Biodiversity Management Plan: Boggart Hole Clough, Blackley, Manchester

Prepared for and on behalf of:

Green City Project Officer

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Introduction

Manchester City Council has a clear commitment to enhancing the conservation value and other interests at Boggart Hole Clough. However, this is a long-term undertaking, which will realistically only be achieved by careful, sensitive management over an extended period. To enable this management to be efficient and effective, it is essential to set some realistic goals; this Biodiversity Management Plan for Boggart Hole Clough identifies the biodiversity of the site, sets out what conservation management is required and how it should be progressed.

Objectives for important conservation features within this plan are compatible with those being developed for other sites such as Local Nature Reserves, country parks and SSSIs, throughout the country. Objectives for Boggart Hole Clough Park follow the approach used by Natural England and other country agencies. It is important that there is comparability in any objectives used, especially where these are to be used for monitoring or reporting on habitat condition; this allows progress to be measured on things such as Biodiversity Action Plans at national and local levels.

This is the first Biodiversity Management Plan for Boggart Hole Clough, Blackley.

The report relates solely to the areas of land that make up Boggart Hole Clough as indicated on the map attached at Appendix I.

The format of this plan has been developed to meet the specific needs of all those involved in current and future site management and particularly site management staff of Manchester Leisure, Manchester City Council and other bodies involved in management of the habitats on site such as Boggart Hole Clough Community Action Trust.

The information in this document has been drawn from a number of sources, including:

1. Site surveys by Tabatha Boniface
3. Greater Manchester Ecology Unit’s Site of Biological Importance (SBI) description for Boggart Hole Clough
4. The Ancient Woodland Inventory
5. UKBAP
6. GMBAP
7. Manchester’s Biodiversity Strategy

Personnel

Patrick Waring is a Chartered Environmentalist and a full member of the Institute of Ecology and Environmental Management, with a Bachelor of Science degree in Biology. He has been working as an ecological consultant for over nine years, most recently as Director of Ecology Services UK Limited. On behalf of statutory bodies, non-governmental organisations, commercial bodies and individuals, he advises on ecological matters relating to habitats and protected species, particularly in relation to development proposals. He has extensive experience of a range of survey, monitoring, condition assessment and impact assessment techniques; these include bat surveys and assessments.
Tabatha Boniface is a full member of the Institute of Ecology and Environmental Management and has a Bachelor of Science degree in Conservation Biology. She has been working in the conservation field for seven years completing various conservation related projects including habitat surveying and assessment of sites in relation to their nature conservation importance. She has also been employed as the Biodiversity Officer for Greater Manchester and as a Conservation Officer for English Nature providing statutory advice on nature conservation.

Acknowledgements

The following individuals provided assistance during the production of this document Jon Follows, Cath Dewhurst, Mandy Elford at Greater Manchester Ecology Unit.
1. Methods

Methodology of Field Survey

Site visits took place in May 2007, during which time the vegetation and habitats of the whole site were surveyed on foot. A walk was made around the boundary of the site and then the area was criss-crossed on foot to ensure a thorough coverage.

Habitats were described in terms of biodiversity broad and priority habitats. (Priority habitats are now referred to as Habitats of Principal Importance but for ease of use we refer to them as Priority Habitats in this document).

As the fieldwork was carried out early in the year, some late flowering vascular plant species may not have been evident during the survey.


A variety of information provided by Manchester Leisure and GMEU (listed previously) was consulted during this survey. It should be noted however that this exercise did not include a review of all data relevant to the site that may exist and be held by other bodies and individuals; such as from Biological Records Centres.
2. Site Description and Evaluation

The land comprising Boggart Hole Clough falls within an urbanised area of Blackley, north west of Manchester City Centre. The site contains Oliver Clough and Boggart Hole Clough as well as areas of amenity grassland, lakes, an athletics track and recreation areas. The site boundary is marked on the map at Appendix I.

There is one protected wildlife site, Boggart Hole Site of Biological Importance (Grade C SBI) within the site boundary, but there are no other protected sites such as Sites of Special Scientific Interest (SSSI) within the Park boundary. There is also one other SBI north of the site, Bailey’s Wood which also contains a fragment of semi-natural clough woodland behind the hospital. (See map at Appendix II). This is an important landscape connection to the woodland at Boggart Hole Clough. In addition, an area of greenspace borders Boggart Hole Clough site boundary to the east. The conservation value of all these sites is increased as together they safeguard a large area of urban greenspace and provide important landscape connections in a highly urbanised area of the borough.

The habitats at Boggart Hole Clough site comprise areas of lowland mixed deciduous clough woodland, plantation woodland, scrub, open semi-improved neutral grassland, marshy grassland, amenity grassland, streams and waterbodies. Boggart Hole Brook runs through the site and a small stream runs through Oliver Clough. A network of formal paths and desire lines cross the Park. The habitats are mapped at Appendix IV.

Woodland

Lowland Mixed Deciduous Woodland

The majority of the Boggart Hole Clough site is taken up by lowland mixed deciduous woodland around the cloughs that run through the site. A large proportion of this has been classified as Ancient Semi-Natural Woodland in the 1989 Ancient Woodland Inventory (see map at Appendix III). However, it would appear that there is a mix of semi-natural ancient woodland, semi-natural secondary woodland and plantation woodland on the ancient woodland site. As such the woodland habitat varies in character throughout the site and has been greatly influenced by ornamental park planting schemes over the years. This has led to a wider variety of tree species within the woodland areas than would be expected from semi-natural woodland, many of which are non-native species.

Canopy species comprise ash Fraxinus excelsior, alder Alnus glutinosa, pedunculate oak Quercus robur, sycamore Acer pseudoplatanus, beech Fagus sylvatica, crack willow Salix fragilis and goat willow S. caprea, rowan Sorbus aucuparia, downy Betula pubescens and silver birch B. pendula with occasional non-native species including field maple Acer campestre, cherry Prunus spp, oak species Quercus spp, Norway maple Acer platanoides, horse chestnut Aesculus hippocastanum and lime Tilia sp. In places, particularly along Oliver Clough, the understorey is dominated by ash regeneration which is a typical component of natural regeneration in native broadleaved woodlands.
The ground flora is generally sparse with only a scattering of plants that tend to indicate stable, long established woodland conditions. These species include bluebells *Hyacinthoides non-scripta*, ramsons *Allium ursinum*, lesser celandine *Ranunculus ficaria* and enchanter’s nightshade *Circaea lutetiana*. Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera*, cherry laurel *Prunus larocerasus* and rhododendron *Rhododendron ponticum* are invasive non-native species that occur throughout the woodland. The south side of Oliver Clough and large areas of Boggart Hole Clough have a greater prevalence of beech in the canopy and rhododendron underneath. This has resulted in large areas where there is little or no ground flora. The majority of the woodland is akin to lowland mixed deciduous woodland, although there are stands of woodland in flushed areas with a prevalence of crack willow; these show affinities to wet woodland habitats.

**Significance of Lowland Mixed Deciduous Woodland at Boggart Hole Clough**

“Lowland mixed deciduous woodland” has been listed a Priority Habitat by DEFRA in December 2002. However, as yet the UK Biodiversity Action Plan (UKBAP) Group has not produced a national Biodiversity Action Plan (BAP) for this habitat.

“Lowland Broadleaved Woodland” is a priority habitat in The Greater Manchester Biodiversity Action Plan and the Manchester Biodiversity Strategy includes several actions affecting parks and lowland broadleaved woodland.

Some areas of the plantation woodland at Boggart Hole Clough are beginning to develop an understorey of native species through natural regeneration. With management these areas may develop into the above biodiversity priority habitats in time.

Some pockets of woodland at Boggart Hole Clough are developing characteristics of Wet Woodland. Wet woodland is a UKBAP Priority habitat.

Mature trees and woodland are important breeding and foraging areas for birds and bats. Breeding Greater spotted woodpecker was identified during field study and an ash tree to the west of the site was noted as having good potential as a bat roost. Other trees within the park are likely to provide such opportunities. Bat and bird boxes have also been hung on several trees around the park.

Bats and their roosts are protected by European legislation and a licence is required if disturbance or destruction of a roost is likely to take place. Certain bat species are UKBAP Priority Species such as Pipistrelle bat *Pipistrellus pipistrellus* which is highly likely to be found foraging over Boggart Hole Clough if not roosting on site. Bats are a Priority Species in the GMBAP and Pipistrelle bat has been highlighted as occurring in Manchester in the Manchester Biodiversity Strategy. Birds are protected during the nesting season between March and August. These issues could have significant consequences for woodland and tree management at Boggart Hole Clough. Full consideration of any impacts of park management on bats and birds needs to be made, and all safeguards taken, prior to commencing any such works.
**Plantation Woodland**

Within the woodland blocks are several areas that are characteristic of plantation woodland. These include single species dominated areas within the existing woodland as well as plantation areas including broadleaved, and conifer tree species and shrubs on previously unwooded areas. The areas of beech dominated woodland are also likely to be older plantations.

**Significance of Plantation Woodland at Boggart Hole Clough**

The plantation of tree species in the existing semi-natural woodland (and on what is believed to be an ancient woodland site) at Boggart Hole Clough has actually led to a reduction in the biodiversity value of the semi-natural woodland through the introduction of non-native or locally uncharacteristic species. However, plantations around the perimeter of the site, on formerly unwooded areas, have provided additional scrub and woodland habitat.

Plantations often have only limited value for biodiversity; this can be improved by managing them to develop characteristics more akin to locally native woodland. Managing plantations by increasing the proportion of species characteristic of local woodland types, and managing them to encourage natural woodland processes may lead to new lowland broadleaved woodland (a UK and GMBAP Priority habitat) being created.

As with other woodland areas, plantations may support bat roosts and nesting birds. In these cases, the same restrictions apply as with Lowland Mixed Deciduous Woodland as described above.

**Scrub**

Scrub is developing naturally on some areas of former grassland and plantation areas have included scrub species such as hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, blackthorn *Prunus spinosa*, guelder rose *Viburnum opulus* and hazel *Corylus avellana*.

On the whole the scrub appears to be unmanaged except where neighbouring grassland is mown. In the absence of management, areas of scrub have the potential to develop semi-natural characteristics.

**Significance of Scrub at Boggart Hole Clough**

Scrub is included within the UKBAP Priority habitat of “Lowland Mixed Deciduous Woodland”.

This habitat provides a food source and breeding habitat for a wide range of species, which is particularly important given the location of Boggart Hole Clough in a highly urbanised setting.
Grassland

Improved Grassland

A large proportion of the grassland at Boggart Hole Clough is improved grassland which is regularly mown to maintain recreational areas. This short sward has little value to biodiversity as the management leads to species-poor grassland with little structure. Improved grassland is dominated by perennial rye-grass *Lolium perenne* and contains species resistant to regular cutting and nutrient enrichment from arisings including broadleaved plantain *Plantago major*, daisy *Bellis perennis*, creeping buttercup *Ranunculus repens*, broadleaved dock *Rumex obtusifolius* and dandelion *Taraxacum agg*.

Semi-Improved Grassland

The majority of the grassland not managed for amenity use is characteristic of semi-improved neutral grassland comprising dominant red fescue *Festuca rubra*, frequent sweet vernal grass *Anthoxanthum odoratum*, meadow foxtail *Alopecurus pratensis*, occasional perennial rye-grass *Lolium perenne*, crested dog’s tail *Cynosurus cristatus*, cock’s foot *Dactylis glomerata* and Yorkshire fog *Holcus lanatus*. Common vetch, *Vicia sativa*, common sedge *Carex nigra*, meadow vetchling *Lathyrus pratensis*, ribwort plantain *Plantago lanceolata*, common sorrel *Rumex acetosa*, red clover *Trifolium pratense*, cuckoo flower *Cardamine pratensis* and meadow buttercup *Ranunculus acris* were also present.

Several areas of grassland (indicated as semi-improved neutral grassland on the map at Appendix IV) already appear to be managed sympathetically to enhance its biodiversity value; they are left longer during the summer months and appear to be mown infrequently to encourage a more natural meadow wild flora. The large meadow area adjacent to the playing fields is the most species-rich of these grasslands. The species contained within these areas indicate that locally characteristic species are colonising these grasslands naturally over time which increases the importance of this habitat.

Marshy Grassland

Marshy grassland occurs south of the athletics track and within areas of woodland where flushes produce this type of habitat. The marshy grassland near the athletics track is dominated by Yorkshire fog with frequent/locally dominant Canary reed-grass *Phalaris arundinacea*, soft rush *Juncus effusus*, common sedge, sweet vernal grass, red fescue and hairy willowherb *Epilobium hirsutum*.

Several tree saplings have been planted within the marshy grassland; species include alder, willow, cherry and guelder rose.
Significance of Grassland at Boggart Hole Clough

Improved grassland is included in the Broad habitat “Neutral grassland”. It has the potential to be managed in such a way as to increase its biodiversity value.

The UKBAP recognises the potential for semi-improved grassland to be restored to a more species-rich habitat. Semi-improved neutral grassland is included in the UK Broad habitat “Neutral grassland”. The grassland at Boggart Hole Clough could be managed in such a way as to increase its species diversity through natural colonisation which would bring it towards the “Lowland Meadows” Priority Habitat. Current management appears to be working towards this outcome and should be continued.

Marshy grassland is a GMBAP Priority Habitat. However, the planting of tree species within one of these areas of grassland is likely to reduce its value over time.

The grassland habitats are an important food source and breeding habitat for a wide range of insect and bird species. Where grassland is left longer the structure provides important habitats for small mammals and amphibians.

Lakes – Standing Open Water

Two lakes are found at Boggart Hole Clough. These are a boating lake and a fishing lake.

1. The boating lake has an island in the middle which is wooded. There is no emergent vegetation in the lake which is likely to be due to the presence of and consequent disturbance from Canada geese and other waterfowl.

2. The fishing lake is adjacent to the boating lake separated by a formal path. A line of plantation woodland borders the lake on its northern side. Canada geese are also found on this lake when not disturbed by fishermen.

Significance of Lakes – Standing Open Water at Boggart Hole Clough

Lakes are included within the UK Broad habitat of “Standing Open Waters and Canals”. These amenity lakes do not fall within any Priority Habitat under the UK BAP although the do fall within the “Ponds & Lodges” Habitat Action Plan in the GMBAP.

Their significance could be improved through sympathetic management to encourage plant species to develop. However, this is likely to be difficult given the regular disturbance from fishing, waterfowl and amenity use. It is possible they could be important for bat species that may forage over the area and their proximity to trees and shelter could prove important for amphibian species.
Rivers & Streams

Boggart Hole Brook runs through Boggart Hole Clough and a spring runs through Oliver Clough. These did not hold a great deal of water at the time of field study, but this may increase in wetter periods. Himalayan balsam occurs in large patches along Boggart Hole Brook, particularly at the western end of the site. However other, more desirable species do occur occasionally along the watercourses including ramsons and lesser celandine. In general a mosaic of dense scrub and open grassland surrounds the brook.

Significance of Rivers & Streams at Boggart Hole Clough

Streams are included within the UK Broad habitat of “Rivers & Streams”. At Boggart Hole Clough this is an additional habitat for a range of species.

Additional Biodiversity Features

During field study several bird species were noted:

- Blue tit \textit{Parus caeruleus}
- Wren \textit{Troglodytes troglodytes}
- Jay \textit{Garrulus glandarius}
- Blackbird \textit{Turdus merula}
- Great Tit \textit{Parus major}
- Carrion crow \textit{Corvus corone}
- Starling \textit{Sturnus vulgaris}
- Chiff chaff \textit{Phylloscopus collybita}
- Swift \textit{Apus apus}
- Robin \textit{Erithacus rubecula}
- Magpie \textit{Pica pica}
- Long tailed tit \textit{Aegithalos caudatus}
- Nuthatch \textit{Sitta europaea}
- Mistle thrush \textit{Turdus viscivorus}
- Greater spotted woodpecker \textit{Dendrocopos major}

Of particular note was that a nest of greater spotted woodpeckers was identified in a tree alongside one of the paths coming downhill from the recreational ground.

Significance of Additional Biodiversity Features

The site offers a wide range of opportunities for nesting birds. Nesting birds are protected under the Wildlife & Countryside Act (1981) as amended. This has implications for day-to-day management of the site which should be timed to avoid disturbance during the bird nesting season –March-August.
A summary of existing habitats on site and their importance are listed below:

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Importance of Habitat (ie: UK or GM Priority Habitat, etc)</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowland mixed deciduous woodland</td>
<td>UKBAP Priority habitat and GMBAP Priority Habitat.</td>
<td></td>
</tr>
<tr>
<td>Wet woodland</td>
<td>UKBAP Priority habitat</td>
<td></td>
</tr>
<tr>
<td>Plantation woodland</td>
<td>Potential to be enhanced for biodiversity</td>
<td></td>
</tr>
<tr>
<td>Scrub</td>
<td>Included in UKBAP Priority habitat lowland mixed deciduous woodland</td>
<td></td>
</tr>
<tr>
<td>Semi-improved neutral grassland</td>
<td>UK Broad habitat with the potential to be enhanced for biodiversity</td>
<td></td>
</tr>
<tr>
<td>Marshy grassland</td>
<td>GMBAP Priority habitat</td>
<td></td>
</tr>
<tr>
<td>Improved grassland</td>
<td>Potential to be enhanced for biodiversity</td>
<td></td>
</tr>
<tr>
<td>Lakes (Standing water)</td>
<td>Potential to be enhanced for biodiversity GMBAP Priority habitat</td>
<td></td>
</tr>
<tr>
<td>Rivers/streams</td>
<td>UKBAP Broad habitat</td>
<td></td>
</tr>
</tbody>
</table>

“Urban – Managed Greenspace” is a GMBAP Priority habitat.

The range of habitats at Boggart Hole Clough is also significant in that this resource offers opportunities for education and interpretation of biodiversity and its conservation for the local community.
### 3. Factors Affecting Biodiversity at Boggart Hole Clough

#### 3a. Positive Factors Affecting Biodiversity

<table>
<thead>
<tr>
<th>Positive Impacts</th>
<th>Impacts on Biodiversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low levels of management in some areas of woodland and neutral grassland</td>
<td>Increase in quality of habitats where semi-natural characteristics are developing eg: native regeneration in woodland, native species colonising grassland leading to greater species diversity where managed on less intense mowing regime.</td>
</tr>
<tr>
<td>Sympathetic management of land</td>
<td>Safeguard of remaining habitats.</td>
</tr>
<tr>
<td></td>
<td>Improved management of remaining habitats.</td>
</tr>
<tr>
<td></td>
<td>Improved condition of remaining habitats.</td>
</tr>
<tr>
<td>Safeguard of SBI and urban greenspace.</td>
<td>Landscape scale benefits for biodiversity, eg: landscape connections to woodland SBI to the north.</td>
</tr>
</tbody>
</table>

#### 3b. Negative Factors Affecting Biodiversity

<table>
<thead>
<tr>
<th>Negative Factors</th>
<th>Impacts on Biodiversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scale felling of black poplars throughout the site</td>
<td>Reduction in woodland canopy.</td>
</tr>
<tr>
<td></td>
<td>Reduction in mature trees on site.</td>
</tr>
<tr>
<td></td>
<td>Disturbance and compaction of woodland soils creating bare ground and areas that could be invaded by undesirable species.</td>
</tr>
<tr>
<td>Presence of invasive non-native species (eg: Japanese knotweed, Himalayan balsam, cherry laurel, rhododendron, giant hogweed, beech (see below))</td>
<td>Loss of extent and condition of semi-natural habitats where non-natives dominate.</td>
</tr>
<tr>
<td></td>
<td>Shading-out of native species leading to species-poor habitats.</td>
</tr>
<tr>
<td></td>
<td>NB: Giant hogweed also poses a Health &amp; Safety risk.</td>
</tr>
<tr>
<td>Presence of non-native animal species</td>
<td>Canada geese – nutrient enrichment, grazing of habitats, disturbance to waterbodies, competition for native bird species.</td>
</tr>
<tr>
<td>Presence of beech</td>
<td>Beech is not a native species to the north-west of England.</td>
</tr>
<tr>
<td>Negative Factors</td>
<td>Impacts on Biodiversity</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Presence of beech (continued)</td>
<td>Dominance of beech has led to the loss of woodland ground flora and suppresses regeneration of native shrubs and tree species.</td>
</tr>
<tr>
<td></td>
<td>Reduction in quality and condition of woodland habitats.</td>
</tr>
<tr>
<td>Lack of management to benefit biodiversity</td>
<td>Some habitats (e.g., woodland, relict hedgerows) have not received biodiversity focused management leading to loss of some of their value to biodiversity.</td>
</tr>
<tr>
<td></td>
<td>High proportion of non-native species in some areas as a result of past planting schemes has led to a reduction in value of semi-natural woodland habitat which is uncharacteristic of local biodiversity.</td>
</tr>
<tr>
<td></td>
<td>Planting of tree species in marshy grassland will lead to a decline in quality and ultimately loss of the marshy grassland – an important additional habitat on the site.</td>
</tr>
<tr>
<td>Encroachment of neighbouring properties</td>
<td>Loss of woodland habitat and extent of woodland on site.</td>
</tr>
<tr>
<td></td>
<td>Risk of spread of undesirable garden species into semi-natural woodland leading to a decline in quality.</td>
</tr>
<tr>
<td>Localised nutrient enrichment through:</td>
<td>The loss of extent of habitats, and/or</td>
</tr>
<tr>
<td>Tipping/accumulation of rubbish</td>
<td>The potential for habitats to be invaded by undesirable species more suited to nutrient enriched conditions.</td>
</tr>
<tr>
<td>Canada geese, dogwalkers leaving dog dirt on the ground</td>
<td></td>
</tr>
<tr>
<td>Public pressure, trampling</td>
<td>Regular disturbance through access and trampling:</td>
</tr>
<tr>
<td></td>
<td>Disrupts natural woodland process of regeneration and establishment of ground flora.</td>
</tr>
<tr>
<td></td>
<td>Increases the potential for habitats to be invaded by undesirable species more suited to disturbed conditions.</td>
</tr>
</tbody>
</table>
4. **Rationale and Objectives for Management of Factors Affecting Biodiversity at Boggart Hole Clough**

**The rationale behind this part of the plan**

Manchester City Council has a clear commitment to enhancing the conservation value and other interests at Boggart Hole Clough. However, this is a long-term undertaking, which will realistically only be achieved by careful, sensitive management over an extended period. To enable this management to be efficient and effective, it is essential to set some realistic goals; these are referred to in management plans as objectives.

Modern management plans have one objective for each important conservation feature. Each objective is made up of a number of measurable targets to be achieved.

Each objective outlines what are considered to be the essential minimum attributes of the habitat. For example, in woods, it is felt that mature trees are an important factor in the survival of woodland wildlife, as well as having value in themselves. Therefore, in woods where we have mature trees and species associated with them, we should strive to maintain them. Similarly, without regeneration of appropriate woody species, woodland will eventually cease to support sufficient tree cover to main essential conditions; therefore some regeneration is crucial.

By utilising clearly stated attributes that can be measured, the condition of all habitats can be assessed and changes over time can be identified. Habitat management will normally be carried out to address undesirable changes, e.g. the appearance of undesirable species, or to encourage positive attributes such as natural regeneration. In this way management can be targeted, allowing more effective and efficient use of resources.

The timescale for achievement of each objective will depend upon factors such as the condition of the habitat and staff commitments.

Using the objectives, site managers can then carry out an annual progress check, report accurately on the condition of all interest features and plan future work accordingly. By giving measurable targets, the success of work carried out and the effectiveness of any expenditure can be clearly measured - this is clearly very advantageous for resource management.

Objectives for important conservation features within this plan are compatible with those being developed for other sites such as Local Nature Reserves, country parks and SSSIs, throughout the country. Objectives for Boggart Hole Clough follow the approach used by Natural England and other country agencies. It is important that there is comparability in any objectives used, especially where these are to be used for monitoring or reporting on habitat condition; this allows progress to be measured on things such as Biodiversity Action Plans at national and local levels.
Management and Objectives for Habitats at Boggart Hole Clough

Woodland Management

The greatest benefit to biodiversity at Boggart Hole Clough would be to manage all woodland so that it maintains or develops characteristics of locally native semi-natural woodland. This is particularly important as the site has been identified as an Ancient Woodland site, even though little of the woodland retains characteristics of ancient semi-natural woodland.

In terms of biodiversity, the desired favourable condition of the woodland at Boggart Hole Clough has not yet been attained. The factors contributing to the unfavourable condition of the woodland at Boggart Hole Clough are currently a high proportion of non-native tree and shrub species within the woodlands as well as patches of invasive non-native species such as Japanese knotweed, rhododendron and Himalayan balsam. Beech in particular poses serious problems where it dominates the canopy as this is both out-shading ground flora and suppressing natural regeneration of tree and shrub species. Ultimately this will lead to species-poor beech woodland that has little biodiversity value in this part of the country (beech is not native to the north west of Britain so the beech woodland at Boggart Hole Clough is likely to have originally been a plantation). There is also a significant risk that as beech is colonising other parts of the woodland on site, the species will gain a strong foothold in better quality areas of woodland and eventually lead to a significant reduction in biodiversity in these areas as well.

Decisions will have to be made whether different areas of woodland are going to be managed primarily as biodiversity woodland habitat or as ornamental park planting where locally uncharacteristic species, such as beech, are tolerated. The best benefit for biodiversity conservation would be to manage all woodland areas to increase their natural woodland characteristics with emphasis being given to creating the necessary conditions for this to occur. Essentially, this would involve the removal of undesirable species and limiting external threats such as trampling; however, these factors will not be removed by a single operation and a long term commitment to management is therefore required.

Management for biodiversity would include:

- Eradication of laurel, rhododendron, beech and invasive non-native species such as Japanese knotweed and Himalayan balsam from the woodland on the site. The removal of undesirable species may require no more than:
  - Careful selection of areas for management, based on justifiable concerns about habitat condition e.g. removal of Japanese knotweed or rhododendron from woodland blocks
  - Small-scale hand pulling of undesirable tree seedlings and Himalayan balsam
• Monitoring at an appropriate level of detail to gauge the effect of management

• Selective felling and chemical treatment of exotic species and beech, allowing native tree species such as oak, birch, ash, willow, rowan, and alder to remain where they occur in the canopy or in the field layer (by avoiding felling or damage of these species and allowing them to regenerate).

Although sycamore is considered a non-native species, its impact on woodland processes is not as significant as beech and it may be preferable to leave at least some sycamore within the woodland to avoid additional disturbance to the woodland soils and structure.

Selective removal of any undesirable species regenerating in the woodland (e.g., beech) would also help to encourage more natural woodland processes in the long term. The current priority for woodland management is to halt the invasion of beech in areas where it is not a major component before it dominates and reduces the condition of the better areas of woodland.

• Since the felling of Manchester Poplars there are several areas where tracked vehicles have cut through woodland and tree belts. This has led to damage to standing trees and shrubs and compaction of soils. It is important that these areas are monitored to assess their recovery as there is a risk that weedy and/or invasive non-native species could colonise the disturbed sites. Some areas of woodland should be targeted to avoid or prevent excessive trampling so that natural processes of regeneration of tree and shrub species and ground flora can occur. Saplings of oak, birch, ash, willow, rowan, alder, together with hawthorn, elder, holly, hazel and guelder rose, are all species that occur naturally in the field layer. Bluebell, lesser celandine, ransons, enchanter’s nightshade, ferns, wood sorrel, along with native mosses and liverworts, are amongst the desirable species for the ground flora.
The following objective has been included to provide a simple measure by which the biodiversity health of the woodlands can be assessed. Conservation management should be aimed at working towards reaching favourable condition. Even though favourable condition may be difficult to achieve in the short-term, any progress towards this target is considered to be beneficial in terms of biodiversity:

To maintain the lowland broadleaved woodland in favourable condition, where:

- There is no reduction in the extent of lowland broadleaved woodland. The extent is illustrated on the habitat map at Appendix IV.
- There is a canopy cover over at least 30% of each woodland block.
- Understorey trees and shrubs are growing over at least 10% of each woodland block.
- Woodland ground flora is growing over at least 10% of each woodland block. Typical woodland ground flora for this type of woodland includes bramble, bluebell, red campion, ramsons and lesser celandine.
- Dead wood is allowed to accumulate where it does not present a fire risk or any other safety hazard.
- All planting material is of locally native stock.
- At least 90% of cover in every layer of vegetation is of locally native species.

**Grassland Management**

The areas of longer semi-improved grassland provide the greatest grassland biodiversity resource on the site. Amenity grassland provides little benefit to biodiversity as it currently stands.

**Amenity Improved Grassland**

Biodiversity gains could be achieved through increasing the extent of areas of semi-improved grassland by relaxing the mowing regime in areas of amenity grassland where these do not need to be kept short for recreational use. Creating a more sympathetic semi-improved grassland buffer along edges of woodland would also increase the condition of both woodland and grassland habitats, creating more naturalistic edges to these areas – these can be important transition zones for biodiversity such as insects.
The following objective has been included to provide a simple measure by which the biodiversity health of the amenity grassland can be assessed. Conservation management should be aimed at working towards reaching favourable condition. Even though favourable condition may be difficult to achieve in the short-term, any progress towards this target is considered to be beneficial in terms of biodiversity:

<table>
<thead>
<tr>
<th>To restore areas of amenity <strong>improved grassland</strong> to favourable condition, where:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The sward is composed primarily of species that are characteristic of the local area e.g. cocksfoot, sweet vernal grass, red fescue, meadow buttercup, red clover, sorrel, ribwort plantain.</td>
</tr>
<tr>
<td>• Negative indicator species (e.g. thistles <em>Cirsium arvense</em>, <em>Cirsium vulgare</em>, docks <em>Rumex crispus</em>, <em>Rumex obtusifolius</em>, nettle <em>Urtica dioica</em>, ragwort <em>Senecio jacobaea</em>) are rare to absent.</td>
</tr>
<tr>
<td>• Tree and scrub species cover less than 5% of each grassland area.</td>
</tr>
<tr>
<td>• Plant litter (dead plant remains) is found throughout less than 25% of the sward.</td>
</tr>
<tr>
<td>• Bare ground covers less than 10% of the grassland area.</td>
</tr>
</tbody>
</table>

**Semi-improved grassland**

Semi-improved grassland at Boggart Hole Clough currently appears to be managed so as to maintain and enhance the biodiversity value to the grassland on the site. There are already several species present indicative of a lack of improvement from fertilisers or chemicals eg: sedges, cuckoo flower, meadow vetchling, ribwort plantain and crested dog’s tail. It is hoped that over time and with suitable grassland management the incidence of these and the species listed below will spread; this would indicating a positive trend as regards grassland condition.

In terms of biodiversity, the desired favourable condition of the semi-improved grassland at Boggart Hole Clough has been attained. Ongoing management should be aimed at maintaining this habitat in favourable condition and allowing it to develop unimproved grassland characteristics which in time will increase its species diversity.
The following objective has been included to provide a simple measure by which the biodiversity health of the semi-improved grassland can be assessed. Conservation management should be aimed at working towards reaching favourable condition which has been set towards achieving an unimproved grassland biodiversity habitat. Even though favourable condition may be difficult to achieve in the short-term, any progress towards this target is considered to be beneficial in terms of biodiversity:

To maintain the semi-improved grassland in favourable condition, where:

- There is no reduction in the extent of semi-grassland grassland. The extent is illustrated on the habitat map at Appendix IV.
- The sward is composed predominantly of species that are characteristic of the local area e.g. sweet vernal grass, red fescue, meadow foxtail, crested dog’s tail, meadow buttercup, red clover, sorrel, ribwort plantain, hairy and common sedges, and meadow vetchling.
- Negative indicator species (e.g. thistles, docks, nettle, ragwort) are rare to absent.
- Tree and scrub species cover less than 5% of each grassland area.
- Plant litter (dead plant remains) is found throughout less than 25% of the sward.
- Bare ground covers less than 10% of the grassland area.

**Marshy Grassland**

Marshy grassland is an important habitat for invertebrates as well as providing a key part of the biodiversity resource present on the site. Areas of marshy grassland should be maintained. The conservation of marshy grassland is a higher priority than creating additional plantations on marshy areas or allowing scrub to colonise marshy grassland areas.

Marshy grassland is an additional habitat that increases the biodiversity value of grassland on site. In terms of biodiversity, the desired favourable condition of the marshy grassland at Boggart Hole Clough has not yet been attained. The main current factor contributing to the unfavourable condition of the marshy grassland at Boggart Hole Clough is the presence of trees planted on one area of the grassland.
The following objective has been included to provide a simple measure by which the biodiversity health of the marshy grassland can be assessed. Conservation management should be aimed at working towards reaching favourable condition. Even though favourable condition may be difficult to achieve in the short-term, any progress towards this target is considered to be beneficial in terms of biodiversity:

To maintain the **marshy grassland** in favourable condition, where:

- There is no reduction in the extent of marshy grassland.
- The sward is composed predominantly of species that are characteristic of the local area e.g. tufted hair grass *Deschampsia cespitosa*, soft rush *Juncus effusus*, compact rush *J. conglomeratus*, creeping buttercup *Ranunculus repens*, creeping bent grass *Agrostis stolonifera*, reed canary-grass *Phalaris arundinacea*
- Negative indicator species (e.g. thistles *Cirsium arvense*, *Cirsium vulgare*, docks *Rumex crispus*, *Rumex obtusifolius*, nettle *Urtica dioica*, ragwort *Senecio jacobaea*) are rare to absent.
- Tree and scrub species cover less than 5% of each grassland area.
- Plant litter (dead plant remains) is found throughout less than 25% of the sward.
- Bare ground covers less than 10% of the grassland area.

**Lake Management**

The site Management Plan outlines proposals to improve the Boating and Fishing lakes in terms of biodiversity. The Boggart Hole Clough Community Action Trust together with site staff and the Greater Manchester Biodiversity Officer have been drawing up plans and bids for a project that will progress these ideas. In summary these entail, creating wildlife habitat at the western end of the Boating Lake and to allow pleasure row boats in the other half of the lake.

In terms of biodiversity, the desired favourable condition of the standing open water at Boggart Hole Clough has not yet been attained. The factors limiting the biodiversity value of the lakes are largely related to disturbance and nutrient enrichment; these stem from the numbers of Canada geese and waterfowl on the lakes and the public use of the lakes eg: regular feeding of birds and fishing. These activities have a negative effect on water quality and waterfowl will graze any emergent plants and severely limit establishment of plants around the lake which could enhance the condition of the lakes.
Although there is a programme for controlling Canada geese which are considered an invasive non-native species, they are still breeding on the site as seen during the field study. Biodiversity enhancement of the lakes is likely to be difficult to achieve while these factors are still present.

Although it is desirable to improve all habitats on site in terms of their biodiversity value, greater biodiversity gains can be more easily achieved at Boggart Hole Clough by addressing the issues faced by the woodland and grassland habitats on site.

The following objective has been included to provide a simple measure by which the biodiversity health of the lakes can be assessed. Conservation management should be aimed at working towards reaching favourable condition. Even though favourable condition may be difficult to achieve in the short-term, any progress towards this target is considered to be beneficial in terms of biodiversity:

<table>
<thead>
<tr>
<th>To maintain the lakes in favourable condition, where:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There is no reduction in the number of lakes except where an increase in the extent of a higher priority habitat has been set (for example reedbed).</td>
</tr>
<tr>
<td>• Lake vegetation is composed of locally characteristic aquatic, marginal and bankside communities and species.</td>
</tr>
<tr>
<td>• Negative indicator species, such as algal blooms and non-native invasive species, are rare to absent.</td>
</tr>
<tr>
<td>• Less than 20% of each lake margin is covered by tree/scrub vegetation</td>
</tr>
<tr>
<td>• Pollution (e.g. signs of eutrophication) is rare to absent.</td>
</tr>
</tbody>
</table>

**Rivers/Streams Management**

In terms of biodiversity, the desired favourable condition of the rivers/streams at Boggart Hole Clough has not yet been attained. The factors limiting the biodiversity value of the rivers/streams is water quality and bankside vegetation. Currently there is a high proportion of invasive non-native species along areas of the streams particularly at the western end of the site along Boggart Hole Clough. The management for Boggart Hole Clough raises issues with debris blocking the flow of water. The objective below addresses this issue.
The following objective has been included to provide a simple measure by which the biodiversity health of the rivers/streams can be assessed. Conservation management should be aimed at working towards reaching favourable condition. Even though favourable condition may be difficult to achieve in the short-term, any progress towards this target is considered to be beneficial in terms of biodiversity:

<table>
<thead>
<tr>
<th>To maintain the streams in favourable condition where:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• There is no reduction in the extent of the streams.</td>
</tr>
<tr>
<td>• Vegetation is composed of locally characteristic aquatic, marginal and bankside communities and species.</td>
</tr>
<tr>
<td>• Negative indicator species, such as algal blooms and non-native invasive species, are rare to absent.</td>
</tr>
<tr>
<td>• Pollution (e.g. signs of eutrophication) is rare to absent.</td>
</tr>
<tr>
<td>• Lack of obstructions apart from natural debris (e.g. small branches)</td>
</tr>
<tr>
<td>• Condition of banks to be a reflection of natural processes e.g., destabilisation except where there are health and safety implications</td>
</tr>
</tbody>
</table>

The above rationale and recommendations are consistent with the objectives of the UKBAP and GMBAP Habitat Action Plans as well as the Manchester Biodiversity Strategy.
5. **Biodiversity Management Action Plan and Prescriptions**

The action plan presented below addresses the issues and factors outlined earlier in the biodiversity management plan.

**Priority 1 Management**

<table>
<thead>
<tr>
<th>Area to be addressed</th>
<th>Action required</th>
<th>Timing</th>
<th>Years active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring habitats condition</td>
<td>Annual site visit to compare condition of different habitats to objectives in management plan</td>
<td>March–June for woodland</td>
<td>All</td>
</tr>
<tr>
<td>Page 15-23</td>
<td></td>
<td>June-Aug for grassland</td>
<td></td>
</tr>
<tr>
<td>Monitoring regrowth of vegetation on compacted soil areas</td>
<td>Two visits per year, in the growing season, to assess effects of Manchester Poplar felling and soil compaction</td>
<td>May &amp; August</td>
<td>All until restablished naturally</td>
</tr>
<tr>
<td>Page 17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page 16-17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undesirable influence of Beech and Rhododendron</td>
<td>Reduce % cover of beech, rhododendron and other exotic tree species to no more than 5% of woodland area over a period of 10 years</td>
<td>November to March</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Page 16-17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of semi-improved grassland</td>
<td>Maintain grassland as open habitat (less than 5% tree and scrub cover)</td>
<td>August-September</td>
<td>All</td>
</tr>
<tr>
<td>Page 18-19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of unsafe trees</td>
<td>Make trees safe by most appropriate method Bat and nesting bird survey prior to tree disturbance</td>
<td>Any month</td>
<td>All</td>
</tr>
</tbody>
</table>
## Priority 2 Management

<table>
<thead>
<tr>
<th>Area to be addressed</th>
<th>Action required</th>
<th>Timing</th>
<th>Years active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undesirable influence of non-native tree species</td>
<td>Reduce % cover of non-native tree species to no more than 5% of woodland area over a period of 10 years</td>
<td>November to March</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Page 16-18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undesirable influence of trees on marshy grassland</td>
<td>Remove trees from marshy grassland and maintain as open habitat</td>
<td>November to March</td>
<td>All</td>
</tr>
<tr>
<td>Page 20-21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undesirable influence of mowing amenity grassland on woodland</td>
<td>Relax mowing to enable graded woodland edge to develop. Minimum 5 metre uncut edge to woodland</td>
<td>Any month</td>
<td>All</td>
</tr>
<tr>
<td>Page 18-19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Priority 3 Management

<table>
<thead>
<tr>
<th>Area to be addressed</th>
<th>Action required</th>
<th>Timing</th>
<th>Years active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undesirable effect of waterfowl on standing open water</td>
<td>Control waterfowl numbers. Specialist advice required.</td>
<td>April to August</td>
<td>All</td>
</tr>
<tr>
<td>Page 21-22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunity to increase biodiversity of standing open water</td>
<td>Restock and protect plants. Plant marginal and emergent species inside fenced area and maintain as wildfowl-free area.</td>
<td></td>
<td>3 onwards</td>
</tr>
<tr>
<td>Page 21-22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunity to increase woodland cover</td>
<td>Enable natural regeneration of desirable species in plantation areas and mixed habitats</td>
<td>Any month</td>
<td>All</td>
</tr>
<tr>
<td>Page 17</td>
<td>Enable natural regeneration of desirable species within and immediately adjacent to woodland areas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Specification for monitoring habitat condition

A habitat assessment pro forma will be completed for each habitat area on the site. In each, at least 5 stops will be made to gather information for the habitat assessment pro forma. The pro forma will be developed from the conservation objective for each habitat. This approach should also include an assessment of safety within each habitat area.

Assessor to walk through each habitat area at least once each year, between the end of March and the beginning of June for woodland and between June-August for grassland. The route walked will be recorded on a base map of the site and the map will be annotated if items of particular note are observed.

At the end of each monitoring period, a judgement will be made of habitat condition in light of the desirable condition given in the objective. This judgement will be used to inform future management of the different habitats.

Completed pro formas will be archived and used to provide an up-to-date report of habitat condition if required.
Specification for monitoring regrowth of vegetation on compacted soil areas

Each area that has been affected by felling and/or soil compaction will be visited by the assessor at least twice per year, once in May and once towards the end of the growing season in August. Areas affected will be mapped so that accurate assessment can take place each year. The map will be annotated if items of particular note are observed. In particular it should be noted whether native species are recolonising these areas or whether invasive non-native species are colonising.

At the end of each assessment, a judgement will be made as to whether the areas are regenerating with desirable vegetation or whether undesirable species are colonising and will need further management.
Specification for management of invasive non-native species

Recommendations follow guidance issued by the Environment Agency

Japanese Knotweed

Under the Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985 it is an offence ‘to plant or otherwise encourage’ the growth of Japanese Knotweed. This could include cutting the plant or roots and disturbing surrounding soil if not correctly managed.

Safety

Knotweed polluted areas should be clearly marked out on site. Areas that do not need to be disturbed during the works should be fenced off, allowing a buffer of at least four metres to allow for the likely extent of the roots.

Use of tracked machinery should be limited until areas polluted with Japanese Knotweed have been cleared and/or identified and cordoned off.

If tracked machinery must be used in areas where Japanese Knotweed is known to be present, then consider using a strong geotextile overlain with hardcore as a base for vehicles to travel on.

Areas where Japanese Knotweed has been identified should be cleared slowly, one at a time, with ongoing assessment of the extent of polluted ground. Only essential vehicles should be present in areas polluted with Japanese Knotweed.

Never stockpile potentially polluted material within ten metres of a watercourse.

On leaving areas of the site known to contain Japanese Knotweed, any tracked machinery that has been used should be thoroughly cleaned within a designated area. This area should be as close as possible to the polluted area on which the machinery has been working to avoid the spread of the species. This area should be monitored in the spring for Knotweed growth and a spraying programme implemented if necessary. Any machinery used in clearing polluted areas should be similarly cleaned.

Care should be taken to ensure that polluted material is not dropped or transferred to other areas of the site.

Japanese Knotweed polluted spoil should only be placed on top of a fabric/membrane in an approved, fenced area. Once the polluted material is removed from these areas, it should be monitored for regrowth, particularly during the growing season and, if necessary, treated with an appropriate herbicide as discussed above.

All site operatives should be made aware of the requirements associated with the removal/disposal of this species in order to help limit accidental spread.

All haulage lorries or dumpers carrying Japanese Knotweed polluted material should be covered.

Never use a strimmer, mower (without collection bucket) or chipper on Japanese Knotweed material.
If working between November and March in an area where Japanese Knotweed is known to be present, then dead shoots from the previous year can be a good indication of its location. Even if there is no growth evident above ground, the below-ground parts of the plant will still be alive. Breaking up this root network and transporting either off site or around your site on vehicle tracks will spread the plant. Use the precautions outlined above to reduce the risk of spreading the plant.

Treatment

Spraying
Spraying the plant with an appropriate herbicide is the most effective option available, however it can take several years and rarely achieves eradication without mechanical disturbance.

Spraying can only be carried out during the growing season when there is green, leafy material present. Herbicide treatments take effect within a few weeks but eradication can take a minimum of two sprays in one growing season to achieve.

The person who will be undertaking the spraying must hold a Certificate of Competence for herbicide use or should work under the direct supervision of a certificate holder.

The most effective active ingredient for use on Japanese Knotweed is Glyphosate. This is the active ingredient found in 'Round Up' and other similar herbicides. It is effective on Japanese Knotweed even though it does not kill the plant immediately. Instead, the herbicide soaks through the leaves and is taken into the plant root system. The greater the number of green leaves present, the larger the quantity of herbicide that can be absorbed into the plant. It can take up to ten days for the plant to begin to die off after treatment and you should always watch for regrowth.

Digging and Spraying
A quicker method of removing Japanese Knotweed involves the clearing of above ground leaf/stem material and the removal of ground material polluted with roots. Care should be taken to ensure that all Japanese Knotweed roots are removed - this is one situation where it pays to remove too much material.

Even with great care, a certain amount of regrowth in the spring would be expected and any should be treated with an appropriate herbicide as discussed above. Make sure you read on for tips on how to prevent spreading Knotweed fragments around the site during the works.

Disposal
Any Japanese Knotweed polluted soil or plant material that you discard, intend to discard or are required to discard is likely to be classed as 'controlled waste' and should be accompanied by appropriate Waste Transfer documentation. Check the Environment Agency’s website for further information at [http://www.netregs.gov.uk/netregs/processes/367836/?lang= e](http://www.netregs.gov.uk/netregs/processes/367836/?lang= e)

Japanese Knotweed should be disposed of in a suitably licensed or permitted landfill site.

Timing
All works to be carried out during the growing season between March to September and should be ongoing until the eradication of the species on site is achieved.
Himalayan Balsam

The treatment of Himalayan balsam may require no more than:

- Small-scale hand pulling of Himalayan balsam
- Monitoring at an appropriate level of detail to gauge the effect of management

For larger areas chemical treatment may be appropriate using glyphosate or 2,4-D amine applied in late Spring before flowering.

Timing
Plants should be removed prior to the formation of the seed pods

Disposal
Cut or pulled material will be disposed of by removing from the site and composting in a suitable location.

For advice on treating invasive species, refer to the Environment Agency’s factsheets available at:
http://www.environment-agency.gov.uk/subjects/conservation/840870/840941/1463167/
Specification for management of Beech and Rhododendron

Safety
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

Seedlings
Hand pull if feasible, otherwise spot treat vegetation with Glyphosate (apply as per manufacturers instructions).

Bushes and Trees
All material to be cut to ground level. Smaller stumps will be treated with herbicide such as Triclopyr mixed with diesel using a paintbrush. Diesel provides a degree of protection in the event of rain and assists penetration.

Very large stumps will be treated with ammonium sulphamate solution inserted into holes made with a drill.

Regrowth will be weed wiped or sprayed with Glyphosate, with the additive 'mixture B' to assist penetration of waxy leaves.

Disposal
Cut material will be disposed of by chipping and removing from the woodland areas.

Timing
All works to be carried out between November and March of each year from 1 through to year 10 or until a sufficient amount has been cleared in line with the objectives for the site.
Specification for the management of semi-improved grassland

The long semi-natural grassland at Boggart Hole Clough should be managed as a summer meadow as detailed below. Removal of the arisings after cutting will eventually lead to an improvement in grassland condition.

Safety
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

Method
All undesirable woody species will be removed from the areas of semi-improved grassland and it will be maintained as summer meadow using the following techniques.

Seedlings
Hand pull woody species or undesirable species if feasible, otherwise spot treat vegetation with Glyphosate (apply as per manufacturer’s instructions).

Mowing
Mowing of grassland should be undertaken in dry conditions to avoid damaging the soils.

The following should be avoided:

- Cutting the grass too close to the base of trees as there is a risk of damage to the roots of the trees.
- The use of chemicals (herbicides, pesticides, etc) on the grassland areas. (With the exception of treatment of invasive non-native species. Care should always be taken to spot treat problem species while reducing spray drift to the grassland around them).
- Excessive scuffing of the ground by machinery causing “bald” patches/bare ground thereby providing opportunities for negative indicator species to colonise.

Disposal
Cut woody material will be disposed of by removing from the grassland areas.

All cut grass material will be left in place for a period of 1 week to allow seed dispersal of flowering species, but then should be removed from the grassland to ensure nutrient enrichment from the cut grass does not lead to improved conditions within the grassland.
**Timing**

Woody species removal:
All works to be carried out between November and March.

Grassland management:
One cut in Spring and one cut in late summer each year after flowers and grasses have set seed in line with the objectives for the site. Further cuts may be necessary in the early stages of management if the grassland is becoming too rank as indicated by a higher presence of cow parsley, common knapweed and coarse grasses. In this instance a cut in early April with blades set high and further cuts every 8 weeks should reduce rankness after which time the two cuts per year should be sufficient.

Current park management of the semi-improved grassland includes one cut in March and one in September.
Specification for the management of marshy grassland

The marshy grassland at Boggart Hole Clough should be managed to maintain marshy grassland and extend it where flushed conditions occur on grassland habitats.

Safety
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

Method
All undesirable woody species will be removed from the area of marshy grassland using the following techniques.

Seedlings
Hand pull woody species if feasible, otherwise spot treat vegetation with Glyphosate (apply as per manufacturers’ instructions).

Bushes and Trees
All material to be cut to ground level. Smaller stumps will be treated with herbicide such as Triclopyr mixed with diesel using a paintbrush. Diesel provides a degree of protection in the event of rain and assists penetration.

Very large stumps will be treated with ammonium sulphamate solution inserted into holes made with a drill.

Regrowth will be weed wiped or sprayed with Glyphosate, with the additive 'mixture B' to assist penetration of waxy leaves.

Mowing
Mowing of grassland should be undertaken in drier conditions to avoid significant tyre rutting of the surface or machinery sinking in wetter conditions and damaging the soils.

The following should be avoided:

- Cutting the grass too close to the base of trees as there is a risk of damage to the roots of the trees.
- The use of chemicals (herbicides, pesticides, etc) on the grassland areas. (With the exception of treatment of invasive non-native species. Care should always be taken to spot treat problem species while reducing spray drift to the grassland around them).
- Excessive scuffing of the ground by machinery causing “bald” patches/bare ground thereby providing opportunities for negative indicator species to colonise.

Disposal
Cut woody material will be disposed of by removing from the grassland areas.
All cut grassland material will be left in place for a period of 1 week to allow seed dispersal of flowering species, but then should be removed from the grassland to ensure nutrient enrichment from the cut grass does not lead to improved conditions in the grassland.

**Timing**

**Woody species removal:**
All works to be carried out between November and March.

**Grassland management:**
One cut in Spring and one cut in late summer each year after flowers and grasses have set seed in line with the objectives for the site. Further cuts may be necessary in the early stages of management if the grassland is becoming too rank as indicated by a higher presence of cow parsley, common knapweed and coarse grasses. In this instance a cut in early April with blades set high and further cuts every 8 weeks should reduce rankness after which time the two cuts per year should be sufficient.

Current park management of the semi-improved grassland includes one cut in March and one in September.
Specification for the management of improved grassland

The improved amenity grassland at Boggart Hole Clough should be managed to maintain a grassland sward composed of locally characteristic species as stated in the objective.

Safety
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

Seedlings
Hand pull woody species if feasible, otherwise spot treat vegetation with Glyphosate (apply as per manufacturers instructions).

Bushes and Trees
All material to be cut to ground level. Smaller stumps will be treated with herbicide such as Triclopyr mixed with diesel using a paintbrush. Diesel provides a degree of protection in the event of rain and assists penetration.

Very large stumps will be treated with ammonium sulphamate solution inserted into holes made with a drill.

Regrowth will be weed wiped or sprayed with Glyphosate, with the additive 'mixture B' to assist penetration of waxy leaves.

Disposal
Cut woody material will be disposed of by removing from the grassland areas.

To improve the biodiversity value of this habitat all cut grassland material should be removed from the grassland to limit nutrient enrichment from the cut grass leaching into the grassland.

Mowing
Mowing of grassland should be undertaken in drier conditions to avoid significant tyre rutting the surface or machinery sinking in wetter conditions damaging the soils. Improved amenity grassland can still be enhanced for biodiversity by:

- Avoiding excessive scuffing of the ground by mowing machinery being set too low. This causes “bald” patches and bare ground amongst the grassland providing opportunities for less desirable, competitive species to colonise. It would be preferable to mow the amenity grassland to a minimum of 50 mm or left slight longer where possible.

- Removing arisings from the grassland.

- Ensuring the grass is not cut too close to the base of trees as there is a risk of damage to the roots of the trees.

- Not using or limiting the use of chemicals (herbicides, pesticides, etc) on the grassland areas. (With the exception of treatment of invasive non-native species.)
However, care should always be taken to spot treat problem species while reducing spray drift to the grassland around them).

**Timing**

Currently park management cuts the improved amenity grassland once every two weeks. The regularity of mowing improved amenity grassland should be sufficient to maintain a short sward where recreational use is necessary; otherwise there are opportunities to adopt management prescriptions as detailed for semi-improved grassland which would enhance the biodiversity value of the grassland at Boggart Hole Clough.

Where mowing regimes of improved amenity grassland are to be relaxed to create a graded woodland edge (see map at Appendix IX) the prescriptions as per semi-improved grassland should be adopted.
Specification for management of unsafe trees

Safety
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

Method
A suitably qualified arboricultural consultant will identify unsafe trees, final list to be agreed with Manchester City Council Woodland Officer.

The woodland will be checked for dangerous trees.

Trees requiring treatment will be identified by marking the trunk with spray paint. At the time of marking the tree species, a note will be made of tree species, specific treatment required, approximate location of tree and level of priority.

All trees that will be affected by the management described in this specification will be subject to a bat survey prior to tree disturbance. All bat surveys will be carried out by a suitably qualified bat consultant, who will also provide details of suitable mitigation procedures for each tree that shows signs of use by bats. Mitigation procedures will be carried out prior to the management of trees.

Trees will be felled to ground level.

All cut material will be left in situ wherever possible, after the material has been made safe so as to avoid rolling or sliding of large branches or trunks. All cut material that cannot be left in situ will be moved to the closest area of woodland.

Timing
Where possible, all works will be carried out between November and March of year 1 of the plan. Trees requiring more immediate treatment will be managed upon commencement of development.
Specification for management of waterfowl on standing open water

Specialist advice is advised for this aspect of management. General guidelines can be accessed at http://www.defra.gov.uk/wildlife-countryside/vertebrates/leaflets.htm

See Conservation Management magazine for recent general guidance.
Specification for increasing biodiversity of lakes/standing open water

The following prescriptions should be followed where enhancing the lakes on the site in terms of their biodiversity value.

**Safety**
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

Precautions should be taken when working in water to avoid infection via open cuts, broken skin, nose and mouth. Although diseases such as Weil’s Disease are uncommon, it is a risk when working in water where animals may have urinated and spread the bacteria. Check the NHS Direct information at: [http://www.nhsdirect.nhs.uk/articles/article.aspx?articleId=230](http://www.nhsdirect.nhs.uk/articles/article.aspx?articleId=230) on symptoms and what to do if infected.

**Lake Management**
Regularly remove any rubbish from the lake; leaving it may attract more and increase pollution and/or algal blooms in the pond.

Limit disturbance to the lakes either by fencing off the lake or fencing off areas of the lake so that plants can re-establish in the undisturbed areas.

Waterfowl numbers need to be controlled in order to provide sufficiently conducive conditions for vegetation to be able to survive and re-establish. If not, waterfowl will cause disturbance to the lake, overgraze any vegetation and prevent it from colonising the lake.

Eradicate any non-native invasive species that become established in the lake. Many of those associated with open standing water require specific management and advice should be sought from a specialist as there are wider implications for treating invasive species near water.

Allow vegetation (consisting of native species) to colonise the lake naturally wherever possible. However one third of the pond should be kept clear of vegetation to provide additional habitat features for amphibians and insects.

Maintain 80% of the pond margins free of scrub and trees to avoid excessive shading.

Check dipping platforms, bridges or any other structures to make sure they are safe. Replace any damaged decking. Keep fences in good repair.

**Disposal**
Vegetation taken from the pond should be left near the pond for several days to allow any animals within it to escape back into the pond. However, if invasive non-native species are within the waste vegetation disposal will need to be strictly controlled to avoid recolonisation of the invasive plants. Specialist advice should be sought in this instance.

**Timing**
All works within or near the ponds to be carried out between October and December to avoid disturbance to amphibians.
**Specification for increasing woodland cover**

**Safety**
Areas undergoing management will be clearly marked and all site users will be excluded from the areas undergoing management during the period over which the work is taking place.

**Method**
Increasing woodland cover will be achieved through natural regeneration of locally native species with the selective hand pulling or felling of non-native tree and shrub species.

Suitable species for woodland extension include: oak, birch, ash, willow, rowan, and alder. The field layer and ground flora will also be encouraged to colonise naturally over time. Desirable field layer species include hawthorn, elder, holly, hazel and guelder rose. Desirable ground flora species include bluebell, lesser celandine, ramsons, enchanter’s nightshade, ferns, wood sorrel, mosses and liverworts.

*Grass will be the main weed species in early years however, broadleaved weeds usually invade the grass-free areas created around each tree and, if these become a problem, a summer application of Glyphosate will be provided.*

At least 10% bare ground will be left within former amenity grassland areas to allow for colonisation from local sources.

**Timing**
As natural regeneration is the preferred method this can take place at any time of year throughout the life of the plan.
6. **Maps**

Attached:

1. Map of Boggart Hole Clough Park site boundary
2. Map of Sites of Biological Importance (SBI)
3. Map from Ancient Semi-Natural Woodland Inventory at Boggart Hole Clough
4. Map of Broad Biodiversity Habitats at Boggart Hole Clough
5. Map of Factors Influencing Biodiversity at Boggart Hole Clough
6. Map of Priority 1 Required Biodiversity Management at Boggart Hole Clough
7. Map of Priority 2 Required Biodiversity Management at Boggart Hole Clough
8. Map of Priority 3 Required Biodiversity Management at Boggart Hole Clough
9. Map of Biodiversity Opportunities
References:


UKBAP Habitats and Species Action Plans
Available: www.ukbap.org.uk

Red Rose Forest Press Release September 2004
http://www.redroseforest.co.uk/aboutrr/press_releases/180804.htm