

BURYMEAD SPRINGS

GREENSPACE ACTION PLAN (GAP)

2018 – 2023



AMENDMENT DATE	SECTION UPDATED	DETAILS	OFFICER

CONTENTS

1. SITE SUMMARY	4
2. SITE DESCRIPTION	5
2.1 LOCATION MAP	5
2.2 SITE DESCRIPTION MAP	6
2.3 CONSTRAINTS MAP	7
2.4 INTRODUCTION	8
2.5 GEOGRAPHY AND LANDSCAPE	8
2.6 HISTORY AND ARCHAEOLOGY	8
2.7 HABITATS AND WILDLIFE	9
2.8 ACCESS, FACILITIES AND INFRASTRUCTURE	12
2.9 COMMUNITY, MANAGEMENT AND EVENTS	13
3. ANALYSIS AND EVALUATION	14
3.1 A WELCOMING PLACE	14
3.2 HEALTHY, SAFE AND SECURE	16
3.3 CLEAN AND WELL MAINTAINED	16
3.4 SUSTAINABILITY	17
3.5 CONSERVATION AND HERITAGE	17
3.6 COMMUNITY INVOLVEMENT	21
3.7 MARKETING	22
4. AIMS AND OBJECTIVES	23
5. ACTION PLANS AND MAPS	25
6. SPECIFICATIONS	34
7. APPENDICES	37

1. SITE SUMMARY

Site name	Burymead Springs
Site address	Cadwell Lane Hitchin Hertfordshire Nearest postcode SG4 0SL
Grid Reference	TL187310
Size	2.4 hectares (5.9 acres)
Owner	North Hertfordshire District Council (NHDC)
Designations	Metropolitan Green Belt Local Wildlife Site (11/023)

Vision Statement

The aim of the Burymead Springs GAP is to maintain and enhance Burymead Springs as a valuable component of the network of greenspaces along Hitchin's river valley, with a focus on improving public access and engagement and restoring its habitats for wildlife.

This will be achieved through the following objectives:

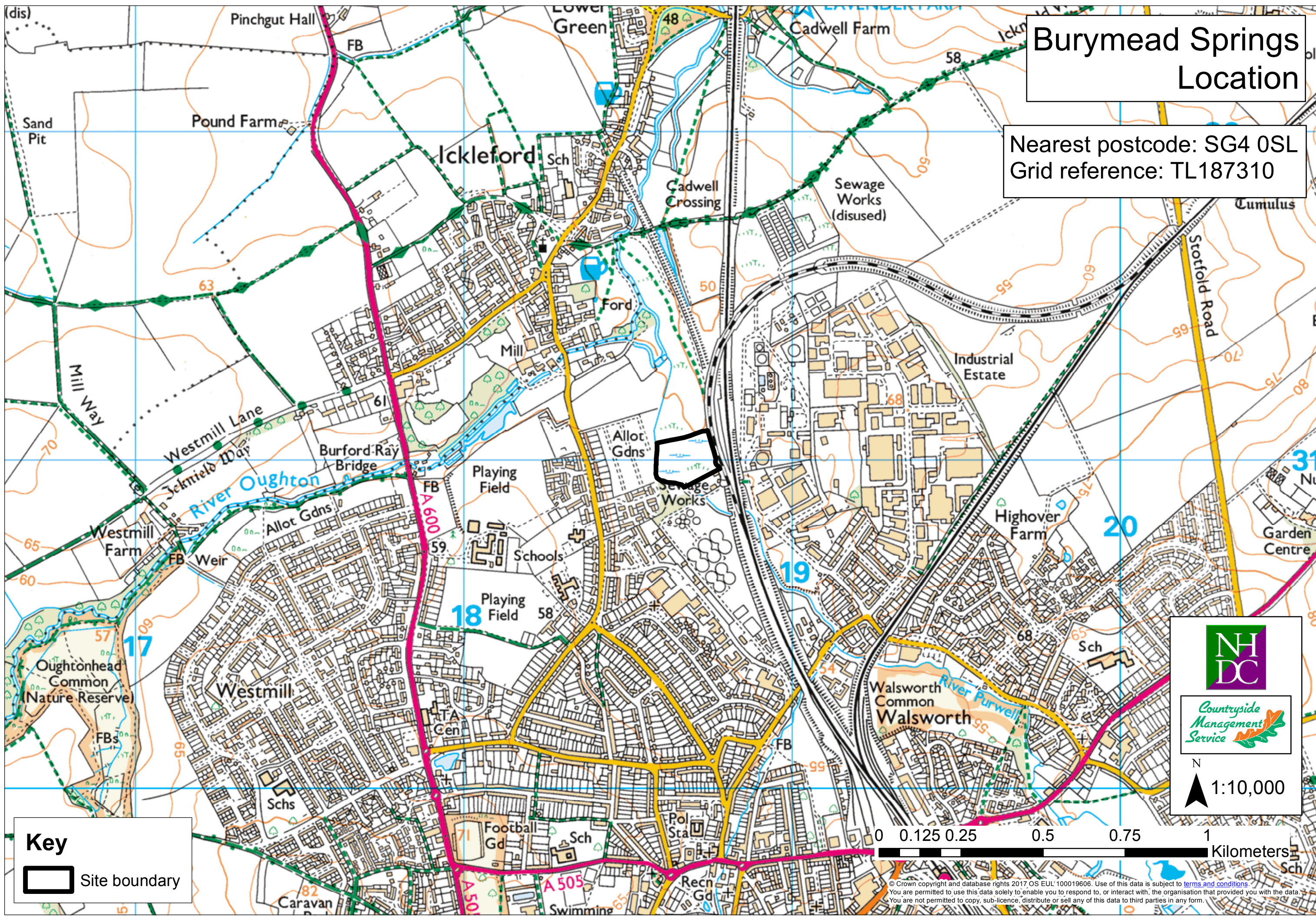
- To enhance the experience of using Burymead Springs for regular users and visitors.
- To ensure that visitors to Burymead Springs feel safe and able to enjoy the site at all times.
- To ensure the standard of maintenance is upheld and relevant.
- To ensure sustainability of all management operations on site.
- To conserve and enhance the key habitats of Burymead Springs.
- To develop and maintain an informed, involved and enthusiastic local community.
- To promote awareness and interest in Burymead Springs.

The Greenspace Action Plan (GAP) for Burymead Springs sets out the management, maintenance and development framework for the site over five years.

The GAP is reviewed annually, so that any outstanding tasks can be rescheduled as necessary. The GAP is also frequently reviewed in conjunction with the Countryside Management Service (CMS) and any other relevant bodies.

Burymead Springs Location

Nearest postcode: SG4 0SL
Grid reference: TL187310



Key

 Site boundary

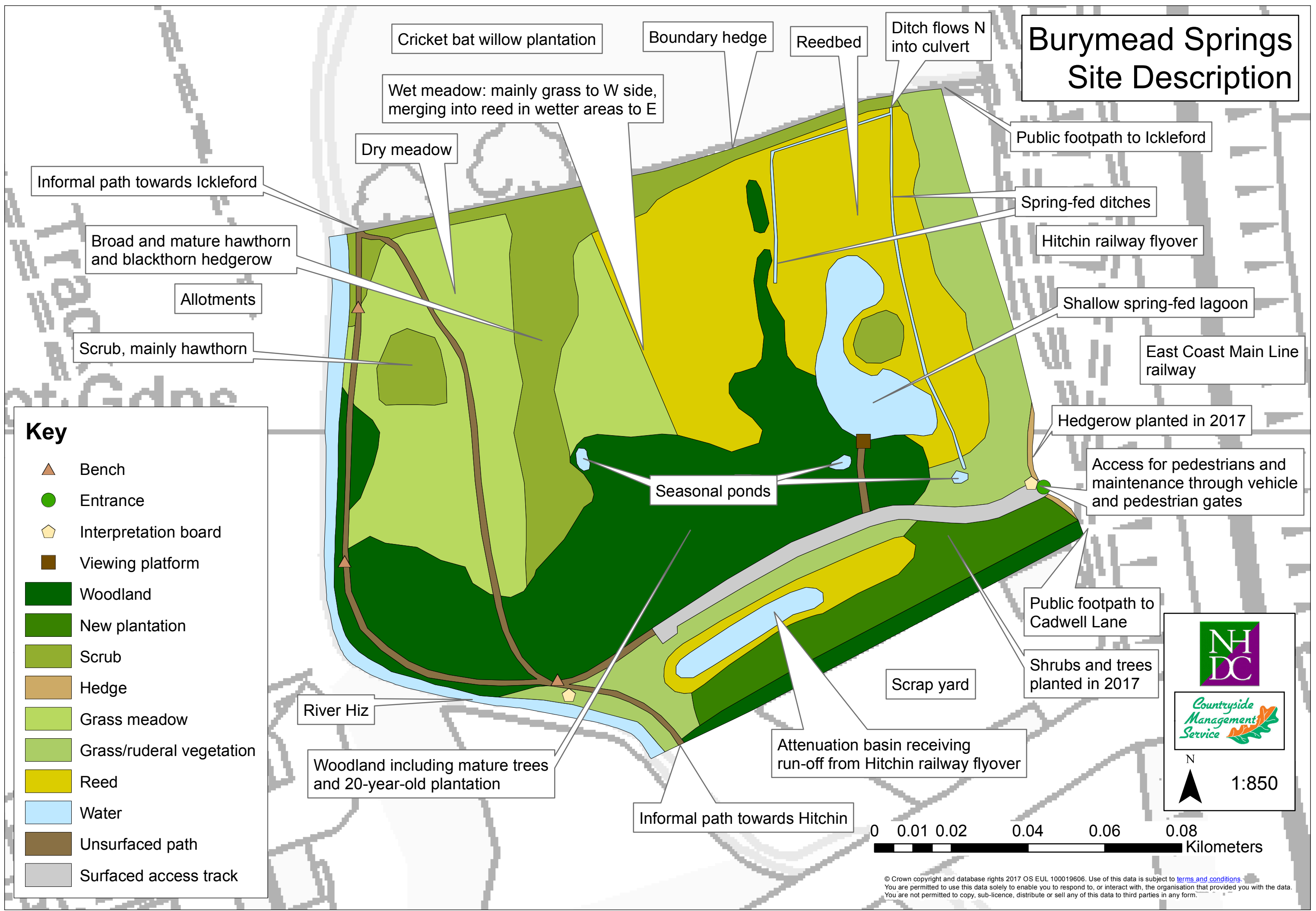

Countryside Management Service

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Burymead Springs Site Description



Burymead Springs Constraints

Local Wildlife Site 11/023
(Cadwell Marsh and Burymead Springs)

The area marked as contaminated land was identified during the Hitchin railway flyover project. This has been capped with imported material. A geotextile indicator layer marks the base of this material at a minimum depth of 500mm in zone A and 300mm in zone B. There should be no digging in either zone.

Key

- Site boundary
- Public footpath
- Main River
- Local Wildlife Site
- Green Belt

Contaminated land

- Zone A
- Zone B
- Attenuation basin

Hitchin railway flyover

Public Footpath Hitchin 026

Attenuation basin
maintained by Network Rail

River Hiz



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2.4 INTRODUCTION

Burymead Springs is a site of around 2.5 hectares (6.2 acres) on the northern edge of Hitchin, owned by NHDC and managed by NHDC in partnership with CMS. It is designated as Green Belt land, and lies within a larger Local Wildlife Site, Cadwell Marsh and Burymead Springs.

Burymead Springs is part of an ancient riverside meadow which stretches along the rivers Purwell and Hiz through Hitchin and encompasses three other NHDC sites: Purwell Meadows, Walsworth Common and Cadwell Lane Playing Field. It currently supports a wide variety of semi-natural habitats, considering its small size, and low key recreational use.

This is the second GAP for Burymead Springs. The first covered the period from 2009 to 2014 and followed a long period of management by a voluntary warden. The site came under the control of Network Rail between 2012 and 2017, as a result of the construction of the Hitchin railway flyover, and the majority of the actions from the first GAP were implemented by Network Rail.

2.5 GEOGRAPHY AND LANDSCAPE

Burymead Springs is on flat valley bottom land, and is largely surrounded by industrial and residential areas of Hitchin. To the east are the new Hitchin railway flyover and the East Coast Main Line and to the south a metal scrap yard. To the west across the River Hiz, there are allotments and a residential area, and to the north there is a cricket bat willow plantation, part of the same local wildlife site and providing a link to open countryside. The biggest impact of the urban setting on the character of the site is through noise pollution, from the scrap yard and the railway.

The site is within the River Oughton and Purwell Valleys Landscape Character Area, and reflects its key characteristics well with its unimproved wet grassland, meandering water course with associated spring-fed pools and woodland following the water course.

Burymead Springs is not considered to be at risk of river flooding, and can expect significant surface water flooding only in an event with a frequency of 1 in 1000. Large parts of the site do remain wet for much of the year, and the lagoon is fed by springs in its SE and NW corners.

2.6 HISTORY AND ARCHAEOLOGY

Burymead Springs was part of an ancient riverside meadow, affected by springs. River valleys and springs can be favoured areas for historic human activity and therefore for archaeological remains. An early Roman cremation cemetery was found in 1877 during drainage for the sewage works close to Burymead Springs, and Roman coins dating from the 3rd and 4th centuries were found in the same area. These coins are not contemporary with the cemetery and therefore indicate an extended period of occupation. It is possible that further archaeological remains could be found at Burymead Springs.

Construction of the railway lines immediately east of the site between 1846 and 1850 would have been the first impact of modern development, followed by the establishment of the sewage works in the 1870s. After 1900, Hitchin expanded to enclose Burymead Springs on three sides. The site has been owned by NHDC and its predecessor since around 1900, when land was purchased for the construction of sewage works, which only occupy land on the west side of the River Hiz. It has been managed for wildlife since the early 1990s, when management by volunteers as a nature reserve began with the support of NHDC.

2.7 HABITATS AND WILDLIFE

Burymead Springs contains a wide variety of wildlife habitats, most of which are associated with the spring-fed character of the site. It is part of a larger Local Wildlife Site, as a result of its fen and swamp habitats, with indicator species including wild angelica, marsh thistle, hemp agrimony and meadowsweet. It is also a valuable part of a wildlife corridor along the River Hiz, which incorporates three other NHDC sites and provides a link from open countryside into the centre of Hitchin.

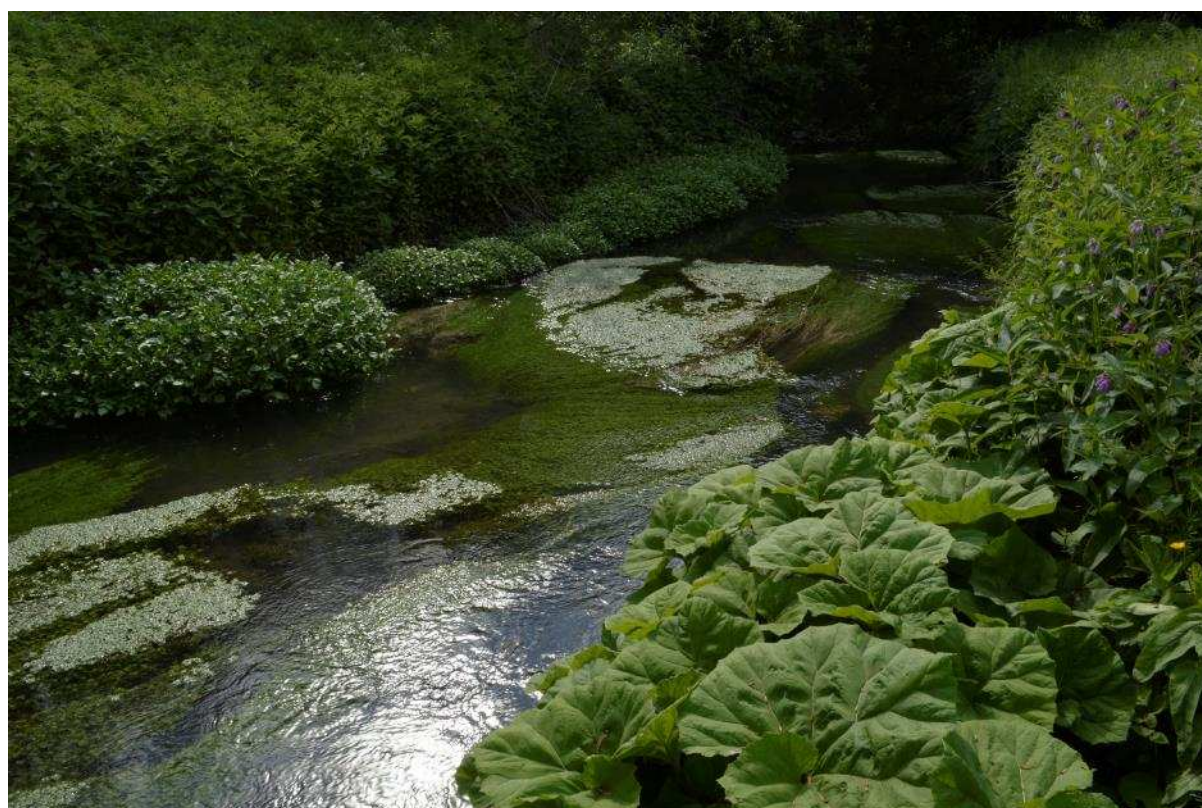
The reedbed is a high priority habitat and one of the largest in North Hertfordshire. It is dominated by common reed (*Phragmites australis*) with species such as reed canary grass (*Phalaris arundinacea*) and purple loosestrife (*Lythrum salicaria*) around the margins. It surrounds a lagoon which was originally excavated in the winter of 1995/96 to create an area of permanent open water. This involved the removal of 6000 tonnes of peat. Network Rail carried out some further small scale excavation of the lagoon during their management, but reedbed has encroached significantly and the lagoon is significantly smaller than its original size. The lagoon and wet reedbed are fed by springs – there is a spring fed ditch inside the east boundary and another spring to the west of the lagoon.



Lagoon and reedbed

Heading west, the reedbed becomes drier and grades into a wet meadow. A wide hedgerow separates this from a dry meadow next to the River Hiz, and there is another wide hedgerow along the northern boundary of the site. These hedgerows are mainly common hawthorn (*Crataegus monogyna*). The meadows support wild angelica (*Angelica sylvestris*), hemp agrimony (*Eupatorium cannabinum*) and meadowsweet (*Filipendula ulmaria*) in the wetter areas and some common knapweed (*Centaurea nigra*) where drier. There has been no management of the reedbed, the meadows or the hedgerows in the last five years.

The River Hiz is a chalk stream, which is a globally rare habitat. This is therefore another high priority for positive management. Some sections are open and sunny, and support abundant and characteristic marginal and in-channel vegetation including water crowfoot (*Ranunculus aquatilis*) and watercress (*Nasturtium officinale*). Other parts are more heavily shaded and less well-vegetated as a result.



Open stretch of the River Hiz

There is also woodland of a variety of ages, both following the river and in a band south of the reedbed. Some of this was planted by volunteers in the 1990s and some is more mature. The woodlands contain species including alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*), elder (*Sambucus nigra*), field maple (*Acer campestre*), hazel (*Corylus avellana*), osier (*Salix viminalis*), goat willow (*S. caprea*) and native black poplar (*Populus nigra* subsp. *betulifolia*). Within the woodland and the meadows are a number of small seasonal ponds.

The site has been significantly affected in recent years by the new railway flyover. This necessitated some encroachment on the eastern boundary, including the loss of a boundary hedgerow. A former area of rough grassland on the southern side of the site now accommodates a new attenuation basin built to manage drainage from the flyover while also

providing ecological benefits. This contains common reed and reedmace (*Typha* sp.) at its base with some open water. Ruderal species have colonised the tops of the banks, including hemlock (*Conium maculatum*), teasel (*Dipsacus fullonum*) and goat's rue (*Gallega officinalis*), which has the potential to be invasive. Shrubs have been planted to the south of this basin and around the entrance to provide a visual shield from the adjacent scrap yard.



Attenuation basin

Birds are particularly well-recorded, as Burymead Springs was used as a Constant Effort Site for bird ringing between 1995 and 2003. This is a standardised scheme operated across Britain and Ireland by the British Trust for Ornithology. It provides information on trends in abundance, productivity and adult survival of 24 species of common songbird. Breeding birds include those associated with both reedbed and scrub or woodland: reed warbler, sedge warbler, reed bunting, garden warbler, chiffchaff and blackcap. There is also a winter roost of reed buntings.

For mammals, there are records of water vole and harvest mouse from the 1990s; otter was recorded in 2008. It is thought to be unlikely that water voles are currently present, but it is not known if there is still a population of harvest mouse, necessitating a precautionary approach in relation to this species. Harvest mice are best provided for by cutting grass and reed in October, after the peak of their breeding season, on a 3-5 year rotation. Bats, in particular common pipistrelle, use the site for foraging and may roost in mature trees. An artificial otter holt was constructed by Network Rail, along with a reptile and amphibian hibernaculum.

Great crested newt has been recorded from within 1km, but not from Burymead Springs itself. The different habitats found will also support a wide range of invertebrates. Invasive signal crayfish are present in the River Hiz.

2.8 ACCESS, FACILITIES AND INFRASTRUCTURE

Formal public access is only available via public footpath Hitchin 026 from Cadwell Lane to Ickleford, which passes the entrance at the SE corner of the site. The route from Cadwell Lane also provides the main vehicular access for management, and an unbound aggregate track leads as far as the western end of the attenuation basin. All remaining paths are unsurfaced.

There are also informal access points along the River Hiz from both the north and the south. These are not public rights of way and the path from the south has a number of obstacles, including pipes, a low bridge and sections which are frequently flooded.

Access to the site from residential areas to the west is prevented by the River Hiz. A bridge over the river links two parts of the scrap yard but is not accessible to the public.

From the main entrance, a path leads to the River Hiz. From there, a loop runs along the river and through the meadow. There is not currently any regular maintenance of these paths, but vegetation is managed irregularly by volunteers.

A viewing platform close to the entrance provides an opportunity to view the lagoon and reedbed and can be accessed by a short detour from the main path. There is a new interpretation panel at the entrance, and three benches along the river. In September 2017, as part of a wider project, an additional interpretation panel was installed by the river, promoting the links between Burymead Springs and other NHDC sites in Hitchin along the river.



Interpretation panel

2.9 COMMUNITY, MANAGEMENT AND EVENTS

Responsibility for the management of Burymead Springs lies with its owners NHDC. Although there are not currently any regular maintenance works, in future these would be carried out by the current grounds maintenance contractors for NHDC, John O'Conner (JoC). Management is based on five year Greenspace Action Plans (GAPs) for the site, which are produced by CMS in consultation with relevant partners and stakeholders. This plan follows a previous plan which covered the period from 2009 to 2014.

The land ownership of NHDC reaches the mid-point of the River Hiz. For the river to fully benefit from any restoration works, the works will have to extend outside the boundaries of NHDC ownership. NHDC are committed to working with local landowners to achieve this.

Network Rail have retained responsibility for maintenance of the attenuation basin, which manages run-off from the railway flyover. Management of this area is therefore not within the scope of this plan.

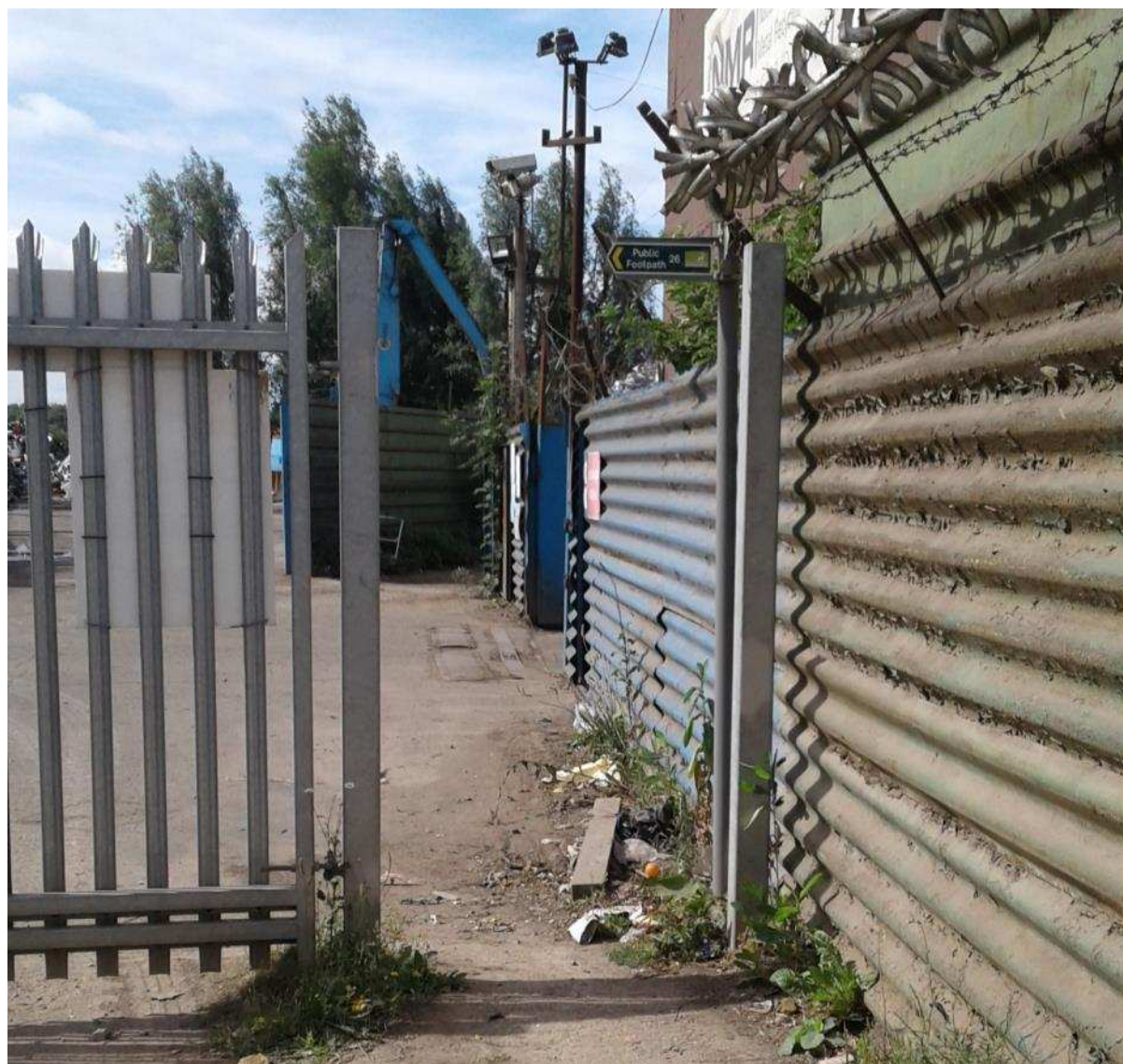
Burymead Springs has a long history of community involvement in its management. Management as a nature reserve under the guidance of a voluntary warden and with the help of a team of volunteers began in 1992, supported by NHDC and CMS, and continued until 2004. CMS volunteers continued to be regularly involved in the site until management responsibility was passed to Network Rail for the duration of the construction of the Hitchin railway flyover.

The local community remains enthusiastic about Burymead Springs and keen to regain a role in future management.

3. ANALYSIS AND EVALUATION

3.1 A WELCOMING PLACE

The main entrance from Cadwell Lane is very unwelcoming. On foot, it is necessary to walk along a section of Cadwell Lane with no pavement and regular movements of HGVs, then turn left under a railway bridge towards a scrap yard. A small public footpath sign here is the only evidence that there is anything of interest under the bridge. Finally, a further right turn through a gap next to a metal fence takes you towards the entrance to Burymead Springs.



Entrance along footpath 26

The existing public footpath signs on Cadwell Lane and at the entrance to the scrap yard should be upgraded to signpost both Burymead Springs, to encourage use of this right of way and to improve the welcome to Burymead Springs. The site could also be signed in a similar way from the Icknield Way to the north, which provides a pleasant alternative approach.

Although another alternative entrance to Burymead Springs does exist, along an informal path following the River Hiz from Grove Road, this involves a number of hazards, including low bridges, pipes, narrow sections and frequent flooding. The first section of this route, between Burymead Springs and Cadwell Lane Playing Field, cannot be recommended and nor is it suitable for formalisation. The second section between Cadwell Lane Playing Field and Grove Road is a better quality but leaves NHDC land ownership, and is outside the scope of this plan. Another informal path continues north from Burymead Springs across private land.

The boundary between Burymead Springs and the public footpath is currently undefined, as a hedge was lost during the construction of the rail flyover. The boundary could be built up and better defined using silt removed from the lagoon under action 5G. This work would need to be carefully planned to avoid any impact on the springs which rise in this area. A new hedgerow should then be planted along the boundary. If action 5G does not go ahead, the new hedgerow can still be planted on the existing substrate. As the hedge develops, it should be managed to establish low sections which define and attract the eye to views across Burymead Springs from the footpath.



Eastern boundary of Burymead Springs

Once within the site, the viewing platform for the lagoon and reedbed is hard to spot, especially during the summer. This should be signed from the main path, and appropriate trees and branches removed from the route to the viewing platform to make it more obvious. Removing additional limbs from trees around the viewing platform would help to broaden and improve the view. A small interpretation panel here explaining what can be seen from the viewing platform would be beneficial as part of a wider funded project.

Although there is a short circular walk along the Hiz and back through the meadow, much of Burymead Springs is currently inaccessible, and a circular walk encompassing more of the

site would be more attractive. An additional path could be established by volunteers and maintained with the existing paths, following a route along the western side of the wet meadow. This would allow walkers to view the reedbed and wet meadow from a different area.

3.2 HEALTHY, SAFE AND SECURE

The safety of users is of primary importance to NHDC. Formal tree safety surveys are undertaken every three years. Any works are prioritised according to a risk assessment.

Motorbikes can currently access the site and the public footpath to Ickleford from Cadwell Lane. There is no solution in this location which would not also seriously inconvenience legitimate users. However, any increase in the number of legitimate users which can be encouraged by making Burymead Springs more welcoming and increasing promotion should reduce illegitimate use.

The first section of the informal riverside path which leads south from Burymead Springs, alongside the scrap yard, is leased to the scrap yard by NHDC. It is therefore not part of the site. There is a concern about materials from the scrap yard falling over the fence into this parcel of land, which is accessible to the public and not clearly demarcated. NHDC will continue to work with the scrap yard to ensure that any scrap metal which does fall out of the yard is quickly removed.

During the period of management by Network Rail, an area of contaminated land was identified in the south east corner of the site, around the current location of the attenuation basin. As a result, the area was covered with a geotextile indicator layer and capped with imported material to a minimum depth of 300mm south of the attenuation basin and 500mm elsewhere. These two areas are shown on the constraints map in 2.3. There should be no digging in these areas.

3.3 CLEAN AND WELL MAINTAINED

There is not currently any regular grounds maintenance at Burymead Springs. A limited grounds maintenance regime should be implemented to maintain the grass paths shown on the site description map, enabling easy access for visitors. This should include a short section of path to the west end of the attenuation basin, also shown on the map, allowing visitors to look along it and view the open water. Grounds maintenance should also include occasional litter picking and any small scale vegetation management necessary to keep paths open and maintain a route by which vehicles can access the wet meadow. Any graffiti or fly tipping on the site will be removed.

The River Hiz carries and deposits a significant amount of rubbish, particularly when flow levels are high. This is better suited to a larger annual collection of rubbish as part of a voluntary activity.

Existing site infrastructure includes a viewing platform over the lagoon, an interpretation panel and three benches along the river. These will be retained, and maintained if

necessary. There are no litter bins or dog waste bins on the site, nor any current need to install them.

3.4 SUSTAINABILITY

The addition of a low level of grounds maintenance to keep the paths free of vegetation will add slightly to the cost of managing the site, but is necessary to maintain welcoming access throughout the year. Any larger scale work will require external capital funding to support it, and will not go ahead without that funding. There should be no additional maintenance costs as a result of this work. Any capital projects should also aim to make future management more achievable by volunteers.

One potential source of grant funding is a new Environment Agency grant scheme for improvements to the water environment, which is expected to be launched in April 2018. A river restoration project incorporating elements from all NHDC's Purwell and Hiz Valley sites may be eligible for this funding.

Using FSC-certified timber for any new signs or furniture, using herbicides only when necessary and ensuring that all materials removed from the site are disposed of appropriately will all contribute to a sustainably managed site.

3.5 CONSERVATION AND HERITAGE

After a period of several years with very limited habitat management, the priority at Burymead Springs is to restart a programme of ongoing management of the core habitats. This will require some initial investment in order to enable future management by volunteers. Once this has been achieved, there is also the potential for a major project to restore the lagoon and reedbed, which would require significant external funding.

Initial restoration of the dry meadow will take place in autumn 2017, when it will be cut and collected for hay. From 2018 onwards, 100% of the meadow should be cut annually in autumn by volunteers. Arisings should be stacked and then removed by the grounds maintenance contractors at least annually.



Unmanaged dry meadow, 2016

Up to 50% of the wet meadow will also be cut and collected in autumn 2017, depending on ground conditions, with the aim for the remaining 50% to be cut and collected in autumn 2018. Once this restoration phase is complete, it will be returned to management by volunteers. One third should be cut annually in autumn, with arisings again stacked and then removed by the grounds maintenance contractors at least annually.

The reedbed can be cut by volunteers on a 10-year rotation, to develop stands of reed of a wide variety of ages and build structural variety in the reedbed. The aim should be to cut around 300m² each winter, equivalent to 1/10 of the reedbed. In addition, there should be an annual cut of reed around the margins of the lagoon, to create a marginal zone and add further diversity. Channels should be cut annually through the reedbed to develop views into the pool and through the reedbed, both from the footpath and from the viewing platform. All cuttings should be removed and stacked on the edge of the reedbed. Where vehicular access is possible, these arisings should be removed by the grounds maintenance contractors annually, and where it is not they should be stacked under scrub on the edge of the reedbed to create habitat for invertebrates, using the same sites each year. Encroachment of scrub into the reedbed should be prevented by coppicing willows within the reedbed. Ditch maintenance should also take place, in particular controlling scrub and bramble along the course of the ditches and to expose inlets and outlets.

The hedges and scrub should be coppiced on a 25-year rotation, once again to build structural diversity in the habitats on the site and to prevent their spread. This should be achieved by selecting small blocks of scrub to work on in any particular winter – aiming for two blocks of around 50m² each. Cut wood and brash should be stacked in habitat piles. Scrub and hedgerows around the meadows should be managed annually to ensure there is no further encroachment on the meadows.



Scrub encroachment into meadow, 2016

The quality of the chalk stream habitat on the section of the River Hiz next to Burymead Springs is variable – some sections are well-vegetated with natural pools and riffles, while others are shaded, with much less vegetation and a slower flow. Coppicing and pollarding selected trees along the river would reduce shade and encourage aquatic and marginal plants. It is likely that this vegetation will quickly develop, and the channel is not over-wide. It is therefore not necessary to build brash build-outs or similar structures, although this should be reviewed at the end of the current plan.

As NHDC only owns one bank of the Hiz, it will be important to work with neighbouring landowners to maximise the effectiveness of the de-shading work. Any improvements to this section of the Hiz will also contribute more widely to work carried out by NHDC at its sites along the river valley, and to the enhancement of a valuable ecological corridor running through Hitchin.

Water voles are not thought to be present on this section of the Hiz, but they are nearby and therefore should be considered when planning management of the river. Any work that increases bank and channel vegetation will directly improve habitat potential for water voles.

The recently planted trees and shrubs along the southern and south eastern boundaries will require maintenance to ensure good establishment. This will include monitoring initial survival, replanting as required and weed control. Tree guards from previous tree planting elsewhere in the site also need to be removed.



Tree planting, 2017

The attenuation basin is managed up to its rim by Network Rail. It is important that this is properly maintained, as there is otherwise a risk of drainage from the railway flyover running directly into the River Hiz. Its continuing maintenance should therefore be monitored by NHDC. The area between the attenuation basin and the path has been colonised by ruderal plants, notably the invasive goat's rue. Soil disturbance elsewhere on the site should be avoided, as this could allow the goat's rue to spread.

Aerial photos show considerable encroachment of reeds into the lagoon between 2000 and 2015. If this is allowed to continue unchecked, the lagoon is likely to disappear within the next five years. This open water is a valuable habitat within the site, and some significant excavation will be required in order to restore and retain it. This would also provide an opportunity to create structural diversity in the reedbed, by restoring existing ditches and creating new interlinked wet features within the reedbed. Any such work should be designed to provide good habitat for water voles. Existing seasonal ponds could be restored at the same time, by coppicing trees around the ponds and removing silt.



Aerial photos of Burymead Springs from 2000 (left) and 2015 (right) showing the reduction in size of the lagoon

It may be possible to use some of the material excavated on the site, but it is likely that the majority would have to leave the site, adding considerable expense. In advance of any work, the silt within the wetland would require testing to confirm its composition and establish if there would be any constraints on moving it off the site. The expense of a project of this kind means that it would only be possible if supported by external funding.

3.6 COMMUNITY INVOLVEMENT

Burymead Springs has a long history of community involvement, and there is still significant interest in the site from the local community. This interest extends beyond Burymead Springs to the three other NHDC sites in the Purwell Valley, Purwell Meadows, Walsworth Common and Cadwell Lane Playing Field. The establishment of a Friends Group for the Purwell Valley would harness this enthusiasm and provide a means by which local people can contribute to the management of all four sites in a structured and supported way. Burymead Springs in particular is well suited to management by volunteers, with a variety of interesting habitats all on a manageable scale.

The local CMS volunteer group will also be engaged to carry out specific tasks which require a larger workforce or specialist machinery, such as cutting the dry meadow.

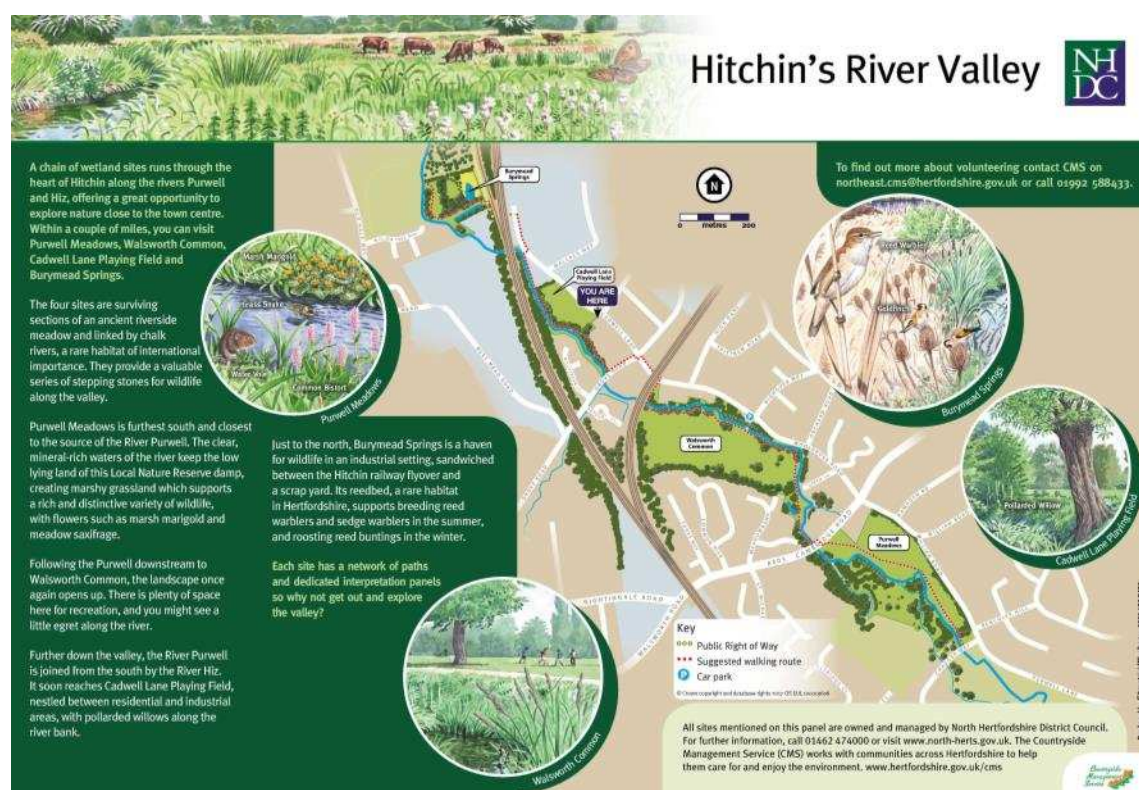
Community involvement could also include survey work by local naturalists. This is already a well-recorded site, so new biological information adds to an established dataset and provides an opportunity to understand the way the site has changed over time. A particularly useful aspect of this would be to establish a riverfly monitoring programme along the Purwell and Hiz within Hitchin. This would help locate and assess any impacts of pollution along the river and could be led by a new Friends Group. In order to join the riverfly monitoring initiative (<http://www.riverflies.org/rp-riverfly-monitoring-initiative>) a group requires a local coordinator and to have members attend a one day Riverfly Partnership workshop.

Burymead Springs falls into the Upper and Bedford Ouse Catchment Partnership area (<http://www.ubocp.org.uk>). This provides an opportunity to connect with wider community-based activities within the river catchment.

3.7 MARKETING

There has been no promotion of Burymead Springs in recent years. Although its location means it will never have a high number of visitors, it is an interesting site which deserves to be better known.

The best way to attract more visitors is through its links with other NHDC sites in the Purwell and Hiz Valley. A 'Hitchin's River Valley' interpretation board was designed during 2017 for a project at Cadwell Lane Playing Fields, and has now been installed at Burymead Springs, Walsworth Common and Purwell Meadows. This will promote the links between the sites and encourage people to explore all four. Occasional guided walks encompassing all four sites would also be beneficial.



Hitchin's River Valley interpretation design

The route of the Hicca Way, which follows the River Hiz, passes Burymead Springs. Until the railway flyover works were complete, this followed an alternative route avoiding the closed footpath. The Hicca Way should now be signed along its original route passing Burymead Springs, removing waymarkers on the alternative route, and people using the path may be interested to explore Burymead Springs as they pass. This route is already shown on the leaflet for the Hicca Way.

4. AIMS AND OBJECTIVES

4.1 A WELCOMING PLACE

To enhance the experience of using Burymead Springs for regular users and visitors.

- 1A Improve local signposting to Burymead Springs.
- 1B Restore a well-defined eastern boundary along the public footpath.
- 1C Improve the welcome to the viewing platform.
- 1D Develop a circular walking route around the site.

4.2 HEALTHY, SAFE AND SECURE

To ensure that visitors to Burymead Springs feel safe and able to enjoy the site at all times.

- 2A Respond proactively to any misuse of the site.
- 2B Carry out reactive tree works to address safety issues.
- 2C Maintain a 'no digging' area around the attenuation basin.

4.3 CLEAN AND WELL MAINTAINED

To ensure the standard of maintenance is upheld and relevant.

- 3A Manage and maintain the grass paths, interpretation and infrastructure.
- 3B Remove graffiti and fly-tipping.
- 3C Carry out regular litter picking, including along the River Hiz, and small scale vegetation management.

4.4 SUSTAINABILITY

To ensure sustainability of all management operations on site.

- 4A Ensure ongoing maintenance costs are financially sustainable.
- 4B Secure external funding to ensure the viability of capital works.
- 4C Carry out management according to environmental best practice, avoiding any use of herbicides, and using sustainable management practices.

4.5 CONSERVATION AND HERITAGE

To conserve and enhance the key habitats of Burymead Springs.

- 5A Carry out regular conservation cuts of the dry and wet meadows.
- 5B Cut up to 300m² of the reedbed annually, aiming to cut the whole reedbed on a ten-year rotation.
- 5C Coppice encroaching scrub within the reedbed and the meadows.
- 5D Coppice established hedgerows and scrub on a 25-year rotation.
- 5E Coppice and pollard trees along the River Hiz to reduce shade.
- 5F Maintain previous tree and shrub planting.
- 5G Excavate material from the lagoon and reedbed to secure open water and increase structural diversity.
- 5H Restore seasonal ponds within the wet woodland.

4.6 COMMUNITY INVOLVEMENT

To develop and maintain an informed, involved and enthusiastic local community.

- 6A Encourage the local community to become involved in the management of the site in a structured and supported way and ensure all involved operate towards achievement of the objectives of the GAP.

6B Establish a Friends Group for NHDC's four sites in the Purwell Valley.

4.7 MARKETING

To promote awareness and interest in Burymead Springs.

7A Promote the links between Burymead Springs and other sites in the Purwell and Hiz Valley.

5. ACTION PLANS AND MAPS

ANNUAL AND REGULAR ACTIONS

Action	Obj. Ref	When	Responsibility	Funding	Est. Cost	Spec. Ref	Status
Work with scrap yard to remove any scrap metal which leaves its boundaries	2A	Ongoing	NHDC	Officer time			
Carry out a formal tree safety survey every three years	2B	Ongoing	NHDC	GM budget			
Carry out reactive tree safety works as required	2B	Ongoing	NHDC	GM budget			
Ensure all volunteers and contractors working on the site are aware of the 'no digging' area around the attenuation basin	2C	Ongoing	CMS/NHDC	Officer time			
Continue the established grounds maintenance programme	3A	Ongoing	JoC	GM budget			
Maintain infrastructure as required	3A	Ongoing	NHDC	GM budget			
Remove any graffiti and fly tipping on the site	3B	Ongoing	NHDC	GM budget			
Carry out regular litter picking	3C	Ongoing	JoC	GM budget			
Carry out small scale vegetation management along paths	3C	Ongoing	JoC	GM budget			
Collect rubbish from River Hiz	3C	Sep	CMS/Volunteers	Volunteers			
Carry out an annual conservation cut of the dry meadow	5A	Sep	CMS/Volunteers	Volunteers		5A	
Carry out an annual conservation cut of one third of the wet meadow	5A	Oct	CMS/Volunteers	Volunteers		5A	
Cut around one tenth of the reedbed (300m ²)	5B	Nov	CMS/Volunteers	Volunteers		5B	
Cut viewing channels through the reedbed	5B	Nov	CMS/Volunteers	Volunteers		5B	

Cut reed around the margins of the lagoon	5B	Nov	CMS/Volunteers	Volunteers		5B	
Clear ditch inlets and outlets and short sections of ditch	5B	Nov	CMS/Volunteers	Volunteers		5B	
Remove arisings from meadow and reed cuts	5A/5B	Nov	NHDC	GM budget			
Coppice encroaching scrub within the meadows	5C	Jun	CMS/Volunteers	Volunteers		5C/D	
Coppice encroaching scrub within the reedbed	5C	Dec	CMS/Volunteers	Volunteers		5C/D	
Coppice established scrub/hedgerows in two 50m ² blocks	5D	Feb	CMS/Volunteers	Volunteers		5C/D	
Build links with other organisations with an interest in the Upper and Bedford Ouse catchment	6A	Ongoing	CMS	Officer time			
Organise guided walks linking Burymead Springs with other Purwell Valley sites	7A	Ongoing	CMS/Volunteers	Officer time/ volunteers			

YEAR 1 ACTION PLAN 2018 – 2019

Action	Obj. Ref	When	Responsibility	Funding	Est. Cost	Spec. Ref	Status
Install a wooden sign to the viewing platform from the main path	1C	Jun	CMS/NHDC	Capital budget/volunteers	£200	1C	
Clear encroaching vegetation along the path to the viewing platform	1C	Oct	CMS	Volunteers			
Remove tree limbs around the viewing platform	1C	Oct	CMS	Volunteers			
Implement a grounds maintenance programme to manage the grass paths	3A	Apr	NHDC	GM budget			
Add a short grass path around the west end of the attenuation basin	3A	Apr	NHDC	GM budget			
Submit an external funding application to support capital works	4B	Mar	CMS	Officer time			
Restore part of the wet meadow by cutting and collecting vegetation	5A	Sep	CMS/NHDC	Capital budget	£1500		
Replant any trees or shrubs where new planting failed	5F	Oct	CMS/NHDC	Capital budget/volunteers			
Control weeds around newly planted trees and shrubs	5F	Jun	CMS	Volunteers			
Remove tree guards from older plantation	5F	Jun	CMS	Volunteers			
Arrange chemical analysis of silt	5G	Jun	CMS/NHDC	GM budget	£350		
Establish and support a Friends Group for NHDC's Purwell Valley sites	6B	Mar	CMS/NHDC	Officer time/volunteers			
Sign Hicca Way along route past Burymead Springs	7A	Jun	CMS/Arlesey Conservation for Nature	Volunteers			

YEAR 2 ACTION PLAN 2019 – 2020

Action	Obj. Ref	When	Responsibility	Funding	Est. Cost	Spec. Ref	Status
Upgrade public footpath signs to signpost Burymead Springs	1A	Jul	CMS/RoW	External	£300	1A	
Use silt from lagoon to define eastern boundary	1B	Oct	CMS/NHDC	External			
Plant a hedgerow along the eastern boundary	1B	Jan	CMS/NHDC	Capital budget/ volunteers	£400	1B	
Design and install an interpretation panel at the viewing platform	1C	Oct	CMS/NHDC	External	£1500	1C	
Establish an unsurfaced path through the wet meadow	1D	Jul	CMS/NHDC	Volunteers			
Coppice and pollard trees along the River Hiz	5E	Oct	CMS/NHDC	External	£5000	5E	
Control weeds around newly planted trees and shrubs	5F	Jun	Volunteers	Volunteers			
Re-excavate the lagoon and parts of the reedbed to restore and increase structural diversity	5G	Oct	CMS/NHDC	External	£20000	5G	
Coppice scrub around seasonal ponds	5H	Oct	CMS/NHDC	External	£1500	5H	
Restore seasonal ponds by desilting	5H	Oct	CMS/NHDC	External	£2500	5H	
Establish voluntary riverfly monitoring along the Purwell and Hiz	6A	Mar	CMS/Volunteers	Officer time/ volunteers			

YEARS 3-5 ACTION PLAN 2020 – 2023

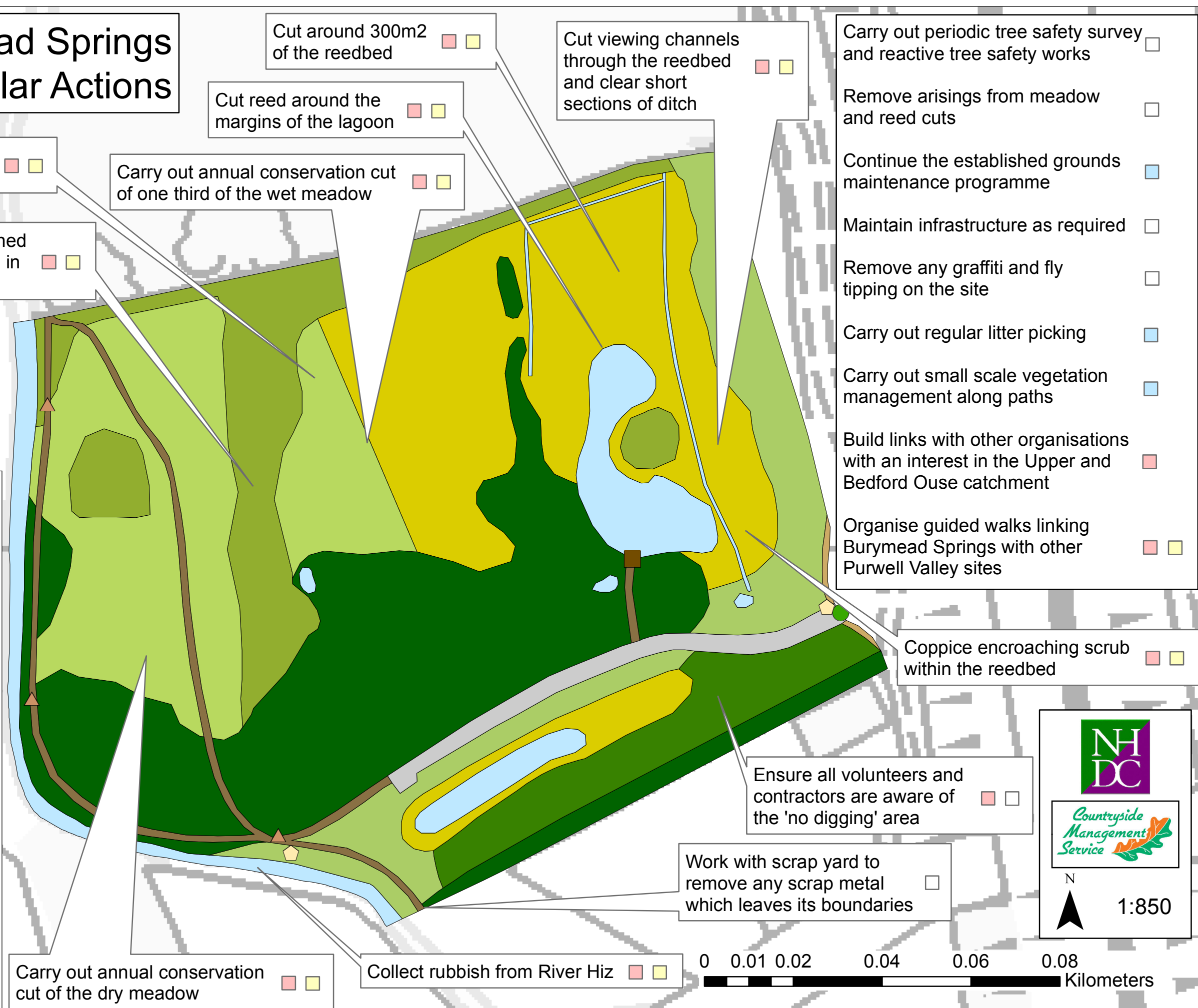
Action	Obj. Ref	When	Responsibility	Funding	Est. Cost	Spec. Ref	Status
Control weeds along new hedgerow	1B	Jun 2020	CMS/Volunteers	Volunteers			
Control weeds along new hedgerow	1B	Jun 2021	CMS/Volunteers	Volunteers			
Clear encroaching vegetation along the path to the viewing platform	1C	Oct 2022	CMS/Volunteers	Volunteers			
Remove tree limbs around the viewing platform	1C	Oct 2022	CMS/Volunteers	Volunteers			
Establish viewpoints through the hedgerow	1B	Oct 2022	CMS/Volunteers	Volunteers			
Produce Burymead Springs Greenspace Action Plan, 2023-2028		Mar 2023	CMS	Officer time			

Burymead Springs

Annual and Regular Actions

Who	
NHDC	<input type="checkbox"/>
CMS	<input type="checkbox"/>
Volunteers	<input type="checkbox"/>
JOC	<input type="checkbox"/>

Key	
	Bench
	Entrance
	Interpretation board
	Viewing platform
	Woodland
	New plantation
	Scrub
	Hedge
	Grass meadow
	Grass/ruderal vegetation
	Reed
	Water
	Unsurfaced path
	Surfaced access track



Carry out periodic tree safety survey and reactive tree safety works	<input type="checkbox"/>
Remove arisings from meadow and reed cuts	<input type="checkbox"/>
Continue the established grounds maintenance programme	<input type="checkbox"/>
Maintain infrastructure as required	<input type="checkbox"/>
Remove any graffiti and fly tipping on the site	<input type="checkbox"/>
Carry out regular litter picking	<input type="checkbox"/>
Carry out small scale vegetation management along paths	<input type="checkbox"/>
Build links with other organisations with an interest in the Upper and Bedford Ouse catchment	<input type="checkbox"/>
Organise guided walks linking Burymead Springs with other Purwell Valley sites	<input type="checkbox"/>

Coppice encroaching scrub within the reedbed	<input type="checkbox"/>
--	--------------------------

Ensure all volunteers and contractors are aware of the 'no digging' area	<input type="checkbox"/>
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Work with scrap yard to remove any scrap metal which leaves its boundaries	<input type="checkbox"/>
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Carry out annual conservation cut of the dry meadow	<input type="checkbox"/>
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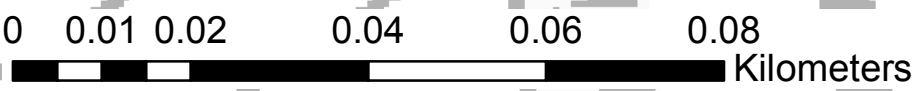
Collect rubbish from River Hiz	<input type="checkbox"/>
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NHDC

Countryside Management Service

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Burymead Springs

Year 1 Action Plan

2018-19

- Submit an external funding application to support capital works
- Establish and support a Friends Group for NHDC's Purwell Valley sites

- Implement a grounds maintenance programme to manage the grass paths

- Restore part of the wet meadow by cutting and collecting vegetation

- Remove tree limbs around the viewing platform

- Sign Hicca Way along route past Burymead Springs

- Clear encroaching vegetation on path

- Control weeds around newly planted trees and shrubs

- Replant trees and shrubs where new planting failed

- Install a wooden sign to the viewing platform

- Remove tree guards from plantation

- Add a grass path next to the attenuation basin

- Who
- NHDC
 - CMS
 - Volunteers
 - Other

Key

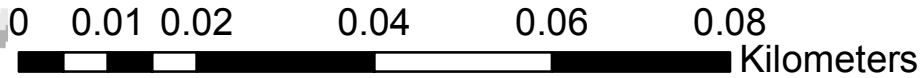
- Bench
- Entrance
- Interpretation board
- Viewing platform
- Woodland
- New plantation
- Scrub
- Hedge
- Grass meadow
- Grass/ruderal vegetation
- Reed
- Water
- Unsurfaced path
- Surfaced access track



NHDC
Countryside Management Service

N

1:850



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Burymead Springs

Year 2 Action Plan

2019-20

Upgrade public footpath signs to signpost Burymead Springs ■ ■

Establish voluntary riverfly monitoring along the Purwell and Hiz ■ ■

Establish an unsurfaced path through the wet meadow ■ ■

Re-excavate the lagoon and parts of the reedbed ■ ■

Use silt from lagoon to define eastern boundary ■ ■

Plant a hedgerow along the eastern boundary ■ ■

Install interpretation at viewing platform ■ ■

Control weeds around newly planted trees and shrubs ■


Coppice trees around seasonal ponds and desilt ■ ■

Coppice and pollard trees along the River Hiz ■ ■

- Who**
- NHDC ■
 - CMS ■
 - Volunteers ■
 - Other ■

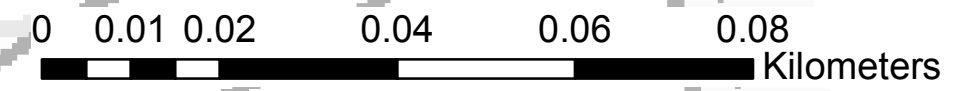
Key

- ▲ Bench
- Entrance
- ◆ Interpretation board
- Viewing platform
- Woodland
- New plantation
- Scrub
- Hedge
- Grass meadow
- Grass/ruderal vegetation
- Reed
- Water
- Unsurfaced path
- Surfaced access track



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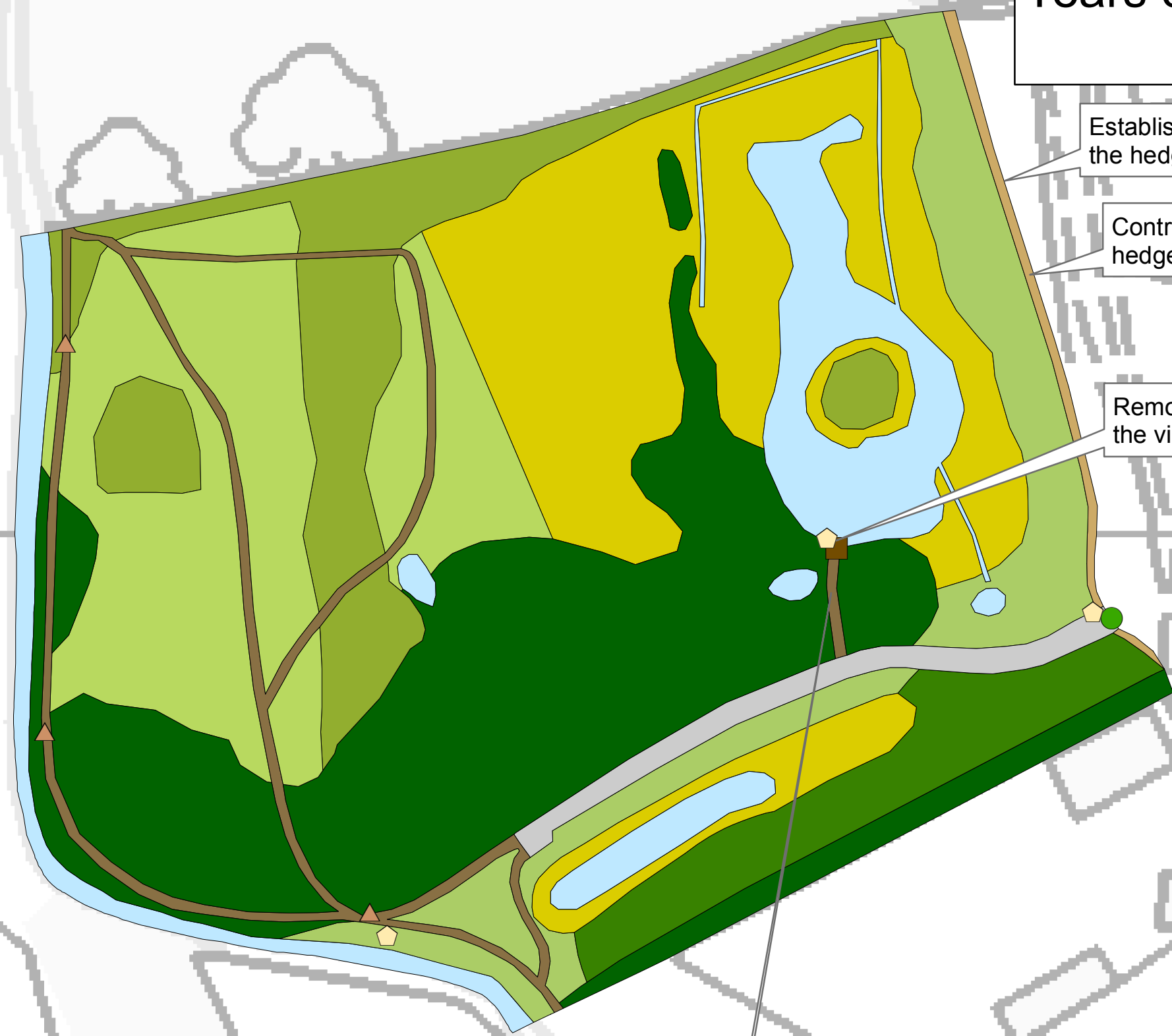
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Who	
NHDC	<input type="checkbox"/>
CMS	<input type="checkbox"/>
Volunteers	<input type="checkbox"/>

Key	
	Bench
	Entrance
	Interpretation board
	Viewing platform
	Woodland
	New plantation
	Scrub
	Hedge
	Grass meadow
	Grass/ruderal vegetation
	Reed
	Water
	Unsurfaced path
	Surfaced access track



Establish viewpoints through the hedgerow

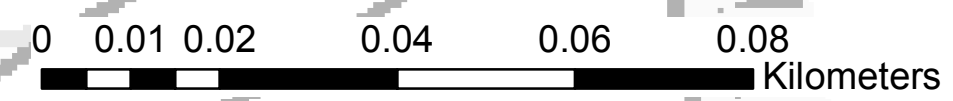
Control weeds along new hedgerow (2020 and 2021)

Remove tree limbs around the viewing platform (2022)

Clear encroaching vegetation along the path to the viewing platform (2022)

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6. SPECIFICATIONS

1A: Upgrade public footpath signage to Burymead Springs

- a) Design and produce four metal public footpath signage according to a standard design, all including the text 'Public footpath 26' and for the following locations.
- b) Junction between Cadwell Lane and footpath Hitchin 026 at TL18853095, signposting 'Burymead Springs 150 yds' and 'Ickleford $\frac{2}{3}$ mile'.
- c) Gateway next to scrap yard at TL18793095, signposting 'Burymead Springs' and 'Ickleford $\frac{1}{2}$ mile'.
- d) Gateway next to scrap yard at TL18793095, signposting 'Hitchin 1 $\frac{1}{2}$ miles'.
- e) Junction between footpath Hitchin 026 and byway Ickleford 018 at TL18473168, signposting 'Burymead Springs $\frac{1}{2}$ mile' and 'Hitchin 2 miles'.
- f) Signs to be banded to existing posts.
- g) Existing signs to be removed and disposed of appropriately.

1B: Plant hedgerow along eastern boundary

- a) See appendix 1 – hedge planting guidance notes.
- b) Plant a native hedgerow along the eastern boundary of the site, a length of around 85m.
- c) A standard species mix will be primarily hawthorn (*Crataegus monogyna*), and could also include blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), hazel (*Corylus avellana*), common dogwood (*Cornus sanguinea*) and dog rose (*Rosa canina*).

1C: Produce and install sign to viewing platform

- a) Supply a waymark post of green English oak with semi-seasoned oak pointer.
- b) The dimensions of the post should be: length 2400mm x width 125mm x depth 125mm with a four way weathered top.
- c) Engrave the text 'Viewing platform' into the pointer.
- d) Deliver to CMS for installation by volunteers.

1C: Design and install a new interpretation panel

- a) Design and produce one A2 interpretation board which provides information for visitors on biodiversity and positive management of the lagoon and reedbed, and provide PDF version of the same.
- b) Design to be based around a hand drawn image, and to follow the style used in existing interpretation on the site.
- c) Provide two proof stages of full colour design in hard copy and PDF format.
- d) Supply a powder coated stainless steel frame suitable for fence mounting, incorporating a GRP panel.
- e) Deliver to CMS for installation by volunteers.

5A: Conservation cut of the dry meadow

- a) Cut 100% of the dry meadow annually in autumn.
- b) Collect and stack the arisings either in a temporary location for collection or in a sacrificial site under scrub, using the same site each year.
- c) Where possible, arisings should be removed by the grounds maintenance contractors at least annually.

5A: Conservation cut of the wet meadow

- a) Cut one third of the wet meadow annually in autumn.
- b) Collect and stack the arisings either in a temporary location for collection or in a sacrificial site under scrub, using the same site each year.
- c) Where possible, arisings should be removed by the grounds maintenance contractors.

5B: Conservation cut of the reedbed

- a) Cut one tenth of the reedbed (approximately 300m²) annually in autumn or winter.
- b) Cut reed around the margins of the lagoon annually in autumn or winter.
- c) Cut viewing channels through the reedbed from the footpath and the viewing platform, annually in autumn or winter.
- d) Collect and stack the arisings either in a temporary location for collection or on the edge of the reedbed, ideally under scrub, using the same site each year.
- e) Where possible, arisings should be removed by the grounds maintenance contractors.

5B: Ditch maintenance

- a) Clear scrub and brambles from around the inlets and outlets of ditches on the site annually.
- b) Clear vegetation from short (20m) sections of ditch annually, aiming to clear the full length of the ditches on rotation.

5C/D: Scrub maintenance

- a) Coppice willows and other scrub within the reedbed and the meadows to prevent encroachment.
- b) Coppice the mature scrub and hedgerows on a 25-year rotation.
- c) Aim to work on two blocks of around 50m² each winter.
- d) Burn the arisings, minimising the number of fire sites used from year to year.
- e) Retain some cut wood and brash to create habitat piles within the scrub.

5E: Coppice and pollard trees along the River Hiz

- a) Coppice or pollard selected trees along the 200m section of the River Hiz adjacent to Burymead Springs.
- b) Pollard at chest height to allow for future management by volunteers with hand tools.
- c) Aim to introduce dappled sunlight along this stretch of the river.

5G: Excavate the lagoon and parts of the reedbed

- a) In advance of carrying out works, obtain analysis of silt from excavation sites, plan disposal of silt and obtain any necessary permissions for excavations and waste transfer.
- b) Re-excavate the margins of the lagoon to achieve a total area of open water of 1300m², compared to a current area of around 700m², by clearing reed plants, rhizomes and silt.
- c) Assuming an average depth of excavation of 0.5m, this will produce 300m³ of silt and rhizomes, with additional plant material.
- d) Leave gentle sloping edges less than 1 in 5 to create wide shallow margins, with a wavy edge, some longer inlets and a rough finish.
- e) Maximise structural diversity within the reedbed by creating deeper channels which link to the ditches on either side of the lagoon.
- f) Deposit spoil along the eastern boundary, taking care not to block any springs or ditches, and using it to build up and better define the eastern boundary.

5H: Restore seasonal ponds

- a) Three seasonal ponds identified on the map in section 2.2 are to be restored and enlarged by clearing encroaching scrub and re-excavating.
- b) Scrub in and around each pond is to be cleared as agreed with the supervising officer.
- c) Brashy material should be chipped and removed from site. Any larger timber should be stacked next to the ponds to create habitat for amphibians.
- d) Excavate each pond to a maximum depth of 1500mm, adding 20m² to the current area of each pond.
- e) Ponds to have a gentle sloping edge less than 1 in 5 to create wide shallow margins, with a wavy edge and a rough finish.
- f) Spoil should be spread around the ponds to a maximum depth of 100mm.

7. APPENDICES

Appendix 1 – Hedge planting guidance notes

Planting a new hedge is a long term commitment and should be considered carefully. This leaflet aims to outline the main points that will ensure success.

Site Preparation

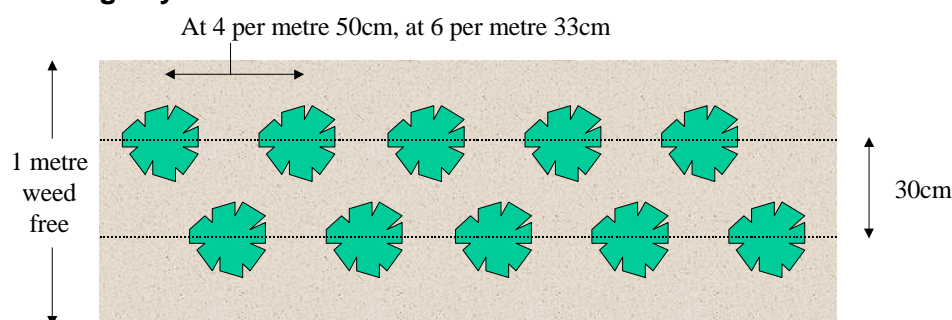
To aid establishment the site should be prepared prior to planting. Plough, rotovate or dig a strip 60cm wide by 30cm deep and create a weed free strip about 1m wide, either by cultivation or herbicide.

Plant Selection

Bare root transplants of 30cm to 60cm should be used, of a species mix which matches surrounding hedges. For further advice on suitable species contact your local CMS officer.

As a basic guide the species mix should be predominantly hawthorn. You may use blackthorn but be aware that it suckers vigorously and you may therefore wish to leave it out.

Planting Layout



To this a small proportion of shrubs indicative of the local area could be included, but when doing this avoid regular spacing as this may create a striped unnatural effect.

Planting Out

Plant out as soon as possible after obtaining the plants. All roots should be protected while exposed to prevent drying out or frost damage. This includes during planting out when a slight breeze can soon dry the roots.

Plant during the winter, or ideally late autumn or early spring to avoid heavy frosts, but while the soil is moist.

If the ground is very soft or has been cultivated then slot planting maybe an option otherwise pit planting is better.

The plants should be spaced in a staggered double row with 4 to 6 plants per metre.

Protection

Wild animals such as rabbits, voles or deer can decimate a newly planted hedge so protection of new plants is essential. Individual guards are generally the easiest way though fencing maybe an option.

Types of Guards

Spiral guards – These expand with the growing plant and protect from browsing animals. Clear guards are generally preferable.

Plastic mesh guards – These can be used where branching is a problem such as with holly.

Tree shelters – While protecting the plant these also aid the trees early development by providing a sheltered environment, but will restrict lateral growth.

Guards should be removed once the plants are well established, say in 3 to 5 years, though caution may be needed where large numbers of rabbits are present.

Domestic Animals

Cattle, sheep and horses may all browse and damage new hedge plants. If they are present then a fence will be required. This should be at least 1m from the hedge and ideally 2m to allow maintenance and prevention of browsing.

Weed Problems

This is perhaps the most important operation when establishing a new hedge and is often overlooked. The main way in which weeds harm new trees is by competing for water and nutrients from the soil. Certain weeds can also smother new plants depriving them of light.

Weed competition not only reduces the survival rate of a new planting, it also dramatically reduces their subsequent growth rate. This can mean the difference between a first year growth rate of 30-40cm and a first year growth rate of just 1-2cm. In extreme cases plants may even experience first year die back. This is more common where standard sized trees are planted.

Weed Control

To prevent weed competition an area 1 metre across should be cleared of vegetation in line with the new hedge. This will require maintenance for the first three years or until the plants become established.

A variety of methods can be used to control weeds as detailed:

Cutting – This will help to control some plants such as nettles and brambles, but will invigorate many others such as grasses and rosette forming herbs, stimulating greater root growth and competition. Where these weeds predominate cutting will be counterproductive.

Hoeing – Can be effective but is labour intensive, and great care will be needed around newly established plants in order to not excessively disturb their roots or damage the bark.

Herbicide – This is cheaper than most alternatives, but requires specialist knowledge and equipment. Advice can only be given by a suitably qualified practitioner.

Mulch mats – These are effective but may occasionally harbour small mammals and invertebrate pests.

Organic mulch – An environmental alternative which suppresses weeds before rotting into the soil. The following can be used: wood chips, bark, coconut fibre, grass cuttings, well-rotted horse manure or farm yard manure. A layer about 4" deep will be required to be effective. Some light weeding and topping up of the layer will be needed in following years.

Losses

If all the precautions listed on this sheet are followed then losses should be minimal, however during extreme weather losses may be unavoidable and should be replaced the following year.

Hedge Profiles

An early trim at the end of the first growing season will help to produce a thicker hedge. After this the aim should be to produce a hedge 2 metres tall by about 1.5 metres wide, with an A-shaped profile. If a more vertical profile is needed then chamfered top corners will help to produce a similar effect.

Hedgerow Trees

If hedgerow trees are to be included these should be spaced at least 30m apart to prevent them overshadowing the hedge. To establish trees, they can be planted in the line of the new hedge along with the hedge plants, but use tree shelters to allow their identification during maintenance.

Planting Checklist

- Ground preparation
- Plant selection and species
- Time of year
- Pest protection
- Weed control