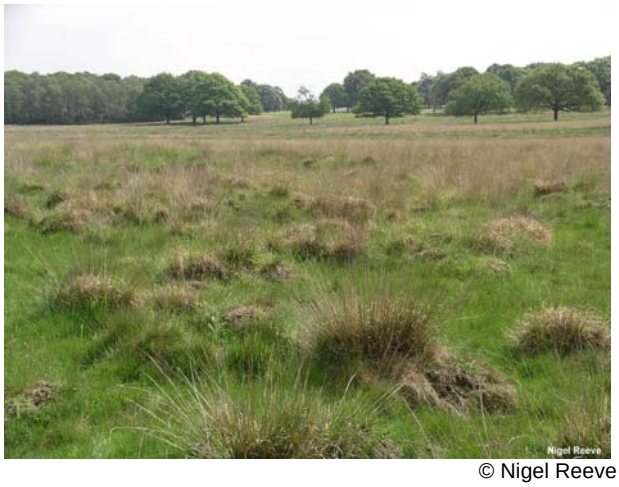
Richmond upon Thames
Habitat Action Plan
Acid Grassland



"By the middle of spring there may be on the … Common little heaps of sandy material surrounding a miniature crater which leads to a deep hole, like the pipe of a toy volcano… shortly a red-tailed bee approaches, goes down the shaft, performs its business, and departs."

(Walter Johnson, *Animal Life in London*, 1930)

1. Aims

- To ensure the protection and optimal management of acid grassland and its associated wildlife within the London Borough of Richmond upon Thames.
- To improve on existing local knowledge of its ecological value in the local and regional context.
- To develop local appreciation of the habitat and its wildlife, and secure the involvement of local residents in its conservation.
- To establish and implement an appropriate management system for all significant sites of acid grassland found within LB Richmond.

2. Introduction

Acid grassland refers to the types of sward that develop over acidic soils, which are usually derived from underlying sands and gravels, are free-draining and low in nutrients. The habitat generally consists of various fine-leaved grasses and associated wildflowers, such as common bent, red and sheep's fescues, wavy hair-grass, sheep's sorrel, tormentil, cat's-ear and heath bedstraw. Also included here is a less widespread type consisting mainly of purple moor-grass which is found where drainage is more impeded and is present in Richmond Park.

Significantly, these soil conditions also support dwarf-shrub heathland, and much of today's acid grassland represents a degraded habitat which has lost its characteristic low-growing shrubs (such as heather), due to various erosive forces. It is important to remember, however, that acid grassland has always had an important place in the habitat mosaic on heathlands, and the present lack of heather must be seen as symptomatic of an imbalance brought on by particular circumstances rather than the undesirable replacement of one habitat by another.

The term *acid grassland* may mean little to most people but there is no reason why the finer qualities of the habitat should not gain wider appreciation. The typical fine grass species associated with this habitat (for example wavy hairgrass *Deschampsia flexuosa,* fescues *Festuca*

spp and common bent *Agrostis capillaris)* are attractive in themselves and do not require regular mowing. Unlike chalk grassland, acid swards are not generally celebrated for their wealth of colourful wildflowers, although they can present a colourful mosaic containing low-growing species such as sheep's sorrel *Rumex acetosella*, and some of the characteristic species are highly attractive. These include harebell *Campanula rotundifolia*, common stork's-bill *Erodium cicutarium*, buck's-horn plantain *Plantago coronopus*, heath milkwort *Polygala serpyllifolia*, sand spurrey *Spergularia rubra* and bird's-foot *Ornithopus perpusillus*. Nationally scarce plants found in Richmond's acid grassland include clustered clover *Trifolium glomeratum,* upright chickweed *Moenchia erecta*, bur medick *Medicago minima and* autumn squill *Scilla autumnalis*.

The acid grasslands of LB Richmond form a large proportion of those of Greater London which, with south Essex and north-west Kent, appear to be the natural home of a distinctive group of insects and spiders known collectively as the Thames Terrace Invertebrates. Features believed responsible for this include the loose and often denuded substrate, the availability of nectar-rich wildflowers, plus the region's geographic situation in the driest corner of the British Isles yet still close to the sea. Prominent within the group are many hole-nesting bees, ants and wasps, such as the rare mining bee *Andrena florea*. The UK distribution of many of these species is apparently very restricted and is under pressure from continuing development and lack of appreciation for the acid grassland habitat on which they depend.

More familiar insects frequenting acid swards are the small heath and small copper butterflies, while the ant-hills of yellow meadow ants are another common feature. Associated bird life, attracted by rich insect pickings, includes the meadow pipit, skylark and green woodpecker.

The largest areas of acid grassland in LB Richmond occur in and around Richmond and Bushy Parks, with other areas in Hampton Court Palace / Home Park, Kew Gardens and the Commons of Barnes, East Sheen and Ham. Most of these sites lie on the gravels of the River Thames terraces, giving rise to free-draining, light soils.

3. Current Status

Lowland dry acid grassland is listed as a priority habitat for conservation in the UK Biodiversity Action Plan. London's estimated 1300 hectares contribute about 4% to the national resource. Because of the widespread distribution of acidic soils most boroughs have some acid grassland – in fact only six do not. Although there are several extensive areas, for example in Richmond Park, on Wimbledon Common and Putney Heath in Merton and Wandsworth, and at Wanstead Flats in Redbridge, a significant proportion occurs as widely scattered, overlooked fragments on the margins of more ubiquitous habitats, such as amenity grassland, scrub, road and rail verges and on some longer-established wasteland sites.

Much of London's remaining acid grassland has suffered in quality through a variety of factors. Ideally, it would be maintained by grazing animals and occur alongside stands of heather and gorse, small areas of bare ground and lichen cover, patches of scrub and peat-filled bogs. There would also be variation in structure within the grassland community reflecting its stage of succession. However, over-intensity of use or management neglect, with consequent invasion by coarse grasses, bracken and developing woodland, are all too commonly associated with the habitat London-wide.

LB Richmond has the largest total area of acid grassland in Greater London with 620 hectares. *[Please note that figures for areas of Acid Grassland vary according to the detail of the survey, and whether the area recorded is one which is 'purely' acid grass covered, or includes other species and even neutral grasses but is predominantly acid grassland.]* This accounts for almost half of this habitat in greater London (46%), and therefore any significant changes to the area within LB Richmond are also significant within London. In view of its scarcity within London, it is not surprising that many of its characteristic species are also rare. Most of the acid grassland specialist species can be found within LB Richmond.

An ecological survey was undertaken in 1984/5 by the then London Ecology Unit, and various other surveys have been conducted since then. However, these surveys do not of themselves provide a satisfactory baseline for accurate measurement of the loss or gain in total acid grassland

coverage within LB Richmond over the years. Anecdotal evidence suggests that there has been a significant increase in the acid grassland at Kew Gardens due to a more relaxed management system. However, in some other areas, such as on Barnes Common and Ham Common, there may have been significant losses in the past two decades, since grazing ceased well before that. This has resulted in encroachment of woodland, scrub, bracken and bramble, although in recent years more active management at these sites may have arrested this decline or even have reversed it.

4. Specific Factors Affecting the Habitat

4.1 Lack of a clear identity

Because of acid grassland's somewhat lowly image and confusing identity as a habitat type, it is often undervalued. This makes it particularly vulnerable to mismanagement and frequently seen as expendable by developers and their advisers.

4.2 Management Constraints

4.2.1. Losses seen within the past decade to the acid grasslands at areas such as Barnes Common and Ham Common are a disturbing indication of what might be to come. The optimal management of acid grassland is through low intensity natural grazing by deer, rabbits and/or carefully managed grazing by other animals – as is evidenced by the successful management in the Royal Parks, although even in these well-managed areas further improvements are possible. However, the small size, fragmented nature and concern about any fencing of common lands make this impractical for open areas such as Barnes, East Sheen and Ham Commons. Even where grazing is possible, there is concern about the disturbance to wildlife and grazing animals from uncontrolled dogs and the presence of too many visitors to an area.

4.2.2. Mowing is the most suitable option for ungrazable open spaces, but this is expensive and contractors are not necessarily available at the right times, with the right equipment and expertise, to undertake the work in the most environmentally suitable way. Many areas are inaccessible or unsuitable for tractor mowing, due to obstacles such as uneven ground, ant-hills or tree stumps, and yet tractor mowing is the only economically feasible means at present. Given the importance of the grasses for insects, the method of mowing should ideally cause minimum damage to the grass. Removal of the cuttings, desirable to avoid soil enrichment, should be delayed briefly to allow insects time to safely evacuate the area after cutting and before baling or other removal. Few mowing contractors are able to offer such a service.

4.2.3. The lack of resources can lead directly to passive neglect of the habitat, allowing bracken to dominate, scrub and woodland to develop and invasive weeds to establish themselves.

4.3 Amenity use

The majority of LB Richmond's acid grassland is found in public open spaces and in golf courses where there are often heavy pressures on site managers to accommodate conflicting recreational demands. Acid grassland therefore continues to be lost through unsympathetic management, such as irrigation, reseeding and even tree planting.

The heavy pressure on these areas as public amenities for leisure and recreational uses, such as dog-walking and horse-riding, adds to the amount of litter and excreta, while thoughtless dumping of green garden waste only adds further to the increased nutrient levels which threaten this habitat.

The threat of fires, whether these might be started by accident or deliberately, is another hazard in public sites, which can require managers to keep their grasslands mown too short to benefit wildlife.

4.4 Other Concerns

4.4.1. Roads, cycle tracks and footpaths through the open spaces on which most of LB Richmond acid grasslands are found are often regarded as vital routes for through traffic, and 'best practice' management plans to address the consequent degradation have to be tempered to accommodate the wider regional transportation and local amenity concerns.

4.4.2. Nutrient enrichment by atmospheric pollution is causing increasing concern, but is beyond the control of most site managers. Vehicle emissions are an insidious agent of change within plant communities and are being partially addressed in some areas such as Richmond Park, but are beyond control in most other areas of Richmond. Salt applied to roads in winter can be damaging to vegetation on verges, while all the LB Richmond sites are below the Heathrow flight path and are exposed to enhanced pollution levels from air traffic.

4.4.3. There is constant pressure on open unprotected sites for development purposes, and even protected sites may suffer from increasingly dense development at their fringes, leading to increased fragmentation and habitat degradation.

5. Current Action

5.1 Legal status

5.1.1. Many of the areas of acid grassland within LB Richmond enjoy some level of recognition and protection: Richmond Park is both a Site of Special Scientific Interest (SSSI) and a National Nature Reserve as well as being a Grade 1 Heritage Landscape and European Special Area of Conservation. Hampton Court Palace / Home Park is a Site of Metropolitan Importance for Nature Conservation and a Grade 1 Listed Park. Kew Gardens is a World Heritage Site. Barnes Common lost its status as an SSSI due to degradation but remains Metropolitan Open Land and a Local Nature Reserve and so receives statutory protection. Bushy Park is at present a Site of Metropolitan Importance for Nature Conservation as are many of the other areas in which significant acid grasslands are to be found in the borough.

5.1.2. Specially protected species associated with the habitat in LB Richmond are primarily the rare invertebrates, several of which are listed in the British Red Data Book (RDB), for example the mining bee *Andrena florea*, the bee wolf wasp *Philanthus triangulum* and the digger wasps *Diodontus insidiosus* and *Cerceris quinquefasciata*.

5.2 Mechanisms targeting the habitat

The following management and restoration actions are ongoing. They need to be supported and continued in addition to the action listed under Section 7.

5.2.1. Scrub management: most protected sites have management plans and some have benefited from grant aid schemes, such as the Environmental Stewardship Scheme, which offer finance towards fencing and scrub clearance projects. Following these labour intensive and therefore costly operations, there are usually enough resources to keep swards open by the most convenient method, which is grazing, mowing or selective strimming.

5.2.2. Mowing regimes and stripping: grazing and/or mowing, as well as minor, controlled fires been effective in halting succession on many sites. However, it is crucial for cutting regimes to be carefully worked out, otherwise much damage can be done, especially to a site's invertebrate interest.

5.2.3. Enhancement: habitat enhancement to increase species and structural diversity can mean some creation of heathland within acid grassland and vice versa. For example, heather restoration is an aspiration for Barnes Common. Trials commenced in 2003. The aim is to convert an area of about one hectare of primarily neutral grassland to heathland with acid grasses.

Stripping of enriched soils is beneficial and the regular creation of areas of bare ground facilitates nesting for some threatened invertebrates.

6. Flagship Species

These special plants and animals are characteristic of acid grassland in LB Richmond.

Harebell	*Campanula rotundifolia*	This, the "bluebell" of Scotland, is a welcome addition to dry grassland swards late into the summer.
Sheep's sorrel	*Rumex acetosella*	A member of the dock family, its blood-red leaves particularly characterise acid grassland and have been eaten as a wild salad plant in the past.
Heath bedstraw	*Galium saxatile*	A sprawling plant, often found on the tops of anthills. In flower it has a foam-like appearance, and along with other bedstraw species was traditionally used to stuff pillows and mattresses. A chemical property may have repelled bed bugs and other parasites.
Wavy hair-grass	*Deschampsia flexuosa*	An attractive grass with a silvery-red inflorescence, it is typical of several fine grasses found in this habitat.
Small copper butterfly	*Lycaena phleas*	The metallic orange of this tiny butterfly's forewing provides its common name. A common larval foodplant is sheep's sorrel.
Green woodpecker	*Picus viridis*	Or "yaffle", is frequently seen on the ground in acid grassland. A favoured food of this striking bird is ants, and it is these that bring it out from its more usual haunts amongst parkland trees and woodland.

7. Objectives, Actions and Targets

Please note that the partners identified in the tables are those that have been invited to be involved in the process of forming the plan. It is not an exclusive list and new partners are both welcome and needed. The leads identified are responsible for co-ordinating the actions – but are not necessarily implementers.

Objective 1: To secure appropriate management for acid grassland
Target: Appropriate management in place on all existing significant acid grassland sites by 2010

Action	Target Date	Lead	Other Partners
1.1 Establish network of acid grassland site managers and conservation bodies as an 'Acid Grassland Working Group'	2005	FOBC	TRP, LBP, HRP, LA, Golf Courses
1.2 Distribute best practice habitat management guidelines	2005	Working Group	TRP, LA
1.3 Facilitate production of suitable management plans for all significant sites with acid grass	2008	Working Group	LA, Landowners, Land Managers
1.4 Audit inclusion of Acid grassland best management practices within Management Plans	2010	Working Group	
1.5 Establish working relationships with	2007	Working	LBHounslow/CIP,

organisations in neighbouring boroughs which have relevant experience		Group	LBWandsworth, WPCC LBMerton

Objective 2: To increase knowledge of local acid grassland and its wildlife
Target: To carry out a baseline survey and establish a regular monitoring system for acid grasslands by 2008

Action	Target Date	Lead	Other Partners
2.1 Identify resources and reports available and required	2005	Working Group	Friends Gps, GLA
2.2 Arrange additional survey work as required to create Baseline Survey, using same methodology as recent ones in Richmond and Bushy Parks.	2005/6	Working Group	Friends Gps
2.3 Develop monitoring system and procedures manual	2007	Working Group	GLA, LBP
2.4 Identify possible surveyors/monitors and provide training as necessary	2007/8	Working group	Friends Gps., REN
2.5 Produce report and disseminate to all interested parties	2009	LA	Wkg. Gp., TRP, HRP

Objective 3: Raise profile of acid grassland and develop appreciation of its ecological value, encouraging greater public awareness and interest in this habitat.
Target: Promote acid grassland using identified flagships, through series of public events and communications, by 2008

Action	Target Date	Lead	Other Partners
3.1 Develop lists of walk leaders and speakers & distribute to all site managers	2006	Working Group	Friends Gps, LA, REN
3.2 Produce interpretive materials on LB Richmond's acid grassland resource, focussing on its national importance, and disseminate.	2007	LA	Wkg Gp, London HAP, Friends Groups
3.3 Produce Panel on acid grassland for display at fairs etc in LB Richmond	2007	LA	Working Gp
3.4 Encourage inclusion of materials in Friends' and other websites	2007	Working Group	Friends Gps
3.5 Continue campaign through letters to local residents, press releases etc focused on good news / positive work taking place	2008	Working group	LA, REN, Friends Gps

Objective 4: Introduce more sympathetic grassland management regimes
Target: Bring two sites into more sympathetic management by 2009

4.1 Investigate existing grazing and/or machine rings, animals, machinery available and possibilities	2006	Working Group	LA, LB Hounslow/CIP TRP, Petersham Trust
4.2 Identify and select areas where this would be advantageous	2006	Working group	LA
4.3 Develop fully costed proposal(s)	2007	Working	Site Managers /

		group	Owners
4.4 Source funding and implement	2009	Site Mgrs/ Owners	Working Gp, LA

Relevant Action Plans

Local Plans
Ancient Parkland & Veteran Trees

London Plans
Acid Grassland; Woodland; Heathland; Wasteland; Churchyard and Cemeteries; Parks, Amenity Grasslands & City Squares; Open Landscapes with Ancient/Old Trees; Rail Linesides, Reptiles; Humble bumble.

National Plans

Lowland Heathland; Lowland Dry Acid Grassland; Purple moor-grass and rush pasture; Lowland Wood Pasture and Parkland; Built environment and gardens, Skylark; Hornet robber-fly *Asilus crabroniformis*; A long-tongued bumble-bee *Bombus humilis*; Deptford pink.

Key References and Sources of Further Information

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Abbreviations

CIP – in partnership with LB Hounslow
EN – English Nature
GLA – Greater London Authority
HRP – Historic Royal Palaces
LA – Local Authority (London Borough of Richmond upon Thames)
LB – London Borough
LBP – London Biodiversity Partnership
LWT – London Wildlife Trust
REN – Richmond Environment Network
TRP – The Royal Parks
WPCC – Wimbledon & Putney Commons Conservators

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