, is a UK BAP priority species, having been included on the Short List of Globally Threatened/Declining Species. Stag Beetle is also included on the UK BAP Short List and is a London BAP priority species. Queenswood Road Nature Reserve has been identified as potentially harbouring this species. Mature trees on the reserve provide potential habitat for bats, which are listed as priority species on both the UK and London BAPs. Reptiles are listed as a priority species on the London BAP. Common lizard has been recorded within the reserve and therefore this species is an important consideration in the management of the site.

2.5 Overall Aim for the Reserve

‘To maintain and enhance the biodiversity value of the site, whilst meeting the needs of the local community in providing an area for the quiet appreciation of nature, education and horticultural therapy’

2.6 Ideal Long Term Management Objectives

1. To maintain existing areas of neutral grassland
2. To maintain existing areas of mature woodland and trees
3. To restore neutral grassland in areas of recent scrub invasion
4. To create and maintain a graded edge between grassland, scrub and woodland habitats
5. To maintain the pond habitat
6. To safeguard populations of notable plants and animals
7. To collect further ecological information on the site
8. To monitor the effects of management
9. To interpret the wildlife interest of the site for the local community
10. To further develop the use of the site for educational purposes

2.7 Impact Assessment

2.7.1 *Natural Trends*

The main natural trend occurring within the site is succession. Areas of grassland habitat are being colonised by shrubs and trees and developing towards scrub and woodland. Most of the central area of the reserve was managed in the past as a meadow, with regular mowing maintaining the grassland habitat. However the frequency and extent of mowing has decreased, leading to scrub encroachment. Without intervention the grassland habitat will eventually be replaced with woodland, and tree seedlings are already growing in some grassland areas.

2.7.2 *Human-induced Trends*

Over the duration of this Management Plan *Sydenham Garden* is likely to have a range of impacts on the reserve, including:

- Disturbance to wildlife during construction of the new building and access road.
- Increased usage of the reserve by the local community, which may result in increased disturbance of wildlife and trampling of pathways.
- An increase in population sizes of some species as a result of managing various habitats more effectively and undertaking conservation activity on the site in accordance with the management plan.
- An increased level of management on the reserve by volunteers and staff from *Sydenham Garden*.

3 Prescription and Action

3.1 Compartments

3.1.1 *Compartment 1: Native and non-native broadleaved woodland*

Rationale and Prescriptions

The woodland of this compartment provides habitat for birds, as well as potentially supporting stag beetles and bats. Management should ensure that enough of this habitat is retained to support and encourage these species. It also constitutes a valuable screen to the site, contributing to its quiet secluded ambience.

The woodland on the south side of the reserve should be maintained within its current boundaries.

Dead wood is an essential habitat for many species, especially invertebrates, bryophytes and fungi. The removal of dead wood and excessive 'tidying-up' which often takes place in woodlands, parks and gardens leads to relatively sterile conditions and takes away an essential part of the woodland ecosystem. It is therefore desirable to retain as much dead wood as possible within the woodland areas at the reserve. This should include wood of all types and sizes, from small branch wood to whole trunks or fallen trees. Standing dead trees should be allowed to remain wherever possible, as this provides a habitat for a different range of fauna, for example feeding and nesting opportunities for woodpeckers and other birds. However, standing dead wood can be a safety hazard and this consideration must always take precedence in areas of high public use. Consequently any trees which are in a demonstrably unsafe condition and are situated near paths, boundaries or other regularly used areas must be made safe. As an alternative to standing dead wood, 'stumperies' have been created along the path edge – burying upright logs of wood up to a third of their length underground, to emulate dead trees. These have been shown to attract stag beetles and other saprophytic insects.

Provision of bat and bird boxes may help to mitigate the loss of woodland habitat to horticultural use by providing alternative roosting and nesting sites. These should be erected on mature trees around the periphery of the site.

3.1.2 *Compartment 2: Scrub*

Rationale and Prescriptions

Scrub habitat covers most of the north-eastern part of the reserve. It also occurs in the centre of the site between the two ponds and along the fence line of the reserve boundary. Scrub provides an important habitat for birds and invertebrates, and creates a natural barrier between the reserve and surrounding residential buildings and gardens.

Scrub is encroaching into the grassland habitat in the central part of the reserve. If this continues the grassland will eventually be lost and will undergo natural succession to woodland. The spread of scrub therefore needs to be controlled and the extent of scrub in the central part of the reserve reduced.

The area of scrub in the north eastern section of the reserve remains very dense and relatively simple in structure and composition. It should therefore continue to be thinned to open up the canopy and increase ambient light levels in the understorey and field layer. Thinning should selectively favour species such as apple, goat willow, holly and ash at the expense of the dominant *Prunus* species.

All scrub clearance and thinning work should be done outside of the bird breeding season to avoid disturbance to nesting birds (i.e. outside the period March to July).

3.1.3 *Compartment 3: Holland Drive Entrance Area*

Rationale and Prescriptions

Nettle and other tall herb vegetation continue to dominate the area around the Holland Drive entrance. This is a habitat of limited ecological value and it would be desirable to develop this area as an additional meadow. Attempts in the past to achieve by introducing a regular cutting regime to the area, (strimming back the nettle on a monthly basis during the growing season to encourage the spread of grasses and other meadow species) have been only partially successful. A continued and committed approach to this cutting regime should eventually result in the reduction of nettle and increase in

meadow species. Once the nettle is sufficiently reduced in vigour/extent the cutting regime can be reduced to a twice annual cut, once in late spring/early summer (June) and again in late summer (August/September). All arisings (cuttings) should be raked up and placed in the horticultural centre compost heap. Some nettle should be retained around the margins as a foodplant for butterflies and other insects.

Replacement planting with native scrub species such as hawthorn, blackthorn, dog rose etc. should be undertaken along the southern margin of the area to fill the gaps left from previous failed plantings. This would partially compensate for the loss of scrub habitat to the development and provide security to neighbouring properties.

3.1.4 Compartments 4a and 4b: Central Meadow

Rationale and Prescriptions

The grassland area in the central part of the reserve provides a habitat for invertebrates such as butterflies and yellow meadow ant and supports a range of herbaceous plants. It is also likely to be an important habitat feature for common lizard and for amphibians. Future surveys of flora and fauna should be carried out to establish the biodiversity of this area (in order to up-date Appendix 1)..

The grassland area was more extensive in the past and was managed as a meadow by a regular mowing.

A regular mowing regime has been undertaken although not always at appropriate times and the diversity of meadow species has not increased as expected. This has also led to the continued invasion of the area by creeping thistle. The continuation of a regular and appropriately timed mowing regime is required to retain the area as grassland and to maximize plant diversity. The creeping thistle should also be repeatedly cut down at the base to weaken the roots and eventually prevent the spread of this species. To create structural diversity, a different mowing regime has been applied on different sections of the grassland and this should continue. Bramble *Rubus fruticosus*, is encroaching into the meadow from the scrub area behind and this should be pushed back to the boundary of the meadow,

3.1.5 **Compartment 5: Standing Water**

Rationale and Prescriptions

There is one artificially-lined pond on the site which was renovated under the previous management plan in winter 2007. This is a fish-free pond which provides additional habitat for the smooth newts and frogs that occur on site and for wetland invertebrates such as damselflies and dragonflies. Recent surveys indicate the presence of typical pond life such as pond skaters, great diving beetle, great silver beetle, water boatman, pond snail, Dragonfly larva, Ghost larva and bloodworm. Since its renovation, the pond and surrounding area have been planted with native species, including an area created as a bog garden.

Various aquatic plants were introduced to the pond such as *Stratiotes aloides*, *Typha latifolia*, *Elodea canadensis*, and *Nymphaea alba*. Marginals include *Juncus effusus* 'Spiralis', *Lythrum salicaria*, *Mimulus luteus*, *Iris pseudocorus* and *Peltandra virginica*. A bog garden was created to the west of the pond using special lining to draw the water over a slight mound. Bog plants were planted – including *Rodgersia aescuifolia*, *Darmera peltata*, *Gunnera manicata*, *Veronia spp*, and *Aruncus dioicus*. The beach area was planted with *Persicaria amphibia*, *Ajuga reptans* 'Catlins Giant', *Alchemilla mollis*, *Zantedeschia aethiopica* and *Primula rosea*. These plant species need to be surveyed again to check whether they all still survive. The management of the pond since 2007 has been primarily to remove blanket weed *Spirogyra adnate*, both manually and by the use of barley straw. This is an ongoing problem and one that will need to be managed over the next five years and beyond.

A mixed willow *Salix* spp. hedge was planted along the south border of the pond area – this is harvested on a yearly basis and used in willow making activities in the garden. A specimen Twisted Willow tree *Salix babylonica* var. *pekinensis* 'Tortuosa' is planted to the west of the bog garden. This is now growing into a large tree and can grow up to 9metres tall. It can be hard pruned or pollarded every 3 – 4 years (this has not yet been done).

The area around the pond is prone to invasion from Mugwort *Artemisia vulgaris*, Dock *Rumex obtusifolius*, nettles *Urtica dioica* and bramble *Rubus fruticosus*. These, along with grasses that are growing within the area need to be weeded constantly to allow the other plants to prosper.

As it is still relatively young, the pond has not yet silted up to such an extent that work has been needed. However, as it ages, it will succumb to debris from above and plants that die within the water and de-silting will be necessary. A quarter of the pond's bottom should be de-silted in the first year, allowing the rest to remain undisturbed. Another quarter should be tackled the following year and so on over a period of four years. This task should be undertaken between autumn and winter when most pond life is dormant.

The same is also true for the emergent plants in the pond and a similar programme should be followed as these plants establish.

A cob hut / bird hide was built and thatched at the south-east corner of the pond. This sustainable small building offers people a place to go and sit in the shade and quiet, whilst looking out over the pond area without disturbing the wildlife.

3.2 Other Projects

3.2.1 Reptiles and amphibians

Rationale and Prescriptions

Surveys undertaken in 2003 indicated that there is a small population of common lizards on the site. Creation of the horticultural area resulted in loss of a small area of lizard habitat and was offset by the creation of additional meadow habitat and scrub near the Holland Drive entrance.

There are some piles of rubble around the Holland Park entrance which were used in the construction of a hibernaculum for reptiles and amphibians within this area. This involved creating a pile of rubble and loose material in an oval shape around 2m long and 1m wide, running east to west to create a south facing slope. This has been left to naturally re-colonise with vegetation.

Reptiles and amphibians hibernate from November until March and care should be taken to avoid disturbance to them at this time. In particular removal of dead wood piles, rubble piles or of low growing vegetation should not be undertaken during the winter. During the rest of the year, grassland should not be mown below 4cm, to avoid injury to reptiles or amphibians. There was one sighting of a slow worm in May 2008 but as this was a rare occurrence it would be useful to create further habitats and to undertake specific reptile surveys in April/May or September (the use of corrugated iron sheets as shelters may be useful here).

3.2.2 Access and Interpretation

Rationale and Prescriptions

With the creation of the Sydenham Garden Project, the reserve is more accessible and is used to a greater extent by the local community. Access for pedestrians only will be maintained via the Holland Drive entrance. A new entrance will also be created from the horticultural area in the north. It is important that the reserve should provide for the needs of disabled people and this is reflected in the upkeep of the paths. The paths should be mown frequently to maintain a short sward, allowing wheelchair access. A new woodchip path has been constructed from the Holland Drive gate through the reserve into the garden (although the grass path through the meadow in Compartment 4 has been retained). The original plastic webbing became increasingly slippery and hazardous throughout the winter months as grass did not grow under the shade of the trees. This natural material will rot down over time (supporting saprophytic insects) and its use was agreed with the Lewisham Ecological Regeneration Officer. A boardwalk and bridge has been erected over the new pond.

Now the central area has been reverted back to grassland, provision of seating around this area aids enjoyment of the reserve by the public. A couple of seats have been provided at accessible points which receive a reasonable amount of sunshine and provide views across the grassland and pond area.

Now that the creation of the horticultural area and instigation of the new management regime within the reserve is underway, provision of an interpretation board near the main entrance for the garden project would be

useful in highlighting the wildlife features of the site to the public. This was in the previous plan but has not yet been implemented.

3.3 Five Year Work Programme

Project	Years in which project work will be undertaken				
	2009/10	2010/11	2011/12	2012/13	2013/14
Nature Area as a Whole					
Provision of interpretation board	✓				
Bi - Annual bat surveys		✓		✓	
Bird Surveys – take part in RSPB Annual Big Birdwatch	✓	✓	✓	✓	✓
Keep a public log book for anyone to write down wildlife sightings	✓				
Compartment 1 – Native and non-native broad leaved woodland					
Provision of bird and bat boxes in woodland and scrub habitats (numbered for easy recording and openable for cleaning)	✓		✓		✓
Compartment 2 - Scrub					
Thin scrub in north eastern section of reserve – in particular <i>Prunus spp</i> , <i>Fraxinus excelsior</i> and non-native species (<i>Acer pseudoplatanus</i>)	✓		✓		✓
Compartment 3 – Holland Drive Entrance Area (meadow)					
Remove thistles from meadow area between cuttings by cutting off at base	✓	✓	✓	✓	✓
Cut twice yearly – June and August	✓	✓	✓	✓	✓
Create reptile shelters from corrugated iron sheets – place in full sun but where not easily accessible – survey to see if successful in April/May or Sept	✓		✓		✓
Compartments 4a and 4b – Central Meadow					
Mow as per summer meadow – end of summer (August – September)	✓	✓	✓	✓	✓
Push back bramble to boundary of meadow (uproot during after mowing)	✓	✓		✓	

Project	Years in which project work will be undertaken				
	2009/10	2010/11	2011/12	2012/13	2013/14
Compartments 4a and 4b – Central Meadow (continued)					
Survey existing plants	✓		✓		✓
Survey – meadow sweep – for invertebrates	✓		✓		✓
Maintain cut grass path through middle of meadow	✓	✓	✓	✓	✓
Compartment 5 – Standing Water					
Remove blanket weed <i>Spirogyra adnate</i> on weekly basis during summer months(leaving debris on side of pond for upto a week) – manually / barley straw and remove large quantities at end of summer	✓	✓	✓	✓	✓
Weed around pond area, (Mugwort <i>Artemisia vulgaris</i> , Dock <i>Rumex obtusifolius</i> , nettles <i>Urtica dioica</i> and bramble <i>Rubus fruticosus</i> and grass) maintaining native species	✓	✓	✓	✓	✓
De-silt on four-yearly rotation		✓	✓	✓	✓
Occasional top up of water level during summer months	✓	✓	✓	✓	✓
Survey (pond dip) to establish biodiversity of pond	✓		✓		✓
Pollard <i>Salix babylonica</i> var. <i>pekinensis</i> ‘Tortuosa’ every 3 – 4 years	✓				✓
Education					
Offer accredited (eg ‘Understanding Ecology and Conservation) courses to co-workers and volunteers / public.		✓		✓	
Offer one-day activities (eg pond dipping) opportunities for co-workers / volunteers and the public	✓	✓	✓	✓	✓
Exhibit species from ponds / meadow etc at Sydenham Garden events	✓	✓	✓	✓	✓

Annual Work Programme 2009-2010

Project	Priority	Time of Year	Personnel	Number of person days
Nature Area as a Whole				
Provision of interpretation board	Med	Winter	All	2
Bird Surveys – take part in RSPB Annual Big Birdwatch	Low	Spring	Volunteers	1
Keep a public log book for anyone to write down wildlife sightings	Low	Provide immediately	All	Various
Compartment 1 – Native and non-native broad leaved woodland				
Provision of bird and bat boxes in woodland and scrub habitats (numbered for easy recording and openable for cleaning)	Med	Put up in autumn	Any	5
Compartment 2 - Scrub				
Thin scrub in north eastern section of reserve – in particular <i>Prunus spp</i> , <i>Fraxinus excelsior</i> and non-native species (<i>Acer pseudoplatanus</i>)	High	Winter	Any	3
Compartment 3 – Holland Drive Entrance Area (meadow)				
Remove thistles from meadow area between cuttings	High	July	Any	2
Cut twice yearly – June and August	High	June and August	Staff	1
Create reptile shelters from corrugated iron sheets – place in full sun but where not easily accessible – survey to see if successful	Med	Place in spring	Any	1
Compartments 4a and 4b – Central Meadow				
Mow as per summer meadow – end of summer (August – September)	High	August – September	Any	1
Push back bramble to boundary of meadow (uproot during after mowing)	High	September – October	Any	2
Survey existing plants	Low	Summer	Any	1

Project	Priority	Time of Year	Personnel	Number of person days
Survey – meadow sweep – for invertebrates	Low	Summer	Any	1
Maintain cut grass path through middle of meadow	High	Monthly through summer	Any	2
Weed around pond area, maintaining native species	High	Spring – Summer – Autumn	Any	3
Occasional top up of water level during summer months	Low	Summer	Any	2
Survey (pond dip) to establish biodiversity of pond	Low	Summer	Any	1
Pollard <i>Salix babylonica</i> var. <i>pekinensis</i> 'Tortuosa'	High	Winter	Staff / tree surgeon	1
Education				
Offer one-day activities (eg pond dipping) opportunities for co-workers / volunteers and the public	Low	Spring / summer	All	2
Exhibit species from ponds / meadow etc at Sydenham Garden events	Med	Fairs	Volunteers	2

4 Advice on the use of management plans

Any management plan is only as good as the people who use it and their commitment to review and monitor their success in achieving its agreed aims. This plan should be frequently referred to by any person having influence on the land management of the site. It should be the basis of all site works so that an agreed plan is followed. It should be freely accessible to anyone who wishes to read it and used to widen awareness and understanding of why things are done the way they are. If schools do use the site, the species list and habitat descriptions within the plan can be used as an educational tool for lessons and for surveys.

Fixed point photographs and dated and mapped sightings are useful in recording the changes in character and wildlife of the site. These should be combined with an annual review of the plan, including an assessment of how successful the land management has been with respect to the plans stated aims and objectives. This process will allow the management plan to evolve and be kept up to date. At the end of the five year plan period, a more thorough review should be carried out, possibly by employing an ecologist to carry out a re- survey of the site and undertake a re-assessment of the plans aims, objectives and prescriptions.



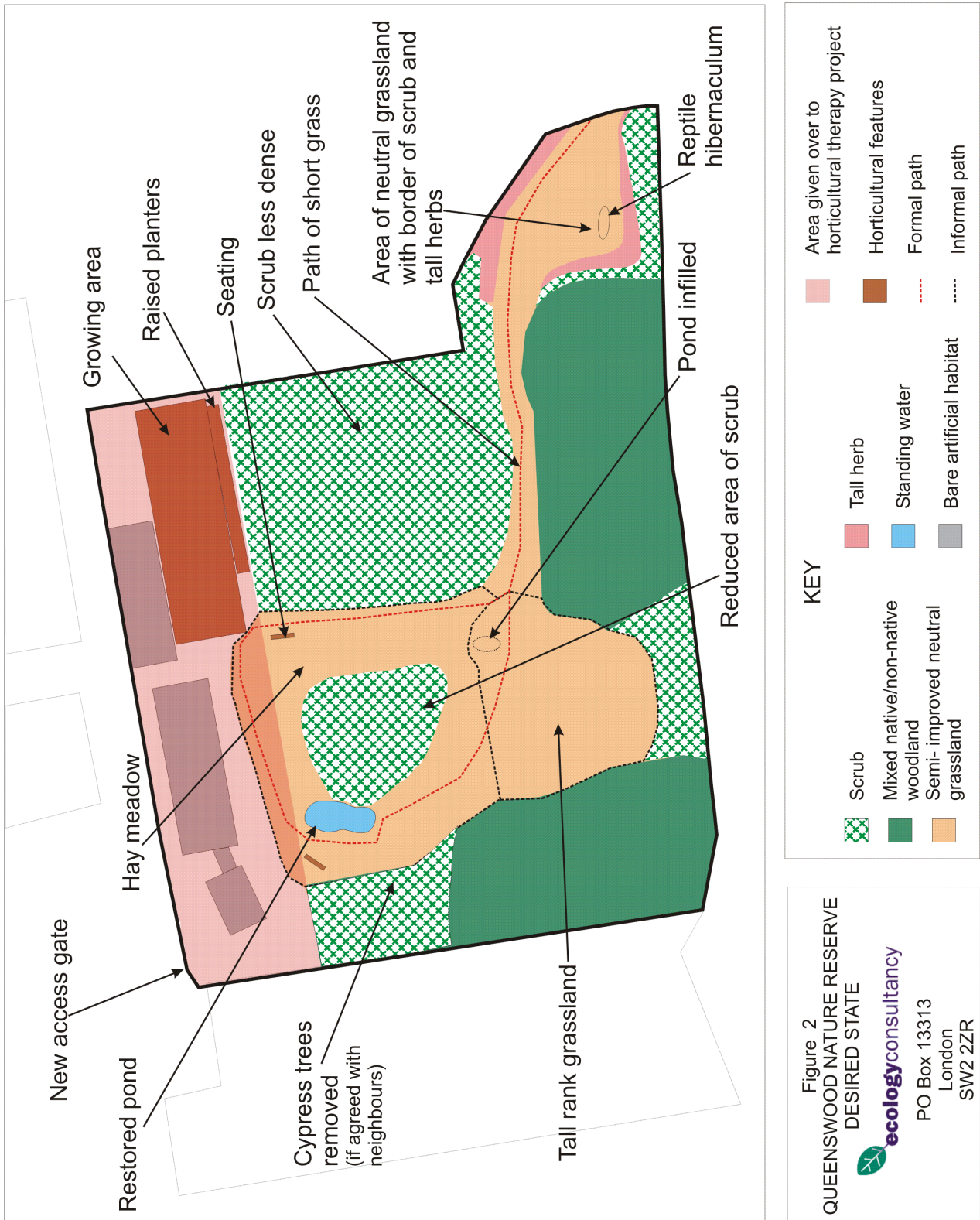


Figure 2
 QUEENSWOOD NATURE RESERVE
 DESIRED STATE

 ecologyconsultancy
 PO Box 13313
 London
 SW2 2ZR

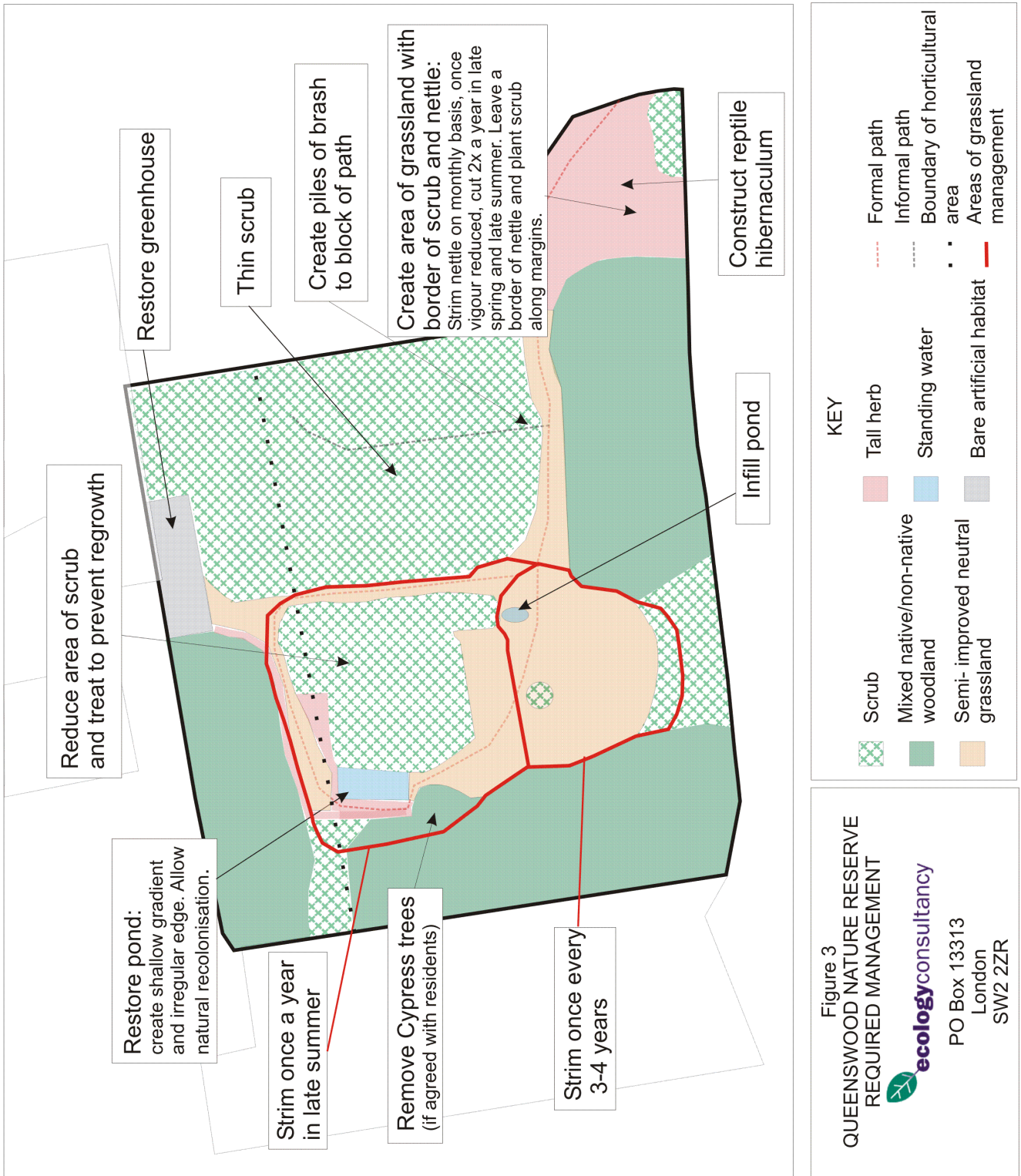


Figure 3
 QUEENSWOOD NATURE RESERVE
 REQUIRED MANAGEMENT



PO Box 13313
 London
 SW2 2ZR

Appendix 1: List of Plants Recorded from Queenswood Road Nature Reserve

Scientific name	Common name	Abundance	Habitat
<i>Acer pseudoplatanus</i>	Sycamore	A	Scattered trees and woodland
<i>Aegopodium podagraria</i>	Ground elder	O	Woodland/scrub margins
<i>Aesculus hippocastanum</i>	Horse chestnut	R	Seedlings
<i>Agrostis gigantea</i>	Black bent	R	Grassland
<i>Agrostis stolonifera</i>	Creeping bent	F	Grassland
<i>Ajuga reptans</i> 'Catlins Giant'	Bugle	LR	Pond
<i>Alliaria petiolata</i>	Garlic mustard	F	Woodland/scrub margins
<i>Alchemilla mollis</i>	Lady's mantle	LR	Pond
<i>Allium triquetrum</i>	Three-cornered garlic	R	Under trees along the track from Wynell Road
<i>Allium ursinum</i>	Ramson's	R	Under trees along the track from Wynell Road
<i>Anisantha sterilis</i>	Barren brome	F	Grassland, woodland/scrub margins
<i>Anthriscus sylvestris</i>	Cow parsley	A	Woodland/scrub
<i>Apium nodiflorum</i>	Fool's water-cress	O	Pond
<i>Arrhenatherum elatius</i>	False-oat grass	A	Grassland
<i>Artemisia verlotiorum</i>	Chinese mugwort	F	Tall herb
<i>Artemisia vulgaris</i>	Mugwort	R	Grassland
<i>Arum maculatum</i>	Cuckoo pint	O	Woodland, scattered trees
<i>Aruncus dioicus</i>	Goatsbeard	LR	Pond
<i>Aster sp.</i>	Michaelmas daisy	O	Grassland
<i>Atriplex prostrata</i>	Spear-leaved orache	R	Disturbed ground
<i>Brachypodium sylvaticum</i>	Wood false-brome	R	Woodland
<i>Buddleja davidii</i>	Butterfly bush	O	Scrub
<i>Calystegia sepium</i>	Hedge bindweed	O	Woodland/scrub margins
<i>Calystegia silvatica</i>	Large bindweed	O	Woodland/scrub margins, tall herb
<i>Cirsium arvense</i>	Creeping thistle	A	Grassland, tall herb
<i>Cirsium vulgare</i>	Spear thistle	O	Tall herb
<i>Clematis sp.</i>	Clematis	R	Grows over fence
<i>Convolvulus arvensis</i>	Field bindweed	O	Grassland
<i>Cornus sanguinea</i>	Dogwood	O	Scrub
<i>Crataegus monogyna</i>	Hawthorn	F	Scrub, woodland
<i>Dactylis glomerata</i>	Cocksfoot	O	Grassland
<i>Darmera peltata</i>	Umbrella plant	LR	Pond
<i>Dryopteris filix-mas</i>	Male fern	R	Inside greenhouse
<i>Elodea canadensis</i>	Canadian waterweed	LF	Pond
<i>Elytrigia repens</i>	Couch	R	Grassland
<i>Epilobium ciliatum</i>	American willowherb	R	Disturbed ground
<i>Epilobium hirsutum</i>	Great willowherb	O	Pond
<i>Epilobium montanum</i>	Broad-leaved willowherb	R	Woodland/scrub margins
<i>Epilobium parviflorum</i>	Hoary willowherb	R	Woodland/scrub margins
<i>Epilobium tetragonum</i>	Square-stalked willowherb	R	Woodland/scrub margins
<i>Euphorbia peplus</i>	Petty spurge	O	Disturbed ground
<i>Fragaria x ananassa</i>	Garden strawberry	R	Inside greenhouse
<i>Fraxinus excelsior</i>	Ash	A	Trees and saplings in woodland and scrub
<i>Galega officinalis</i>	Goat's rue	F	Grassland

Scientific name	Common name	Abundance	Habitat
<i>Galium aparine</i>	Cleavers	F	Woodland, scrub, tall herb
<i>Geranium dissectum</i>	Cut-leaved crane's-bill	O	Grassland
<i>Geranium robertianum</i>	Herb robert	O	Woodland, scrub
<i>Geum urbanum</i>	Wood avens	F	Woodland, scrub
<i>Gunnera manicata</i>	Gunnera	LR	Pond
<i>Hedera helix</i>	Ivy	A	Woodland, scrub, scattered trees
<i>Holcus lanatus</i>	Yorkshire fog	F	Grassland
<i>Hyacinthoides hispanica</i>	Spanish bluebell	O	Scattered trees
<i>Ilex aquifolium</i>	Holly	O	Scrub
<i>Iris pseudacorus</i>	Yellow flag	O	Pond
<i>Jasminum sp.</i>	Jasmine	R	Planted shrub
<i>Juncus effusus</i>	Soft rush	R	Pond
<i>Juncus effusus</i> 'Spiralis'	Spiral rush	LR	Pond
<i>Kerria japonica</i>	Kerria	R	Woodland
<i>Lamium album</i>	White dead-nettle	O	Woodland/scrub margins
<i>Lamium purpureum</i>	Red dead-nettle	O	Disturbed ground
<i>Lapsana communis</i>	Nipplewort	R	Woodland/scrub margins
<i>Laurus nobilis</i>	Bay	R	Planted shrub
<i>Lemna minor</i>	Common duckweed	LD	Pond
<i>Leontodon autumnalis</i>	Autumn hawkbit	R	Grassland
<i>Ligustrum ovalifolium</i>	Garden privet	O	Scrub
<i>Linaria vulgaris</i>	Common toadflax	O	Grassland
<i>Lythrum salicaria</i>	Purple loosestrife	LR	Pond
<i>Lolium perenne</i>	Perennial ryegrass	F	Grassland, especially on paths
<i>Lonicera sp.</i>	Honeysuckle sp,	R	On fence by entrance gate
<i>Malus domestica</i>	Apple	F	Scrub, woodland
<i>Mentha aquatica</i>	Water mint	O	Pond
<i>Mimulus luteus</i>	Yellow monkey musk	LR	Pond
<i>Myosotis sylvatica</i>	Wood forget-me-not	R	Woodland, scrub
<i>Narcissus pseudonarcissus</i>	Cultivated daffodil	R	Woodland, scrub
<i>Nymphaea alba</i>	White water-lily	R	Pond
<i>Oxalis corniculata</i>	Procumbent yellow sorrel	O	Inside greenhouse
<i>Peltandra virginica</i>	Green Arrow Arum	LR	Pond
<i>Persicaria amphibia</i>	Amphibious bistort	LF	Pond
<i>Persicaria maculosa</i>	Redshank	O	Disturbed ground
<i>Plantago major</i>	Great plantain	O	Grassland, especially on paths
<i>Poa annua</i>	Annual meadow-grass	F	Disturbed ground, grassland, especially on paths
<i>Poa pratensis</i>	Smooth-stalked meadow-grass	O	Grassland
<i>Poa trivialis</i>	Rough-stalked meadow-grass	F	Grassland
<i>Primula rosea</i>	Primula	LR	Pond
<i>Prunella vulgaris</i>	Self heal	R	Grassland
<i>Prunus cerasifera</i>	Cherry plum	O	Scrub, woodland
<i>Prunus domestica</i>	Wild plum	A	Scrub
<i>Prunus sp.</i>	Prunus species	R	Scrub
<i>Pyracantha sp.</i>	Firethorn	R	Scrub/woodland margins
<i>Quercus ilex</i>	Holm oak	R	Woodland
<i>Quercus robur</i>	Pedunculate oak	O	Woodland, scrub

Scientific name	Common name	Abundance	Habitat
<i>Ranunculus acris</i>	Meadow buttercup	O	Grassland
<i>Ranunculus ficaria ssp. bulbifera</i>	Lesser celandine	O	Woodland
<i>Ranunculus repens</i>	Creeping buttercup	F	Grassland
<i>Rodgersia aescufolia</i>	Rodgersia	LR	Pond
<i>Rosa canina</i>	Dog rose	O	Scrub
<i>Rosmarinus officinalis</i>	Rosemary	R	Planted relic near greenhouse
<i>Rubus fruticosus agg.</i>	Bramble	A	Scrub, woodland
<i>Rumex crispus</i>	Curled dock	R	Grassland
<i>Rumex obtusifolius</i>	Broad-leaved dock	O	Grassland
<i>Rumex sanguineus</i>	Wood dock	O	Scrub/woodland margins, grassland
<i>Salix babylonica var. pekinensis</i> 'Tortuosa'	Twisted Willow	LR	Pond
<i>Salix caprea</i>	Goat willow	O	Scrub
<i>Salix fragilis</i>	Crack willow	R	Coppiced tree near pond
<i>Sambucus nigra</i>	Elder	O	Woodland, scrub
<i>Sanguisorba minor ssp. muricata</i>	Fodder burnet	R	Grassland
<i>Senecio erucifolius</i>	Hoary ragwort	O	Grassland
<i>Senecio jacobaea</i>	Ragwort	O	Grassland
<i>Senecio squalidus</i>	Oxford ragwort	R	Disturbed areas
<i>Sisymbrium officinale</i>	Hedge mustard	O	Scrub/woodland margins
<i>Solanum dulcamara</i>	Bittersweet	R	Scrub/woodland margins
<i>Solanum tuberosum</i>	Potato	R	Tall herb
<i>Solidago canadensis</i>	Canadian goldenrod	O	Grassland
<i>Sonchus oleraceus</i>	Smooth sow-thistle	R	Disturbed areas
<i>Spirogyra adnate</i>	Blanketweed	LF	Pond
<i>Stachys sylvatica</i>	Hedge woundwort	O	Scrub/woodland margins
<i>Stellaria media</i>	Chickweed	R	Woodland, scrub, disturbed areas
<i>Stratiotes aloides</i>	Water soldier	LF	Pond
<i>Symphoricarpos albus</i>	Snowberry	O	Woodland
<i>Taraxacum officinale agg.</i>	Dandelion	F	Grassland
<i>Taxus baccata</i>	Yew	O	Woodland
<i>Trifolium repens</i>	White clover	F	Grassland
<i>Tussilago farfara</i>	Coltsfoot	R	Grassy slope
<i>Typha latifolia</i>	Common bulrush	LF	Pond
<i>Ulmus procera</i>	English elm	O	Woodland, scrub
<i>Urtica dioica</i>	Nettle	D	Tall herb, woodland
<i>Verbascum thapsus</i>	Great mullein	O	Grassland
<i>Veronica hederifolia</i>	Ivy-leaved speedwell	O	Woodland, scrub
<i>Vicia sativa</i>	Common vetch	O	Grassland
<i>Viola odorata</i>	Sweet violet	R	Woodland, scrub
<i>Vitis vinifera</i>	Grape-vine	R	By greenhouse
<i>Zantedeschia aethiopica</i>	Arum lily	LR	Pond

DAFOR Scale: This provides an estimate of the relative abundance of each species recorded, whereby D = Dominant; A = Abundant; F = Frequent; O = Occasional and R = Rare. Prefix L denotes that plant is localised e.g. LA = Locally abundant.

