



## **Purwell Meadows**

## **Local Nature Reserve (LNR)**

**GREENSPACE ACTION PLAN, 2022 – 2027**

Produced by:



On behalf of:



**North  
Herts**  
Council

## OVERVIEW

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### Greenspace Action Plans

Greenspace Actions Plans (GAPs) are map-based management plans which specify activities that should take place on a site over a stated period of time; these activities will help to deliver the agreed aspirations which the site managers and stakeholders have identified for that site.

### Public Engagement

Engagement with stakeholders is at the centre of effective management planning on any site. An initial engagement period was held for 4 weeks in October 2021, to establish core aims and objectives for the site; these are reflected in Section 3. A second stage of engagement completed in January 2022 enabled stakeholders to comment on the proposed management actions for the site. An associated engagement response document, published online as an appendix to this plan, summarises comments received, and any amendments made to the plan as a result.

### Version Control

Version	Issue Date	Details	Author	Reviewed	Approved
V1	07/10/21	First draft	EA		
V2	10/12/21	Second draft	EA		
V3	10/01/22	Final draft	EA		

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## 1.0 SUMMARY

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### 1.1 Site Summary

Site Name: Purwell Meadows LNR

Site Address: Purwell Meadows, Purwell Lane, Hitchin, SG4 0LP

Grid Reference: TL20013 29861

Size: 8.5 hectares (21.7 acres)

Designations: Local Nature Reserve (LNR), Local Wildlife Site (LWS)

Owner: North Hertfordshire Council (NHC)

The Greenspace Action Plan (GAP) for Purwell Meadows Local Nature Reserve sets out the management, maintenance and development framework of the site over five years, with detailed action plans and management maps provided for each year of the plan and core aspirations for the long-term management of the site.

The previous GAP ran from 2017 to 2022 and this new GAP will follow on and seek to build on the legacy of the achievements of the previous GAPs and projects. Previous successes include:

- NHC and CMS working in partnership successfully to achieve the majority of objectives defined in the previous GAPs.
- Veolia Landfill Communities Fund (LCF) project (2011) – this enabled enhancement to entrances, interpretation, grazing infrastructure and river restoration.
- Water Environment Grant (WEG) (2019-20) – Funded by the EA, this project achieved improvements to the Purwell River water quality through vegetation clearance, flow deflector installation, and temporary fencing installation.

The management plan will be reviewed annually, so that any outstanding tasks can be rescheduled as necessary. The management plan will be reviewed in conjunction with the Countryside Management Service and any other relevant bodies.

### 1.2 Vision Statement

Purwell Meadows will continue to be an important site for wildlife in the Purwell Valley, managed as good quality habitat and serving as a steppingstone for wildlife to move along the valley. It will provide visitors and local residents an attractive greenspace in the heart of Hitchin. The priority of this management plan is to improve the grassland and riverine habitats present within the site.

## **2.0 SITE DESCRIPTION**

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### **2.1 Introduction**

Purwell Meadows Local Nature Reserve is an 8.5 hectare (21.7 acre) open space in the centre of Hitchin, which is owned by NHC and managed in partnership with the CMS. The main management techniques for most of the site are cattle grazing, practical volunteer work and grounds maintenance.

The mosaic of dry grassland, marshy grassland, hedgerows and scrub along the river at Purwell Meadows are home to a wide variety of plants, birds, animals and insects. The site is part of a chain of important wildlife areas along the Purwell Valley linked by the River Purwell. The meadows provide a steppingstone for the movement of wildlife along the valley such as Water Voles and Otters. The clear, mineral rich water of the river keeps the low-lying land of Purwell Meadows damp, creating marshy wet grassland and wet hollows which support a rich and distinctive variety of wildlife.

Springs rise out of the chalk bedrock at St. Ippolyts, flowing down Ippollitts Brook, joined by other springs to form the River Purwell. Chalk rivers are a rare habitat globally and in the UK, making the River Purwell of worldwide importance. The site is designated a Local Wildlife Site and was declared a Local Nature Reserve in 1994.

# Purwell Meadows Greenspace Action Plan Site Location

## Legend

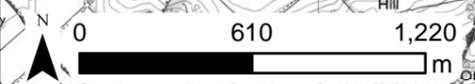
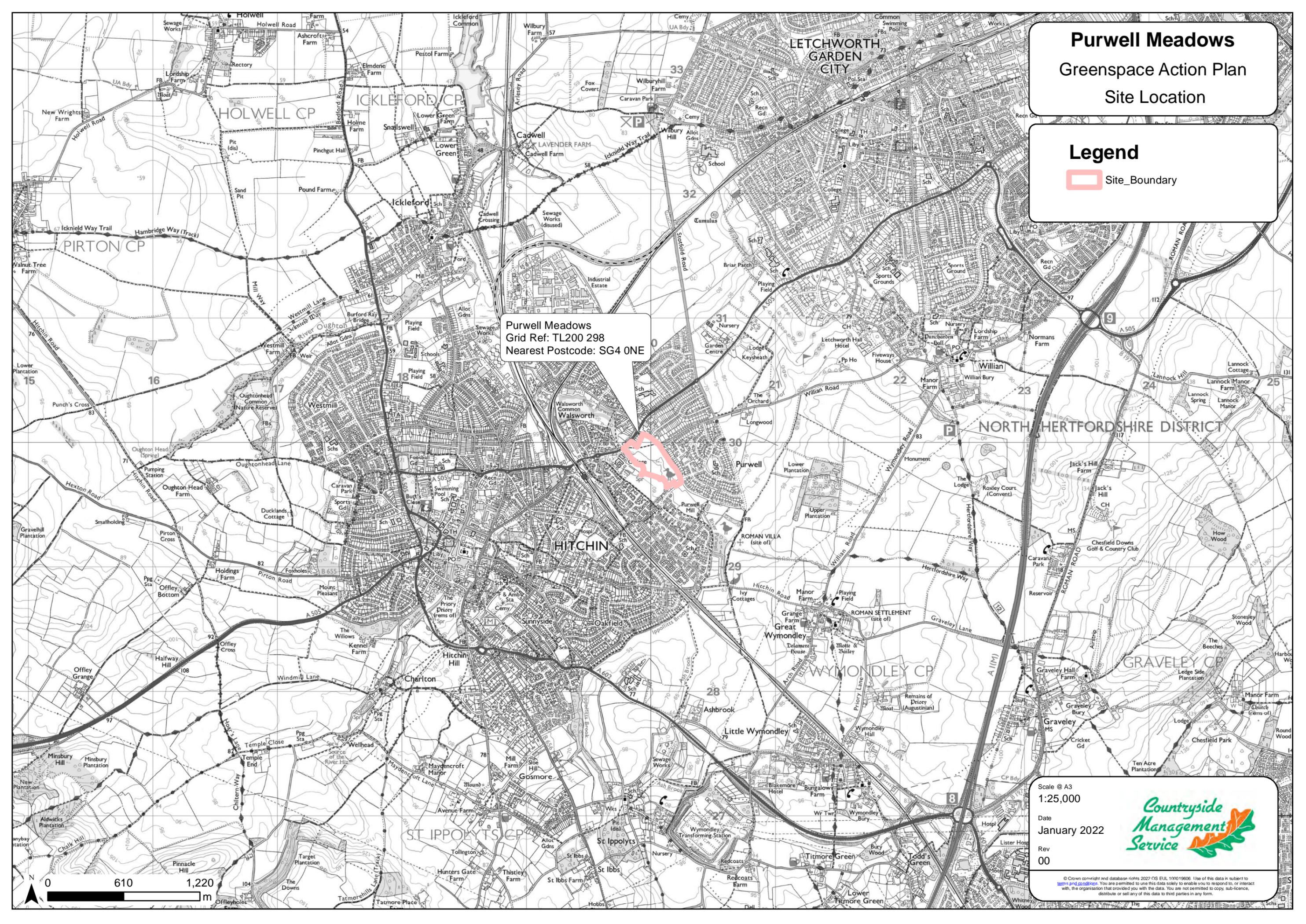
 Site\_Boundary

Purwell Meadows  
Grid Ref: TL200 298  
Nearest Postcode: SG4 0NE

Scale @ A3  
1:25,000  
Date  
January 2022  
Rev  
00



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# Purwell Meadows

## Greenspace Action Plan

### Site Description

### Legend

#### Infrastructure

- ▲ Entrance sign
- ▲ Interpretation sign
- ▲ Notice board
- ↑ Waymarking post
- 🗿 Sculpture
- General waste bin
- Bench
- Picnic table
- ▤ Steps
- Culvert
- ✕ Cross drain
- ⊕ Bridle gate
- ⊕ Kissing gate
- ⊕ Vehicle gate
- ⊕ Stagger barrier
- ⊕ Bollards

#### Temporary fencing

- Existing fence
- Proposed fence

#### Site Description

- Amenity grass
- Grass path
- Hedgerow
- Permeable path
- Culvert
- Scrub
- Wet rush pasture
- Dry calcareous/neutral grassland
- Water
- Fen vegetation
- Woodland
- Cattle Handling Pen
- Trees
- Site Boundary



Scale @ A3

1:1,650

Date  
January 2022

Rev  
00



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# Purwell Meadows

Greenspace Action Plan 2022-27

Constraints Plan

## Legend

 Site Boundary

### Utilities

 Combined Sewer Pipe

### Public Rights of Way

 Footpath

### Flood Zone Categories:

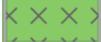
 Main River

 Flood Zone 3

 Flood Zone 2

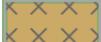
### Environmental Designations

 Wildlife Site

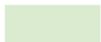
 Deselected Wildlife Site

 Local Geological Site

 Geosite

 Deleted Geosite

 Local Nature Reserve

 Greenbelt



Scale @ A3

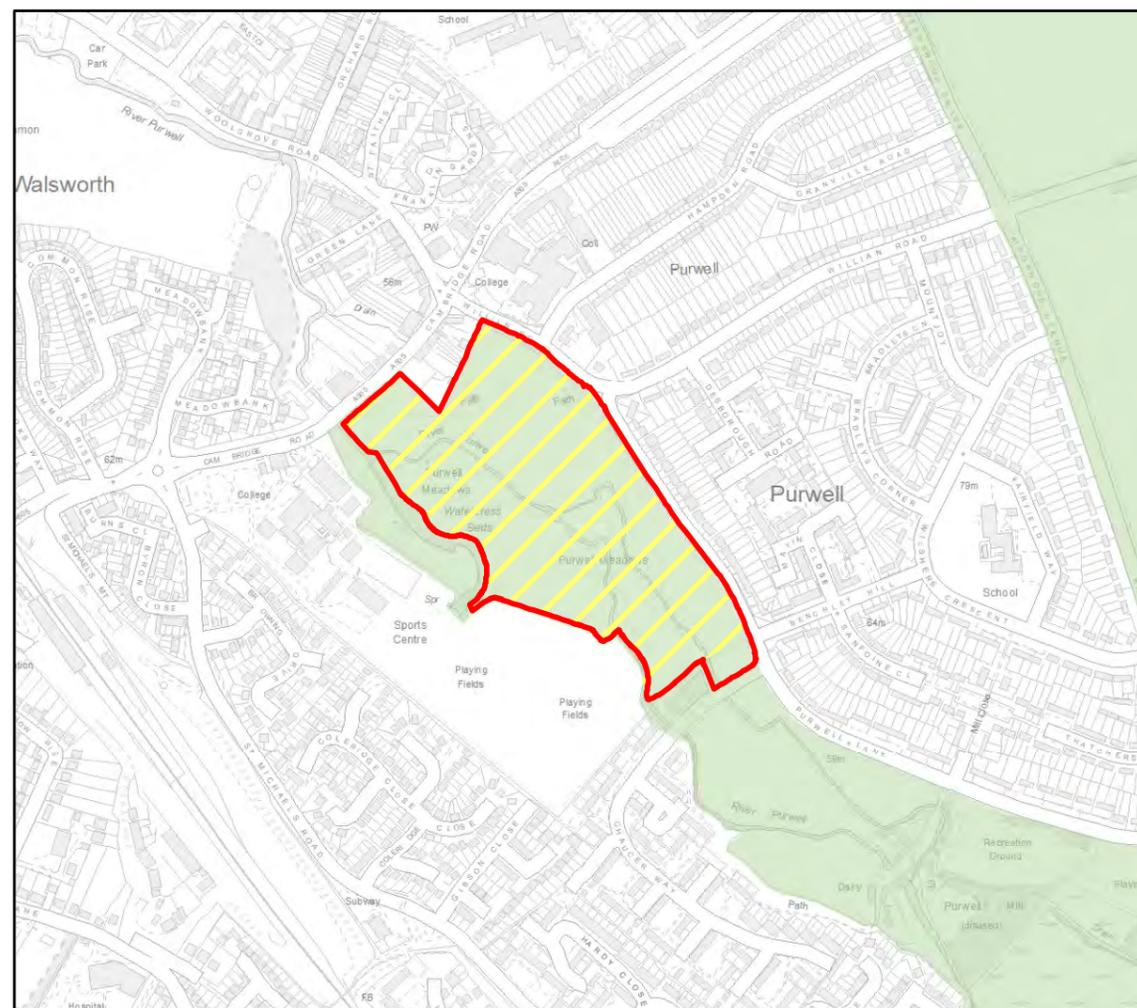
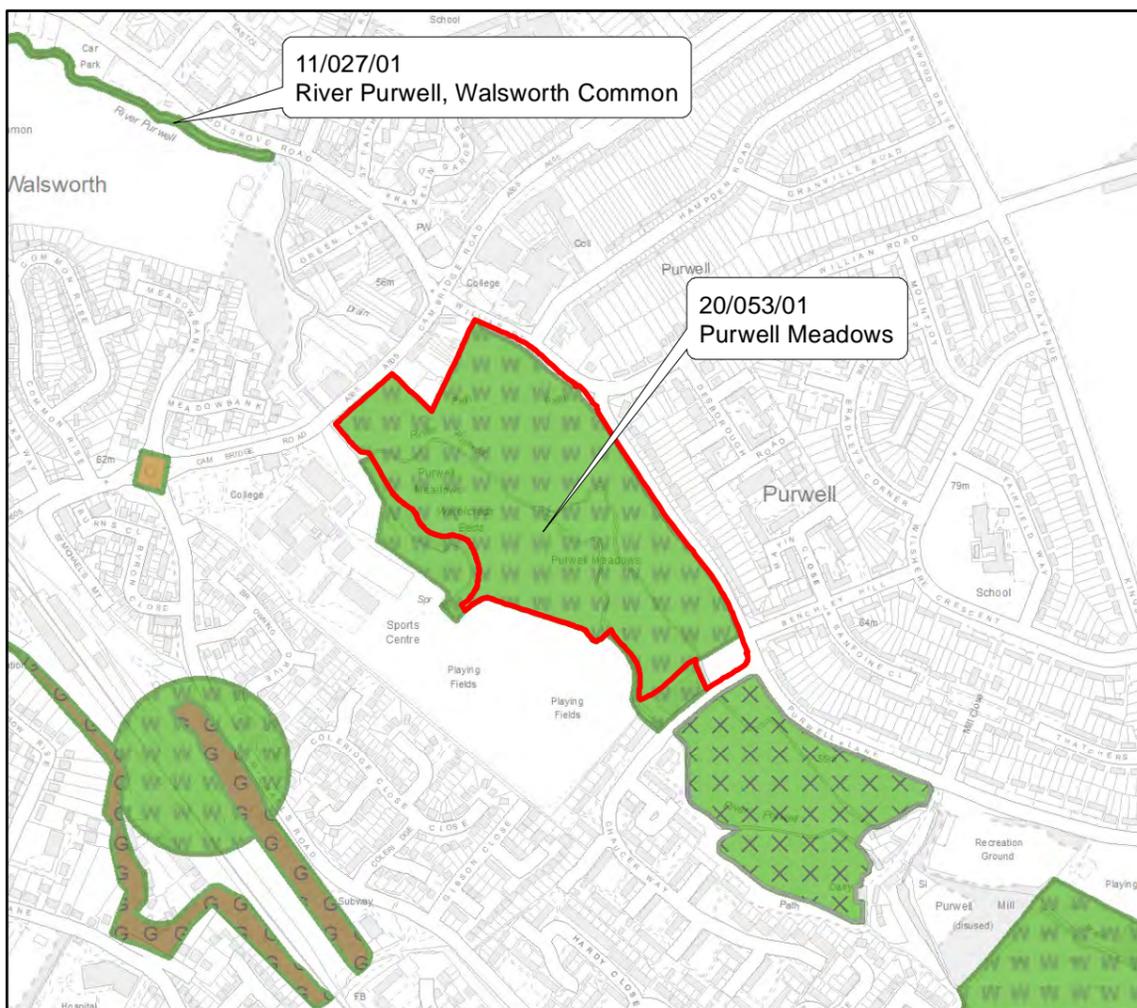
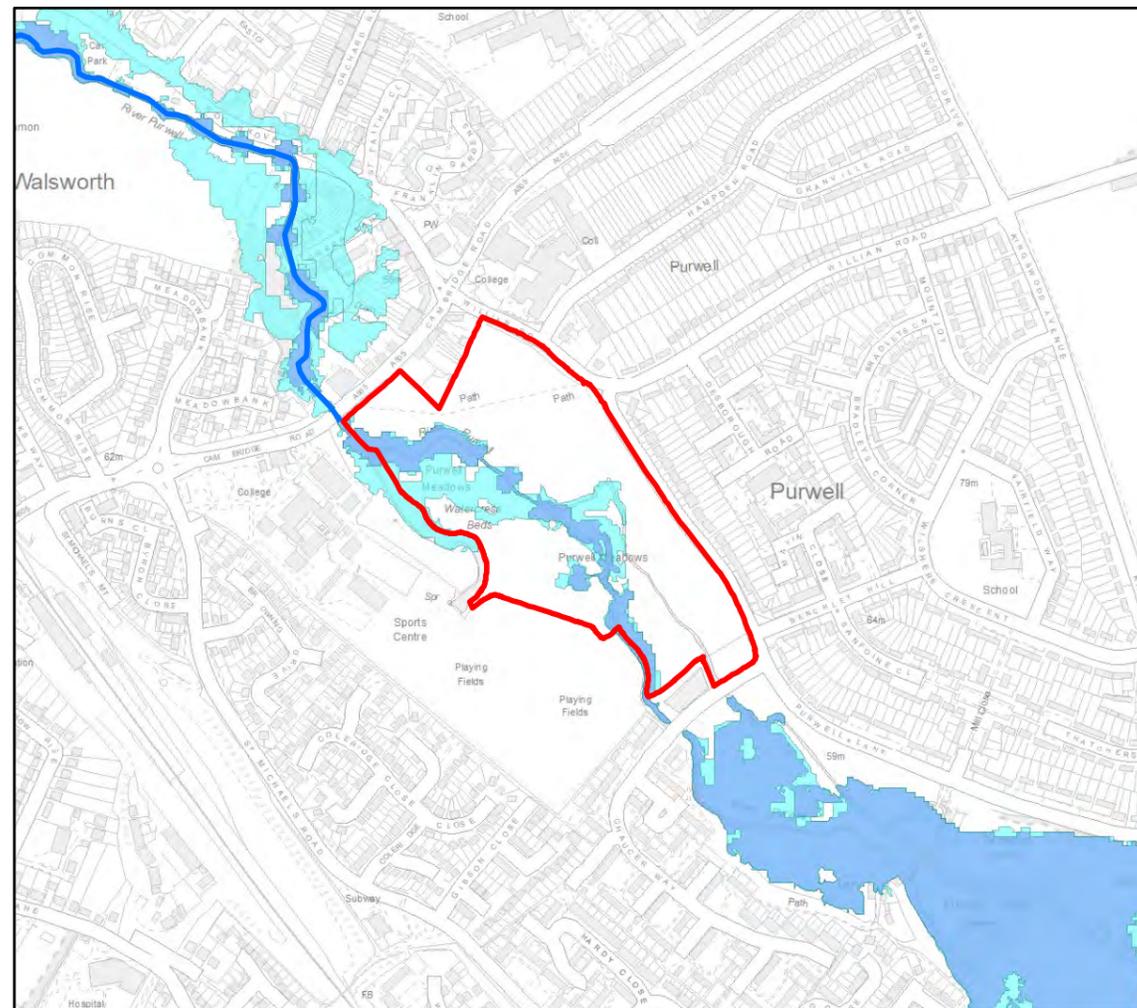
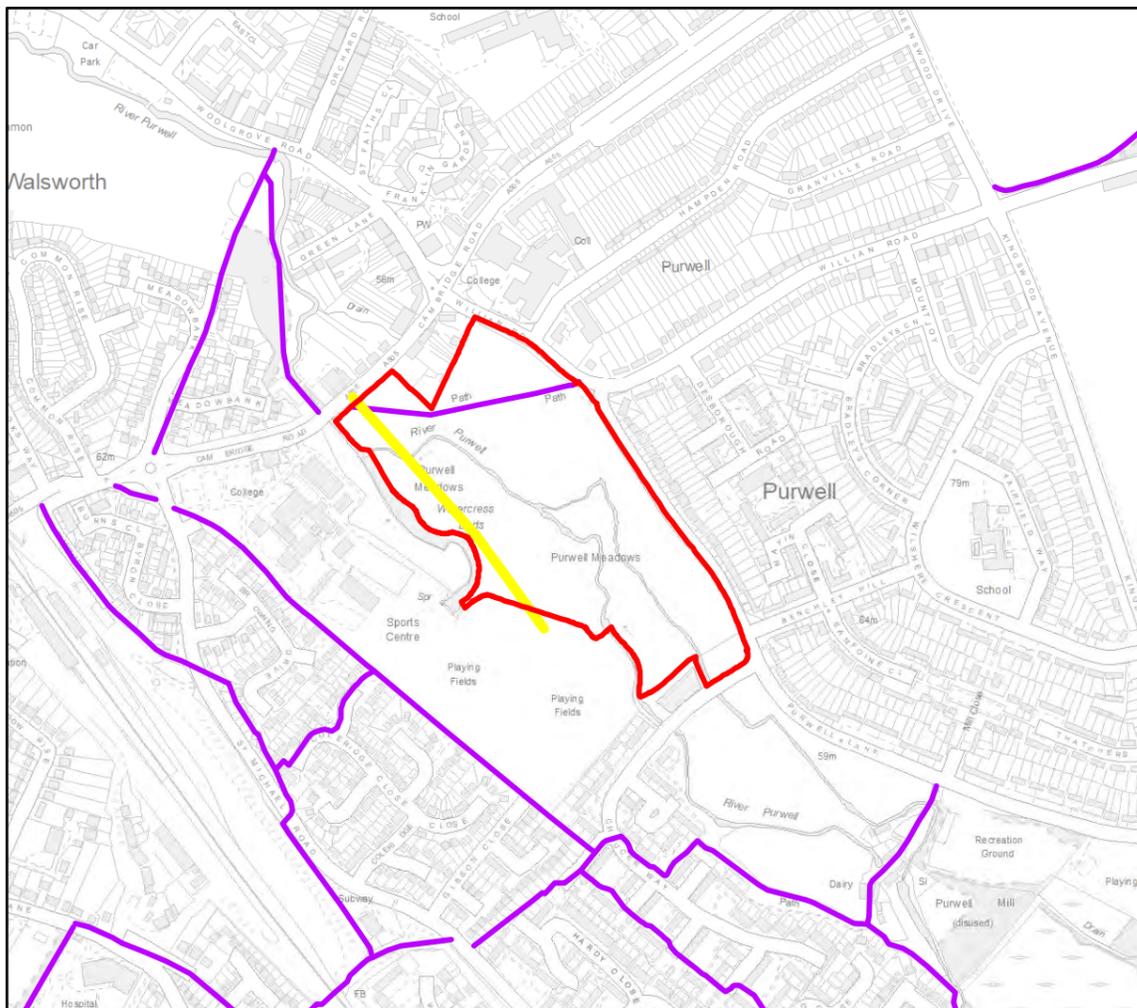
1:8,000

Date  
January 2022

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## 2.2 Geography and Landscape

The site is covered by several designations, listed below:

Scale	Designation	Detail
National	Local Nature Reserve	The site was declared a Local Nature Reserve in 1994 by North Herts District Council.
County	Local Wildlife Site	The majority of the site was designated under 10/053 Purwell Meadows with the LWS inventory giving the following reasons for designation; Old pastures along the River Purwell and its associated streams, mostly of unimproved calcareous grassland with areas of marshy ground and associated springs, some scrub, a former cress bed and secondary neutral grassland. The site supports a diversity of lower and higher plant species including a number of species uncommon or rare in Hertfordshire. Species of interest recorded include quaking grass ( <i>Briza media</i> ), spiny rest-harrow ( <i>Ononis spinosa</i> ), greater bird's-foot trefoil ( <i>Lotus pedunculatus</i> ), common fleabane ( <i>Pulicaria dysenterica</i> ), water horsetail ( <i>Equisetum fluviatile</i> ), blunt-flowering rush ( <i>Juncus subnodulosus</i> ), brown sedge ( <i>Carex disticha</i> ), bottle sedge ( <i>C. rostrata</i> ), adder's-tongue ( <i>Ophioglossum vulgatum</i> ), and southern marsh-orchid ( <i>Dactylorhiza praetermissa</i> ). The meadows are of local importance to birds especially passage and feeding. Protected species have been recorded on site. Wildlife Site criteria: grassland indicators; fen swamp indicators.
District/ Borough	Green Belt	The entire site is contained within the Metropolitan Green Belt.

Parts of the site are affected by springs derived from the water table above the relatively impermeable Melbourn Rock strata in the chalk beneath the site.

The underlying bedrock geology comprises Melbourn rock member chalk, this is overlain for much of the site by superficial geology deposits of alluvium of clay, silt, sand and gravel. The geology is overlaid by poor draining gleyed soils over alluvial drift predominately. The majority of the soils are clay to sandy loams of riverine clay, sands and gravels. There are local areas of fine sand to sandy loam soils over river terrace sand and gravel.

Purwell Meadows is located in the North Herts Landscape Character Area 217 – River Oughton and Purwell. The area's key characteristic is traditional cattle grazed water meadows along meandering watercourse with associated ponds and water bodies and linear woodland belts. The River Purwell is typical of this character area with its wooded banks of poplar, willow and ash, with mature hawthorns dotted along the banks. The site is surrounded on three sides by roads and residential dwellings. To the south of the site, beyond Chaucer Way is the upstream section the river including Purwell Ninesprings nature reserve. To the west of the site are the grounds

of North Hertfordshire College, some of which has been sold by the college for the building of private housing. This does mean that North Hertfordshire College will no longer have a boundary with Purwell Meadows. Although, this is out of the scope of this management plan it is worth noting here. The potential impact that this may have on the River Purwell and Purwell Meadows has been considered and swales and gravel strips will be included to filter surface water runoff into the River Purwell. NHC will seek to work with the future owners and managers of the green space between Purwell meadows and the area of new housing to promote responsible management of this area for wildlife and limit negative impacts on Purwell Meadows.

## 2.3 History and Archaeology

### 2.3.1 Archaeological Interest

Within 1km of Purwell Meadows there are several important archaeological features. Through searching the Hertfordshire Environment Record in 2022 several local important features were identified. The local area has had significance throughout history as highlighted by the archaeological records. These records should be considered in the context of future work on the site. Two of these archaeological records are within the site boundary and eight are a short distance from the site:

Result	ID	NAME
1	291	NEOLITHIC FLINT IMPLEMENTS, PURWELL, HITCHIN
2	12573	SITE OF WATERCRESS BEDS, PURWELL MEADOWS, HITCHIN
3	12579	ROAD BRIDGE OVER RIVER PURWELL, WALSWORTH, HITCHIN
4	16315	THE ANCHOR PH, CAMBRIDGE ROAD, WALSWORTH, HITCHIN
5	18205	LATER BRONZE AGE/EARLY IRON AGE DITCH, CAMBRIDGE ROAD, WALSWORTH, HITCHIN
6	108	LATE IRON AGE POTTERY, PURWELL, HITCHIN
7	309	NEOLITHIC OR BRONZE AGE FLINT SCRAPER, PURWELL MILL, HITCHIN
8	1416	ROMAN COIN, CAMBRIDGE ROAD, WALSWORTH, HITCHIN
9	5793	WATERMILL, PURWELL MILL, MILL LANE, HITCHIN
10	12574	WALSWORTH HOUSE, CAMBRIDGE ROAD, WALSWORTH, HITCHIN

The records highlighted in red are within the site boundary, others are outside of the boundary. Record 5 shows a Bronze Age/Iron Age ditch which suggests that the site has been open land for a long time. The watercress beds which are located adjacent to the site are thought to have been an important industry within the area in the late 19<sup>th</sup> century. Purwell Mill is located upstream of Purwell Meadows and has significant local historical importance. Other records indicate importance of the local area since the Bronze Age.

### 2.3.2 Land-use history (pre 2010)

Compartment numbers and names refer to Purwell Meadows 1984 management plan (please see appendix 1).

The Court Leete and View of Frankpledge of the Manor of Hitchin, 21st October 1819, gives full details of the Commons of Hitchin and their uses. In this document, the area known as Shadwells and Mungees are identified as Lammas Meadows (Compartments 6,7 and 8). These pastures were in private ownership, but had rights of common pasture for cattle and sheep as follows:

"The Homage find that the occupier of every ancient messuage or cottage within the Hamlet of Walsworth hath a right to turn and depasture on the commonable land thereof ... two cows and a bullock or yearling cow calf ... upon the Lammas ground in Walsworth upon and from Old Lammas-day (13th August) until Old, Lady Day (6th April). That no person hath a right to common or turn any sheep upon the Lammas ground of Walsworth between Old Lammas-day and the last day of November."

From this, it is evident that for these two areas at least, common pasture of livestock during the winter was practised, probably at least from medieval times until the beginning of the last century.

The place names shown on an 18th Century estate plan of the estates of the Whitehurst family, in Herts County Record Office, dated 1767, give some clue that the main Lammas Meadow (Compartments 6 and 7) was a site of some antiquity. The name 'Shadwell' is related to 'Cadwell', and refers to the Anglo-Saxon saint of wells and springs, St Chad. It is possible that the site has some early significance. The same map shows the remainder of site divided into five other fields: Pelters, Great and Little Garrats, Sulters and Gilberts, each enclosed by hedges. The age of these enclosures is unknown, but probably at least Tudor, and quite possibly much earlier. By 1818, when the town of Hitchin was surveyed by W. Merrett, these five fields had been reduced to three: Compartments 2 and 5; Compartment 1; and Compartments 3 and 4. Papers in the Wilshere Collection at Herts. Record Office give these the names Ship Close, Walkers Close and Gilberts. The 1818 map and survey also indicate that the last two fields were then under arable cultivation, and it is possible that all five of the 18th Century fields have been cultivated at some point.

Purwell Mill dates back to at least the 18th Century, but a mill is known to have been on the site since about the 16th Century at least. The construction of the mill stream would probably date from at least this time. Water flow through the mill along the course of the old River Purwell has ceased to operate, following the stopping up of the mill race in about 1970.

The neighbouring watercress beds appear to have been widened out from the previously existing stream and spring source in about the 1920's. Before this time, the stream and spring were an integral part of the meadowland, and included in the 18th Century area of Lammas meadow, Shadwells. Watercress has not been cultivated here for about fifteen years.

Since the cessation of Lammas winter grazing, when the meadows would have been cut for hay in summer, there are no accurate records available for the grazing pattern of the meadows. Summer grazing by tenants has been in operation for many years, although a period without grazing in the early 1970s led to some extra scrub growth. Finally, a sewer was laid across the west side of the site in 1972, resulting in dry ground conditions in former marsh areas. This has also encouraged access across

the river from the footpath, increasing disturbance, as well as having opened a gap in the west boundary of the site adjacent to the neighbouring college grounds, allowing a through passage.

The site was purchased in 1984 by NHC with grant support from World Wildlife Fund (WWF) and Countryside Commission. A management plan was formulated, with site being managed by NHC with a grazing tenancy in place since this time.

### **2.3.3 Land-use history (post 2010)**

In 2011 CMS working in partnership with NHC undertook a project to deliver a range of capital works from the agreed Greenspace Action Plan, published in the same year, to benefit both people and wildlife. Funding for this project came from a combination of Veolia Landfill Communities Fund, NHC and HCC through Flood Risk Management Dept.

This project delivered a number of capital improvements and habitat management works including production and installation of interpretation panels, notice boards and entrance signs at the main entrances, replacement of old stock fencing and access gates, new cattle corral and vehicle access from Chaucer Way, crown lifting of trees and hedgerow restoration along Purwell Lane and Willian Road boundaries, scrub clearance, riverbank restoration, formalising of ford and the excavation of wader scrape.

During the period of the previous GAP (2017-2022) a project was developed with funding provided by the Environment Agency through a Water Environment Grant (WEG) to carry out work on the site focusing on the old and new River Purwell channels to improve the status of the watercourses. Work carried out included removal of vegetation along the river channel, pollarding willow trees and temporary fencing of sections of the river channel. In addition to this work, it was planned that two pipes would be deculverted and returned to open watercourses. However unfortunately this part of the project could not take place because of external factors.

## **2.4 Habitats and Wildlife**

See Site Description map on page 4 for overview. For full description of the various habitats and species present on site see the latest wildlife site survey in appendix 2.

### **2.4.1 Grassland**

Old pastures along the River Purwell are a diverse and interesting mosaic of unimproved neutral-calcareous grassland and wet grassland with associated fen, marginal vegetation and springs.

The majority of the eastern side of the river consists of semi-improved neutral grassland a transition between MG5 and MG6. The sward has a high percentage of grasses of Crested Dog's Tail, Perennial Rye Grass, False Oat Grass, Rough Meadow Grass and Red Fescue, with 40% herbs including frequent Spiny Restharrow, Black Knapweed and Meadow Buttercup. This area is cut for hay each year to help to reduce the abundance of creeping thistle and then grazed by cattle.

Bordering the river and in wet hollows are areas of rush pasture of MG10b Soft Rush, Yorkshire Fog, Hard Rush sub community, with frequent Hairy Sedge, Hard & Soft Rush, occasional Silverweed and Ragged Robin. At the northern tip between the ford and the road bridge is an area with an abundance of Common Bistort.

To the west of the river and between the old and new river courses to the south is a mix of neutral/calcareous grassland on slightly higher humps of ground with fine grasses and frequent herbs including Common Birds Foot Trefoil, Meadow Saxifrage and Lady's Bedstraw, these areas contain large anthills.

In the wet hollows and low-lying damp areas is a mosaic of wet grassland and fen with some affinities to M22b and M27 vegetation communities. The wet grassland is dominated by Blunt-flowered Rush, Hard Rush and Common Sedge, with forbs present including Greater Birds Foot Trefoil, Fen Bedstraw and Silverweed. The fen areas have an abundance of Meadowsweet, Greater Willowherb and Water Figwort. Within these areas is a spring fed pool (referred to as Shadwells) dominated by Greater Tussock Sedge with Marsh Valerian. Some of the fen areas have developed dominance by vigorous species, such as Willowherb.



*Area of ruderal vegetation to the south of the river channel*

Areas of scrub are cleared rotationally each year to maintain the open nature of the grassland and provide space for a diversity of wildflowers to thrive. Grazing on the site has been on an irregular basis which has had a negative impact on the diversity of the grassland. This has led to dominance of more vigorous species in some areas and expansion of trees and scrub, particularly between the two water courses.

Areas of wetland were identified as drying out due to pressures on the water resources feeding them resulting in a poor diversity of species and unfavourable condition of the habitat. A shallow scrape was constructed in 2013 to lower soil levels closer to the current water table. This is being allowed to revegetate naturally, it already shows a diversity of plants including Stonewort sp., Water Crowfoot sp.,

Water Plantain & Plicate Sweet-grass and is being used by wading birds such as snipe and little egret.

In addition to the above the rush pasture alongside the river particularly on the east side has an increasing dominance of rushes. A study in 2016 of the meadows has shown that these areas have a particularly high nutrient levels almost approaching agricultural levels for phosphate (64.4mg/kg), indicating that not enough nutrient is being removed by the grazing as is required to maintain this habitat in favourable condition.

#### **2.4.2 Trees, hedgerows and scrub**

Mature trees are scattered across the site mainly within the hedgerows including two mature Ash trees close to the entrance from Chaucer Way. Along the boundary with the watercress beds is a line of tall of over-mature Willow pollards. Following the effects of storms and Dutch elm disease in the late 1970s/early 1980s the number of mature trees on site was reduced and a programme of planting was undertaken by NHC. With occasional Willow trees planted approximately 10 metres into the meadow from the college boundary and a mix of field maple, ash and oak planted along the Purwell Lane/Willian Road boundary with these again being planted within the meadows approximately 5-10m from the boundary. The species are not from local provenance stock and appear to be more cultivated varieties.



*Recently pollarded willows around the watercress beds*

In 2012 the main hedgerows along Purwell and Willian Road were coppiced and replanted with standard trees kept and crown lifted to improve the hedgerow for wildlife and open up views across the meadows from the surrounding residential areas. A new section of hedgerow was also added at this time as a continuation of this along the Chaucer Way boundary. Hedgerows along the boundary with the college playing fields are mainly Hawthorn with areas of blackthorn much of which is quite mature and has spread into the meadows forming a bank of scrub.

An area of regenerating Elm is present along the boundary with Willian Road, a remnant of the Elm hedgerow which once ran along this boundary.

The meadows have areas of mature scrub, particularly in the centre of the site between the two river courses and scattered mature Hawthorn bushes which provide some shade for livestock. The grassland on the east side of the river has very little to no developing young scrub and bramble. Conversely the grassland and wetlands on the west side of the river have areas of young and developing blackthorn, hawthorn rose and bramble. Reducing the dominance of this scrub will be a priority over the course of the next management plan.

### **2.4.3 River channel**

#### *The River Purwell and Old Mill Channel*

The River Purwell consists of two channels through the southern half of the site, the one to the east is understood to be the old mill channel which returned water to the main River Purwell after passing through Purwell Mill, this now carries the majority of the water flow. The original river channel to the west has low flow due to an impoundment at Purwell Mill when it ceased use in the 1960's, with the water source coming mainly now from surface water drainage flows and the dilapidated balancing pond.

The current main channel (the old mill channel) has areas of gravel bed and some quite silty sections. The channel has a mix of vegetation including in channel Starwort sp., Watercress with Brooklime and Lesser Water-parsnip on the margins. Where the banks are not as heavily accessed by livestock, stands of Yellow Flag, Branched Bur-reed, Greater and Lesser Pond Sedge have established giving the water course some diversity.



*Partially shaded section of the river channel*

There are occasional areas of overhanging blackthorn scrub and occasional young Alder trees on the riverbank in the southern half of the site but much of the northern half is unshaded.

Banks of the River Purwell had become badly eroded in certain areas and around the informal fording area. These were restored in 2013 using soft engineering techniques, backfilling with spoil and turfs from the scrape excavation. The ford crossing was formalised which has also enabled easier access for management vehicles. The restoration has stabilised the banks and vegetation is becoming well established. There are however still some problem spots along the river where excessive erosion is an issue.

The old original river channel in the south western corner of the site is heavily silted due to the low flow and is more heavily shaded than the other river course. As such the vegetation is more sporadic and less diverse.

#### *Flooding issues on Cambridge road*

These issues are outside the scope of this management plan, but some brief information is included here. There was some flooding of the A505 outside the Millstream Public House in 2016 with NHC stating they would assist where possible, so long as this was not detrimental to the habitats present within Purwell Meadows.

#### *Wildlife*

Evidence of Otters using the site has been found regularly over a number of years with spraints found under the bridge by the Millstream pub.

There have been anecdotal sightings of water voles using the site over the last 10 years and the last confirmed evidence was in 2012. Recording effort since this time has been low and yielded few records. Previous records are thought to be foray attempts by the population at Purwell Ninesprings to make new territory/outlying populations, as they coincide with records of high population densities at Purwell Ninesprings. No Water Voles have been recorded at Purwell Ninesprings recently, with the population though to be lost.

Himalayan Balsam is present on site, but control work has been carried out by volunteers which limited its range to only a few places and very close to the watercourses.

The local wildlife site survey (Aug 2016) highlighted that New Zealand Pygmy weed (*Crassuli helmsii*) was present on the site of the old watercress beds, this is not currently identified within Purwell Meadows but should be monitored as this plant could significantly harm the wetland habitats present on the meadows.

Invasive signal crayfish are also present on site in the river with numerous burrows concentrated in specific locations, this is particularly evident in the southern half of the current main river channel.

## **2.5 Access, Facilities and Infrastructure**

### **2.5.1 Access**

Due to proximity of the site to the centre of Hitchin and being bounded on several sides by roads with footways, the meadows can be easily accessed by the local community and other visitors.

The meadows on the eastern side of the River Purwell are easily accessible for much of the year with a network of grass paths. Following wet weather and in periods throughout the winter some paths become quite muddy and wet in places. It was decided that no path surfacing would take place on site to retain the traditional character of the site and alternative routes are available using paved footways along Purwell Lane and Willian Road.

The meadows on the western side of the River Purwell are quite inaccessible apart from the most persistent visitor. This is due to there being no dry crossing points to this side of the river. The formal ford at the northern end can be crossed in wellington boots. This is an advantage to the conservation of wildlife and habitats by providing a natural barrier to disturbance of sensitive species e.g. ground nesting birds.

### **2.5.2 Site Entrances**

#### *Pedestrian Entrances*

The site has several pedestrian entrances all of which are located on the east side of the river. The main entrance points for visitors have large mobility kissing gates with a Radar padlock allowing access for wheelchairs and mobility vehicles, these are located:

- Opposite the Millstream Pub close to the bus stop on the Cambridge Road.
- On Willian Road close to the junction with Purwell Lane.
- On Chaucer Way close to the junction with Purwell Lane.

Entrance points taking less traffic have medium mobility kissing gates, located:

- North-eastern corner of the site close to the junction of Willian Road and Cambridge Road.
- Mid-point on the eastern boundary from Purwell Lane close to the bus stop.

#### *Vehicular Entrance*

The main vehicular entrance is on Chaucer Way close to the junction with Purwell Lane, here there is a drop kerb to a wide (4.8m) double gate, with a surfaced route across the grass to a cattle corral which can be driven through to access the remainder of the site. This access point was created in 2013 to improve safety when accessing the site particularly for the delivery and collection of cattle.

In addition, the original vehicle access point (3.6m) was retained in the north-east corner of the site off the Willian Road. Use of this point should be minimised on safety grounds due to the proximity of the junction with A505 Cambridge Road.

### *Parking*

There is no formal parking for the site. Visitors can park on adjacent residential streets, with Chaucer Way being the easiest and safest option from which to access the site. The Millstream and Anchor pubs have car parks which site visitors may use if they are also visiting one of the pubs.

## **2.5.3 Structures and park furniture**

### *Signage and Interpretation*

In 2013 new routed oak entrance signs following the NHC house style were installed at each of the five entrances. In addition, at each of the three main entrances an upright oak framed combination A1 interpretation/ orientation panel with a notice board were installed in the same year. These interpretation panels have some out-of-date information and will be updated and structures refurbished over the course of this GAP. To complement the interpretation/orientation panels at the entrance, a separate A2 interpretation panel was installed close to the River Purwell with a water colour illustration of the chalk stream and associated wetland habitats and species. This is mounted in a metal lectern frame rather than timber due to its susceptibility to damage from cattle.

### *Dog waste bins, litter bins*

Dog waste bins have been removed from the site in line with NHC policy. Currently one general waste bin is present at the entrance off Chaucer Way, where dog waste can also be disposed of. As Purwell Meadows is a nature reserve and not a recreation ground NHC have tried to minimise the level of litter bins provided. One other litter bin lies close to the main entrance opposite the Millstream pub by the bus stop. Consideration for additional general waste bins will be included in this GAP. The site does suffer from litter blow in from the adjacent highways/footways and brought in down the river. The grounds maintenance contract carries out regular visits to pick this litter keeping the site clean. This is supported by a volunteer who regularly litter picks parts of the site.

### *Balancing Pond*

The balancing pond is outside the scope of this management plan, but details are included here for future reference. Adjacent to the southern boundary of the site is a balancing pond/silt trap which was installed when the housing along Chaucer Way was built. It has fallen into disrepair; it is now heavily silted up with mature Willow trees established in it. It is therefore unlikely to be functioning as intended. The pond is owned and managed by North Hertfordshire District Council through their property

services department. A long-term ambition is to include this in future management plans and to restore the pond, so it is a usable feature, when funding is available. Should this become the case an assessment of the value of the habitat currently present would be carried out

## **2.6 Management, Community Involvement and Events**

### **2.6.1 Site Management**

Responsibility for the management of Purwell Meadows lies with its owners NHC. Current management operations through grounds maintenance contract include management and maintenance of the paths surface and signage, grassland management, litter picking, fly tip removal and reactive tree works to address safety issues. The maintenance works are currently carried out by John O’Conner (JoC) grounds maintenance contractors.

A grazing tenancy is active on the site for which a small rent is paid, full details of the tenancy are held on file with NHC. Terms of the tenancy of particular note regarding management and responsibilities are:

1. It allows for the “grazing of cattle between 1st April and 1st December in each year in accordance with the Management Proposals prepared by the Council ..... as amended by Notice to the Tenant from time to time”
2. Tenant is to “provide and maintain good stockproof fences where required to prevent the egress of cattle from the demised land”

Five-year Greenspace Action Plans (GAPs) for the site are produced by the Countryside Management Service in consultation with the relevant stakeholders.

### **2.6.2 Community and Events**

Prior to the previous GAP produced in 2011, a Friends of Purwell Valley group was promoted locally to engage the public in local greenspaces including Purwell Meadows. This process helped gain community support for the initial Purwell Meadows GAP. A self-sustaining group was never formed but contacts from this exercise were used to keep the local community and other stakeholders informed of events, site management works and volunteer opportunities at Purwell Meadows through an email group.

CMS Thursday volunteers hold occasional practical tasks on site including scrub clearance, hedge planting, hedge maintenance, non-woody vegetation clearance and much more.

CMS run a Walks and More events programme which hold events irregularly on sites along the Purwell Valley, previous events have linked up with the Wildlife Trust for a joint walk including Purwell Ninesprings Reserve.

## **3.0 AIM & OBJECTIVES**

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The aim and objectives of the GAP are based upon Green Flag assessment criteria and North Herts Council endeavours to manage its land to these standards, which are set out below.

### **3.1 Aims**

The aim of the Purwell Meadows GAP is to improve the quality of habitats on site and to make enhancements for people visiting the site

### **3.2 Objectives**

#### **A. A welcoming place**

To provide welcoming entrances to encourage people to visit.

- A1 Ensure that information/interpretation panels and notice boards are clean and have up to date information.
- A2 Maintain hedgerows through trimming where needed over the course of the management plan.
- A3 Ensure that kissing gates are well maintained, and vegetation is cut back from entrances.

#### **B. Healthy safe and secure**

To ensure that Purwell Meadows is a safe place for visitors and that they are able to enjoy the site at all times.

- B1 Ensure that tree inspections and reactive tree works continue to be carried out.
- B2 Ensure that livestock on site are safe to be on a public site.
- B3 Ensure that the grazier maintains the boundary fence to a good standard.

#### **C. Clean and well maintained**

To ensure that a high standard of maintenance is present throughout the site.

- C1 Continued maintenance of signage and footpath furniture and replacement where necessary or removal, when redundant.
- C2 Regular mowing of grass paths and around entrances during growing season, when required.
- C3 Bins are regularly emptied, and site litter picked when necessary.

## **D. Sustainability**

To ensure that ongoing costs and maintenance activities are sustainable.

- D1 Ensure that ongoing maintenance costs are financially sustainable.
- D2 Investigate external funding for further capital works to be carried out.
- D3 Ensure that the site is managed in the most sustainable way, with onsite maintenance having no negative impact on the surrounding land.

## **E. Conservation and Heritage**

To protect and enhance the biodiversity and heritage present on site.

- E1 Ensure that the grazier adheres to grazing targets set out for the site, to aid improvement of the habitats present.
- E2 If grazing targets are not being met, NHC shall investigate updating or terminating the grazing tenancy.
- E3 Ensure that the northeast side of the mill stream is cut for hay before the end of June.
- E4 Continue with a program of scrub control/removal to open up the area of land to the southwest of the site, using mechanical means where necessary and possible.
- E5 Work with catchment partners to improve the water quality of the River Purwell.
- E6 Improve riverbank habitat through scrub control and temporary fencing.

## **F. Community Involvement**

To support and encourage community involvement at Purwell Meadows.

- F1 Volunteer sessions to take place should involve local people and be advertised locally.
- F2 The local community should be involved in the GAP production process through stakeholder engagement.

## **G. Marketing**

To promote awareness, interest and engagement in Purwell Meadows.

- G1 Ensure that any events or volunteering opportunities are well advertised on site and on the NHC website.
- G2 Promote new GAP and site information on the NHC website.
- G3 Update the interpretation boards and refurbish structure on site and site leaflet over the course of this GAP.

## **4.0 MANAGEMENT PRESCRIPTIONS**

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### **4.1 A Welcoming Place**

The infrastructure of easy access kissing gates, welcome signs and interpretation installed in 2012/13 greatly enhanced the welcoming nature of the site. This infrastructure should be maintained appropriately to ensure visitors feel welcome on site. Over the period of the last management plan the kissing gate entrances were surfaced, as these are high footfall areas. This maintenance work should be continued over the course of future management plans

It was decided that no surfaced paths should be constructed across the site due to the importance of the wildlife habitats. The river does over top its banks in the winter and paths do become wet and muddy for some months of the year. This is all part of the character of the site, an all-weather route is not necessary as users can use alternative routes along the paved footways along the adjacent roads if they wish to avoid the paths during these times.

The current state of the west side of the river being difficult to access is beneficial to the conservation of species and habitats on site by providing an area of the site that is less disturbed by visitors. This should be maintained in the future by avoiding encouraging access across the river e.g. by installing bridges.

### **4.2 Healthy Safe and Secure**

The safety of users is of primary importance to NHC. Formal tree safety surveys are undertaken every three years; any works will be prioritised according to a risk assessment.

Cattle are present on site for at least 6 months of the year, and it is ensured that no aggressive animals are present. The cattle are the responsibility of the grazing tenant. It is advised to keep dogs on leads when walking through the area and avoid walking directly through the middle of the herd.

### **4.3 Clean & Well Maintained**

Entrance/exit points are to be maintained and free from encroaching vegetation.

The general waste bin on Chaucer Way is currently emptied on a weekly basis and frequency can be increased on an ad hoc basis by contacting NHC. An additional general waste bin should be placed at the entrance off William Road. Fly tipping occurs occasionally this is currently dealt with as part of the Grounds Maintenance contract.

## **4.4 Sustainability**

Pressures on water resources within Hertfordshire are high due to high usage and an increase in demand placed by future population & development growth. The same chalk aquifer that supplies drinking water also feeds wetland features e.g. the spring pool called Shadwells and the river that runs through the site, making them particularly susceptible to drinking water abstraction and periods of low rainfall. The recent wet winters have recharged the system for a time, but the habitats and species that can be found here are always susceptible.

Investigation of external funding for large scale projects such as work on the balancing pond or original river course will be carried out over the course of this GAP. Using FSC certified timber for signs, producing products that can be recycled at the end of their life and ensuring that all material removed from the site is disposed of in the correct manner will work towards greater sustainability.

## **4.5 Conservation**

The following points have begun to be addressed over the course of the previous management plan.

- Refocusing of cattle grazing pressure on the west side of the river without the need for additional fencing
- Some targeted cutting of hard & soft rush/willowherb/meadowsweet dominant areas with arisings removed
- A concerted effort was made to remove and treat regrowth from scrub with a particular focus on young developing scrub and bramble where the grassland is still present underneath and has better chance of recovery.

### **4.5.1 Grassland**

Grazing is an important tool for managing the grassland and wetland habitats, ensuring scrub is kept in check, breaking up the dominance of particular vegetation and providing structural diversity. Careful management of the timing and levels of grazing on site is important to maximise the benefits in keeping habitats in favourable condition, whilst ensure poaching, overgrazing and bank erosion is kept to a minimum. Cattle are ideal at grazing wet grassland sites because they graze in a way which creates many different habitats of shorter and longer vegetation. A balanced approach to this is important for the sustainability of this activity in the future.

The grassland and wetland habitats on the west side of the river have significantly more developing scrub than the east side. This is likely to be due to a lower grazing pressure on this side of the river as the cattle have a preference for the more palatable forage of the drier neutral/calcareous grasslands on the east side of the river. Over the course of the last management plan a hay cut was established on the

east side of the river, immediately before introducing the cattle. The idea behind this was that cattle would refocus grazing on the west side of the river, at least initially. This management needs to continue and then the results need to be assessed towards the end of this management plan.



*Four cattle grazing in Purwell meadows in November 2021*

During several recent years there have been no cattle on the site during the grazing period (April to December). A set of targets for grazing will be established and agreed with the current grazing tenant to continue to improve how the site is grazed and therefore the condition of the habitats present. If the grazier does not meet grazing targets, NHC will need to explore the constraints of the existing grazing tenancy with a view to updating or terminating it.

#### *Grazing targets*

- Graze 6 to 10 (fully grown) cattle or 10 to 14 (0 to 18 months) cattle on the site over the yearly grazing period.
- Cut the east side of the river and collect arisings (make hay).
- Cattle to be on site from late June/July until the end of November (removed before this time if very wet).
- Continue to maintain the boundary fence of the site.

#### **4.5.2 Trees, Woodland and Scrub**

The willow pollards alongside the watercress beds have been pollarded as part of the WEG funded work to improve the river. The owners of the watercress beds have been contacted to seek to engage them in the plan production process, however no response has been received. Young establishing willow saplings will be removed where they begin to develop in the grassland.



*Example area of scrub including blackthorn and brambles*

Scrub management over this plan period should focus on removing, and where possible stump treating young and developing scrub across grassland on the west side of the river, where there is more of a chance of restoring grassland. Rather than clearing mature scrub in the centre of the site where there is less of a chance of regaining grassland. Dealing with resulting arisings is a problem on site given ground conditions. This has been dealt with more recently via burning on a raised platform then disposing of ash once cooled, off site or under mature scrub/hedgerows that will be retained in the future.



*Vegetation along the banks of the river channel*

Deshading the watercourses through a combination of tree thinning, pollarding and scrub clearance should also be prioritised to enhance the river habitat particularly through the southern half of the site and along the old river channel. Some of this deshading work has been carried out over the course of the previous management

plan. Trees were coppiced at the entrance to the site from Chaucer Way, the confluence of the two channels and close to Cambridge road.

#### *Monitor tree health and respond to significant pests and diseases*

Oak processionary moth (OPM) is a non-native species whose caterpillars produce microscopic hairs containing a toxin which causes irritation on contact with skin. OPM hairs can be spread on the wind and so irritation can occur without direct contact with caterpillars, for example dispersing hairs can become trapped in clothing. Dogs and other domestic animals are also known to be affected by OPM. The greatest risk for dogs is presented by the communal silken nests which are constructed by OPM caterpillars on host trees. The nests trap toxic hairs and can fall to the ground where dogs may encounter them. OPM outbreaks have been recorded in Hertfordshire and control measures have been applied to these outbreaks to slow spread of the pest, although eradication is unlikely. No OPM outbreak has been reported in Purwell Meadows, however the site contains some oak trees, volunteers, tree contractors and grounds maintenance team, should be aware of the signs of OPM and report any outbreak to the Forestry Commission. OPM caterpillars can be confused with native hairy caterpillars which are not a health concern. Guidance is available from [Oak processionary moth \(Thaumetopoea processionea\) - Forest Research](#).

#### **4.5.3 Hedgerows**

The hedgerows along the eastern boundaries were restored in 2012 with a process of crown lifting existing trees, thinning, coppicing and replanting. This has been largely successful but ongoing maintenance needs to continue to achieve good establishment of the planted trees/shrubs. Re-mulching and/or spraying growth around the base of the planted trees/shrubs is required to help plants establish strongly.

The temporary chestnut pale fencing along the section of hedge on Chaucer Way can be removed in year 1 of this plan if it is judged to be established sufficiently that the threat of vandalism is no longer a concern. Guards and canes should be removed from the hedge plants in year 1 to give them the best chance of establishment if this has not already been carried out. The hedgerow along Chaucer Way will be large enough to be able to lay during year 4 of this management plan. Before this time, some work will be needed to make it more manageable to lay, through trimming. Over the long term this management will provide a thick and attractive hedge which will be of benefit to wildlife and act as a barrier for livestock. A section of hedgerow along Purwell Lane could be laid in year 5 if it is deemed large enough.



*Recently planted hedgerow along Purwell Lane*

Hedgerows along the southwestern boundary are now more of a band of scrub. Hedge restoration here is unlikely to be viable and not worthwhile.

#### **4.5.4 River**

The southern half of the original river channel is heavily silted up due to low flow and the water sources from surface water sewers. This channel is also heavily shaded for much of its length through this section. This would benefit from de-shading work as described in the previous section, which would allow wetland vegetation to establish. Enhancing this channel would provide better potential habitat for water voles in an area of the site which is less prone to disturbance from visitors and cattle.

The old mill channel has good flows with some areas where silt deposition is high. The riverbanks will continue to be susceptible to erosion which has been exacerbated through poaching from livestock. The work over the course of the previous management plan, fencing short sections of the channel has stabilised most of the worst sections of it. The main section where the banks are still being poached is around the outfall of the culverts into the river channel. This area should be temporarily fenced to exclude cattle and allow for some natural vegetation regeneration.



*Poached area around culvert outfall into the river channel*

Poaching by livestock can create opportunities for diversification of the river channel particularly the old mill channel which is in the main quite similar in profile and depth for much of its length. If poached areas are given the opportunity for vegetation to re-establish/recover naturally, e.g., through temporary fencing, they can stabilise the bank and with natural water action create a more varied river channel that benefits wildlife e.g., young fish refuge areas. In addition, giving the cattle alternative drinking sources e.g., a pasture pump, in a drier area of the site away from the riverbank, would help to decrease poaching on the riverbank. The installation of a pasture pump will be considered following consultation with the grazier and once further progress is made on reducing access points for cattle to the water (this may be towards the end of the period covered by this GAP). Work will continue to improve the river habitat for Water Voles through temporary fencing to encourage populations back to the site. NHC and CMS will work with HMWT on any potential projects to encourage Water Voles to use the site when the habitat is in suitable condition.

Downstream of Purwell Meadows, work has been carried out on Walsworth Common, another NHC owned green space, to improve water quality. This has been done by installing woody-debris in the river to narrow the channel and direct the flow of water, which redeposits silt to reveal the gravel. This was part of the WEG funding where flow deflectors were also installed in the river at Purwell Meadows.

Where appropriate further river restoration techniques should be used, such as using woody material to protect eroding banks and the use of brushwood bundles to help narrow the channel and trap some of the fine sediments. Environment Agency consent will be required for any structure in the watercourse. These improvements will benefit the flora and fauna in the river and on the banks. Once areas are opened up and flow is increased, it is hoped that the native wetland plants such as common reed, watercress, starwort and water-crowfoot will increase. With improved habitats fish and other wildlife will also increase and return to the area.

The Environment Agency carried out fish surveys on site in 2016. This information can be used as a baseline data set and once further river restoration works have

taken place, monitoring could take place and the data compared to see how successful restoration has been.

One particular problem spot on the River Purwell is a 90-degree bend near the centre of the site, the location of two culverted pipe outfalls. It has become badly eroded in recent years due to a combination of location, river action and poaching by cattle when coming to drink. The pipes and headwall of the surface water sewers are no longer on the bank and instead increasingly in the centre of the channel as the natural river action erodes round the back of the headwalls. In consultation with Anglia Water the asset owners, Environment Agency and Hertfordshire County Council there should be works to address this issue. The surface water sewer pipe from Purwell Lane should be deculverted into a ditch to slow surface water flows from the road and allow pollutants to settle in the ditch rather than entering the river. A crossing to carry the riverside path will be required. To accompany this the headwall of the 2<sup>nd</sup> pipe should be moved back to the current riverbank and outfall put in at an appropriate height to prevent any hydrobraking backing up the water up the culvert as currently appears to occur. This work cannot take place until a suitable agreement with the grazier is in place and funding is obtained. Should this become the case further research into the practicalities of this project would be undertaken.

Upstream from the pipes, brash buildouts should be constructed to narrow the river channel and give vegetation a substrate to naturally colonize. This will need to be protected with temporary fencing to keep the cattle off while vegetation establishes.



*Temporary wooden fencing to protect the riverbank from erosion*

#### **4.5.5 Invasive Species**

Himalayan Balsam can be found now occasionally on site, due to the concerted efforts of local volunteers it has largely been eliminated. This work will need to continue to ensure the river system continues to be largely free of this and other invasive species.

## 4.6 Community involvement

### *Local Volunteers*

The previous intention was for the site to be part of a larger friends group for the Purwell Valley. CMS carried out work to explore and promote the formation of a group with a view to it being self-managing and sustaining in the future. There was a lot of interest from the public but no leaders were forthcoming, so a group was not formed. An email circulation list from interested members of the public is held by CMS and is used to communicate events, site management works and other relevant information to the public. In the past there has been a limited amount of volunteer activity on the site apart from some CMS led volunteer practical tasks. There will be a need to continue to engage the local community in projects at and around Purwell Meadows.

Purwell Meadows falls into the Upper and Bedford Ouse Catchment Partnership area, which provides a source of wider community engagement opportunities <http://www.ubocp.org.uk>.

### *Consultations & Public Feedback*

Stakeholders and the public have been consulted at each stage of the Purwell Meadows GAP. All relevant responses have been incorporated into the document.

## 4.7 Marketing

The site will continue to be promoted through occasional CMS Walks and More events and practical tasks on site. The interpretation panels and welcome boards on site should be updated and refurbished to reflect the changes on site since the interpretation panels were installed. The site leaflet should be updated and continue to be distributed widely to local outlets e.g., tourist information centres and libraries, for visitors to pick up.



Updates to NHC and CMS websites and social media should continue, particularly during works on site, to keep local people informed of progress on GAP delivery. Notice boards can be used at the main entrances to update visitors on works happening on site, future events and grazing activity. Press releases and articles in publications should be produced as and when opportunities arise to raise the profile of the site.

*Welcome board at the entrance to the site off Chaucer Way*

## 5.0 ACTION PLANS AND MAPS

### 5.1 ANNUAL ITEMS

Ref. no.	Action	Obj. Ref.	When	Lead	Delivery	Funding	Est. Cost	Spec. Ref.	Status
0.1	Cut around signs, furniture and entrances	A1, C1, C2	Apr-Oct	NHC	GMC	NHC GM Budget	GM Contract		
0.2	Mow grass paths as required	C2	May-Sept	NHC	GMC	NHC GM Budget	GM Contract		
0.3	Cut area to the east of the river for hay before cattle arrive	E3	June	NHC	Grazier	NHC GM Budget	GM Contract		
0.4	Continue cattle grazing	B2, B3, E1, E2	Jun-Nov	NHC	Grazier	NHC GM Budget	GM Contract		
0.5	Assess progress towards grazing targets	B2, B3, E1, E2, E3	Sep-Oct	CMS	CMS/NHC	N/A	GM Contract		
0.6	Invasive species control – Himalayan Balsam	E4, E5	Jun-Sep	CMS	Vols	NHC GM Budget	GM Contract		
0.7	Tree risk management inspections	B1	Every 3 years	NHC	Con	NHC Tree Budget	GM Contract		
0.8	Health & safety inspections and undertaking of works	B1, B3, C1	When required	NHC	GMC	NHC GM budget	GM Contract		
0.9	Monitor and maintain site infrastructure as required	A1, C1,	When required	NHC	NHC/Con	NHC GM Budget	GM Contract		
0.10	Clean signs	A1	When required	CMS	Vols	NHC GM Budget	GM Contract		
0.11	Empty general waste bins weekly and remove rubbish as required	C3	All year	NHC	GMC	NHC GM Budget	GM Contract		
0.12	Publicise all ongoing management works in advance	F2, G2, G3	Ongoing	NHC	NHC/CMS	NHC GM Budget	N/A		
0.13	Promote volunteer and community events at Purwell Meadows	F1, G1	All year	CMS	NHC/CMS	NHC GM Budget	N/A		
0.14	Ensuring ongoing maintenance costs are financially sustainable	D1	Ongoing	NHC	NHC	N/A	N/A		

**Abbreviations:** CMS – Countryside Management Service, GM – Grounds Maintenance, NHC – North Herts Council, Vols – Volunteer, GMC – Grounds Maintenance Contractor and Con – Contractor.

## 5.2 YEAR 1 ACTION PLAN 2022-23

Ref. no.	Action	Obj. Ref.	When	Lead	Delivery	Funding	Est. Cost	Spec. Ref.	Status
1.1	Replace existing interpretation inserts with updated panels and refurbish structure.	A1, C1, F1, G3,	April 22-Mar 23	CMS	Vols/Con	NHC GM Budget	£5000		
1.2	Update leaflet and get new copies printed.	A1, G3	April 22-Mar 23	CMS/NHC	CMS/NHC	NHC GM Budget	GM Contract		
1.3	Install temporary fence around culvert pipe outfall.	E5, E6	Jul-Oct	CMS	Vols/Con	NHC GM Budget	GM Contract		
1.4	Remove section of temporary riverbank fencing and move to the next section	E5, E6	Oct-Mar	CMS	Vols	NHC GM Budget	GM Contract		
1.5	Willow seedling management	E4, F1	Sep-Oct	CMS	Vols	NHC GM Budget	GM Contract		
1.6	Targeted soft/hard rush cutting with arisings removed	E3, E4	Oct-Feb	CMS	CMS/Vols/GMC	NHC GM Budget	GM Contract		
1.7	Remove litter and rubbish from river	C3, E4	Sep	NHC	GMC/Vols	NHC GM Budget	GM Contract		
1.8	Hedgerow maintenance	A2, D3	Oct-Feb	CMS/NHC	GMC/Vols	NHC GM Budget	GM Contract		
1.9	Clear scrub at point along the riverbank	E4, E6, F1, G1	Oct-Feb	CMS	Vols/CMS	NHC GM Budget	GM Contract		
1.10	Install general waste bin at entrance off Willian Road	C1, C3	When required	NHC	GMC/Con	NHC GM Budget	GM Contract		
1.11	Investigate sources of funding to restore the balancing pond.	D2	Ongoing	CMS/NHC	CMS/NHC	N/A	N/A		
1.12	Review Year 1 Action Plan		Mar 23	CMS	CMS	N/A	N/A		

### 5.3 YEAR 2 ACTION PLAN 2023-24

Ref. no.	Action	Obj. Ref.	When	Lead	Delivery	Funding	Est. Cost	Spec. Ref.	Status
2.1	Targeted soft/hard rush cutting with arising removed	E3, E4	Oct-Feb	CMS	CMS/Vols/GMC	NHC GM Budget	GM Contract		
2.2	Hedgerow maintenance	A2, D3 F1, G1	Oct-Feb	CMS/NHC	GMC/Vols	NHC GM Budget	GM Contract		
2.3	Remove section of temporary riverbank fencing	E6	Oct-Mar	CMS	Vols	NHC GM Budget	GM Contract		
2.4	Clear scrub at targeted points	E4, F1, G1	Oct-Feb	CMS	Vols/CMS	NHC GM Budget	GM Contract		
2.5	Willow seedling management	E4	Oct-Feb	CMS	Vols	NHC GM Budget	GM Contract		
2.6	Install deflectors/brash buildouts to narrow channel (obtain permission for this)	E6	Sept	CMS	Vols	NHC GM Budget	GM Contract		
2.7	Review Year 2 Action Plan		Mar 24	CMS	CMS	N/A	N/A		

### 5.4 YEAR 3 ACTION PLAN 2024-25

Ref. no.	Action	Obj. Ref.	When	Lead	Delivery	Funding	Est. Cost	Spec. Ref.	Status
3.1	Temporarily fence areas of bank edge to allow natural regeneration	E5, E6	Oct-Mar	CMS	Vols	NHC GM Budget	GM Contract		
3.2	Hedgerow maintenance	A2, D3	Oct-Feb	CMS/NHC	GMC/Vols	NHC GM Budget	GM Contract		
3.3	Clear scrub at targeted points	E4	Oct-Feb	CMS	CMS/Vols	NHC GM Budget	GM Contract		
3.4	Review effectiveness of targeting cutting	E4	Jun-Jul	CMS	CMS	N/A	GM Contract		
3.5	Review Year 3 Action Plan		Mar 25	CMS	CMS	N/A	N/A		

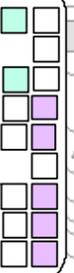
### 5.5 YEAR 4 ACTION PLAN 2025-26

Ref. no.	Action	Obj. Ref.	When	Lead	Delivery	Funding	Est. Cost	Spec. Ref.	Status
4.1	Remove temporary fencing installed in year 1 and move to other poached areas of riverbank	E5, E6	Oct-Mar	CMS	CMS/Vols	NHC GM Budget	GM Contract		
4.2	Hedgerow maintenance	A2, D3	Oct-Feb	CMS/NHC	GMC/Vols	NHC GM Budget	GM Contract		
4.3	Lay hedge along Chaucer Way	A2, D2	Oct-Feb	CMS	CMS/Vols	NHC GM Budget	GM Contract		
4.4	Clear scrub at targeted points	E4, F1, G1	Oct-Feb	CMS	CMS/Vols	NHC GM Budget	GM Contract		
4.5	Review Year 4 Action Plan		Mar 26	CMS	CMS	N/A	N/A		

### 5.6 YEAR 5 ACTION PLAN 2026-27

Ref. no.	Action	Obj. Ref.	When	Lead	Delivery	Funding	Est. Cost	Spec. Ref.	Status
5.1	Hedgerow maintenance	A2, D3	Oct-Feb	CMS/NHC	GMC/Vols	NHC GM Budget	GM Contract		
5.2	Lay section of the hedgerow along Purwell Lane if deemed large enough.	A2, D3, F1, G1	Oct-Feb	CMS	CMS/Vols	NHC GM Budget	GM Contract		
5.3	Clear scrub at targeted points	E4, F1, G1	Oct-Feb	CMS	CMS/Vols	NHC GM Budget	GM Contract		
5.4	Willow Seedling management	E4	Oct-Feb	CMS	Vols	NHC GM Budget	GM Contract		
5.5	Review Year 5 Action Plan and consult & write new plan	G2	Mar 27	CMS	CMS	N/A	N/A		

- Annual Actions**
- Remove fly tipped rubbish when required.
  - Carry out tree risk management inspections.
  - Health and safety inspections and associated work.
  - Publicise all ongoing management works.
  - Promote volunteer and community events.
  - Ensure ongoing maintenance costs are sustainable.
  - Secure external funding for capital works.
  - Assess progress towards grazing targets.
  - Review action plans.



# Purwell Meadows

## Greenspace Action Plan

### Annual Actions

### Legend

- Infrastructure**
- ▲ Entrance sign
  - ▲ Interpretation sign
  - ▲ Notice board
  - ⬮ Waymarking post
  - General waste bin
  - ⊕ Kissing gate
  - ⊕ Vehicle gate
  - ⊕ Flag pole
- Temporary fencing**
- Existing fence
  - Proposed fence
- Site Description**
- Amenity grass
  - Grass path
  - Hedgerow
  - Surfaced path
  - Culvert
  - Scrub
  - Dry calcareous/neutral grassland
  - Wet rush pasture
  - Water
  - Fen vegetation
  - Woodland
  - Cattle Handling Pen
  - Cut & Clear area
  - Trees
  - Site Boundary
- Actions Responsibility**
- North Herts Council
  - Countryside Management Service
  - Volunteers
  - Grazier
  - GM Contractor



Sports Centre

Playing Fields

Playing Fields

Scale @ A3  
1:1,650  
Date  
January 2022  
Rev  
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# Purwell Meadows

## Greenspace Action Plan

### Year 1 (2022-2023)

### Legend

#### Infrastructure

- ▲ Entrance sign
- ▲ Interpretation sign
- ▲ Notice board
- ↑ Waymarking post
- General waste bin
- ⊕ Kissing gate
- ⊕ Vehicle gate
- ⊕ Flag pole

#### Temporary fencing

- Existing fence
- Proposed fence

#### Site Description

- Amenity grass
- Grass path
- Hedgerow
- Surfaced path
- Culvert
- Scrub
- Dry calcareous/neutral grassland
- Wet rush pasture
- Water
- Fen vegetation
- Woodland
- Cattle Handling Pen
- Cut & Clear area
- Trees
- ▭ Site Boundary

#### Actions Responsibility

- North Herts Council
- Countryside Management Service
- Volunteers
- Grazier
- GM Contractor

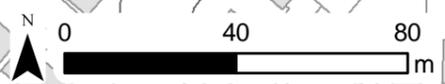
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**Other actions**  
Review Year 2 Action Plan

Targeted rush cutting with arisings removed

Hedgerow maintenance

Targeted rush cutting with arisings removed

Install deflectors/brush buildouts to narrow channel

Targeted rush cutting with arisings removed

Remove section of temporary fencing

Clear scrub at targeted points

Clear scrub at targeted points

Willow seedling management

Clear scrub at targeted points

Hedgerow maintenance

# Purwell Meadows

## Greenspace Action Plan

### Year 2 (2023-2024)

### Legend

- Infrastructure**
- Entrance sign
  - Interpretation sign
  - Notice board
  - Waymarking post
  - General waste bin
  - Kissing gate
  - Vehicle gate
  - Flag pole
- Temporary fencing**
- Existing fence
  - Proposed fence
- Site Description**
- Amenity grass
  - Grass path
  - Hedgerow
  - Surfaced path
  - Culvert
  - Scrub
  - Dry calcareous/neutral grassland
  - Wet rush pasture
  - Water
  - Fen vegetation
  - Woodland
  - Cattle Handling Pen
  - Cut & Clear area
  - Trees
  - Site Boundary
- Actions Responsibility**
- North Herts Council
  - Countryside Management Service
  - Volunteers
  - Grazier
  - GM Contractor

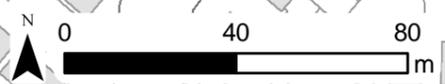
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**Other actions**  
Review Year 3 Action Plan

Review effectiveness of targeted cutting

Review effectiveness of targeted cutting

Clear scrub at targeted points

Hedgerow maintenance

Clear scrub at targeted points on riverbank

Temporary fence area along riverbank

# Purwell Meadows

## Greenspace Action Plan

### Year 3 (2024-2025)

### Legend

#### Infrastructure

- ▲ Entrance sign
- ▲ Interpretation sign
- ▲ Notice board
- ↑ Waymarking post
- General waste bin
- ⊕ Kissing gate
- ⊕ Vehicle gate
- ⊕ Flag pole

#### Temporary fencing

- Existing fence
- Proposed fence

#### Site Description

- Amenity grass
- Grass path
- Hedgerow
- Surfaced path
- Culvert
- Scrub
- Dry calcareous/neutral grassland
- Wet rush pasture
- Water
- Fen vegetation
- Woodland
- Cattle Handling Pen
- Cut & Clear area
- Trees
- Site Boundary

#### Actions Responsibility

- North Herts Council
- Countryside Management Service
- Volunteers
- Grazier
- GM Contractor

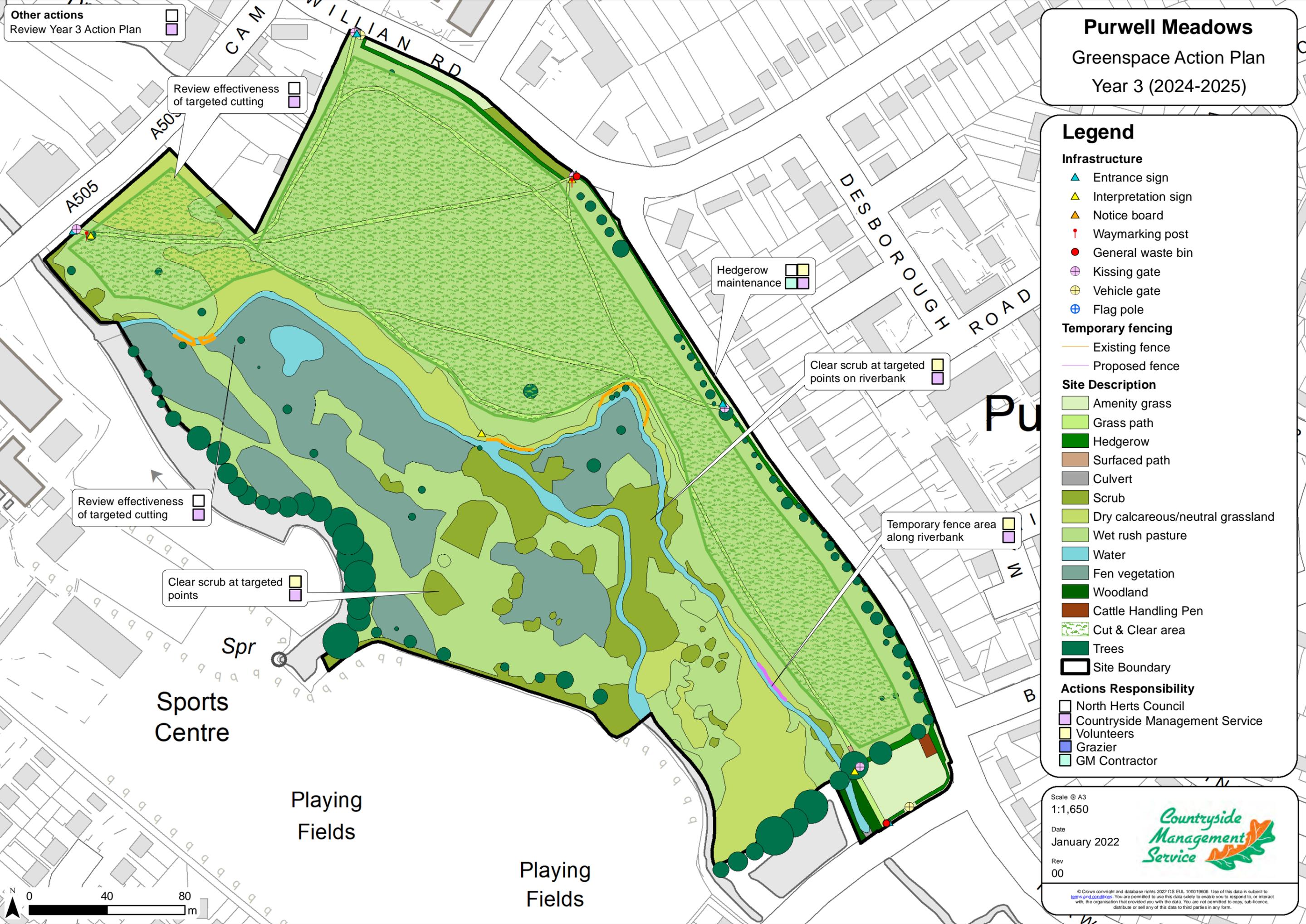
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Other actions  
Review Year 4 Action Plan

# Purwell Meadows

## Greenspace Action Plan

### Year 4 (2025-2026)

### Legend

#### Infrastructure

- ▲ Entrance sign
- ▲ Interpretation sign
- ▲ Notice board
- ↑ Waymarking post
- General waste bin
- ⊕ Kissing gate
- ⊕ Vehicle gate
- ⊕ Flag pole

#### Temporary fencing

- Existing fence
- Proposed fence

#### Site Description

- Amenity grass
- Grass path
- Hedgerow
- Surfaced path
- Culvert
- Scrub
- Dry calcareous/neutral grassland
- Wet rush pasture
- Water
- Fen vegetation
- Woodland
- Cattle Handling Pen
- Cut & Clear area
- Trees
- Site Boundary

#### Actions Responsibility

- North Herts Council
- Countryside Management Service
- Volunteers
- Grazier
- GM Contractor

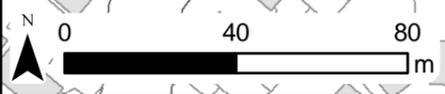
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Temporary fence Water Vole Hotspots & Target areas to allow natural regeneration of bank side vegetation e.g., Flag Iris

Hedgerow maintenance

Clear scrub at targeted points

Remove section of temporary fencing

Clear scrub at targeted points

Lay hedge along Chaucer Way

Sports Centre

Playing Fields

Playing Fields

Spr

Pu

MA

B

A

**Other actions**  
 Review Year 5 Action Plan, consult and write a new plan

# Purwell Meadows

## Greenspace Action Plan

### Year 5 (2026-2027)

### Legend

- Infrastructure**
  - Entrance sign
  - Interpretation sign
  - Notice board
  - Waymarking post
  - General waste bin
  - Kissing gate
  - Vehicle gate
  - Flag pole
- Temporary fencing**
  - Existing fence
  - Proposed fence
- Site Description**
  - Amenity grass
  - Grass path
  - Hedgerow
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  - Cut & Clear area
  - Trees
  - Site Boundary
- Actions Responsibility**
  - North Herts Council
  - Countryside Management Service
  - Volunteers
  - Grazier
  - GM Contractor

Lay section of hedgerow, if deemed mature enough

Willow seedling management

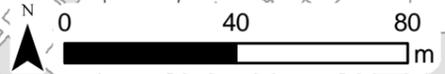
Clear scrub at targeted points

Hedgerow maintenance

Sports Centre

Playing Fields

Playing Fields



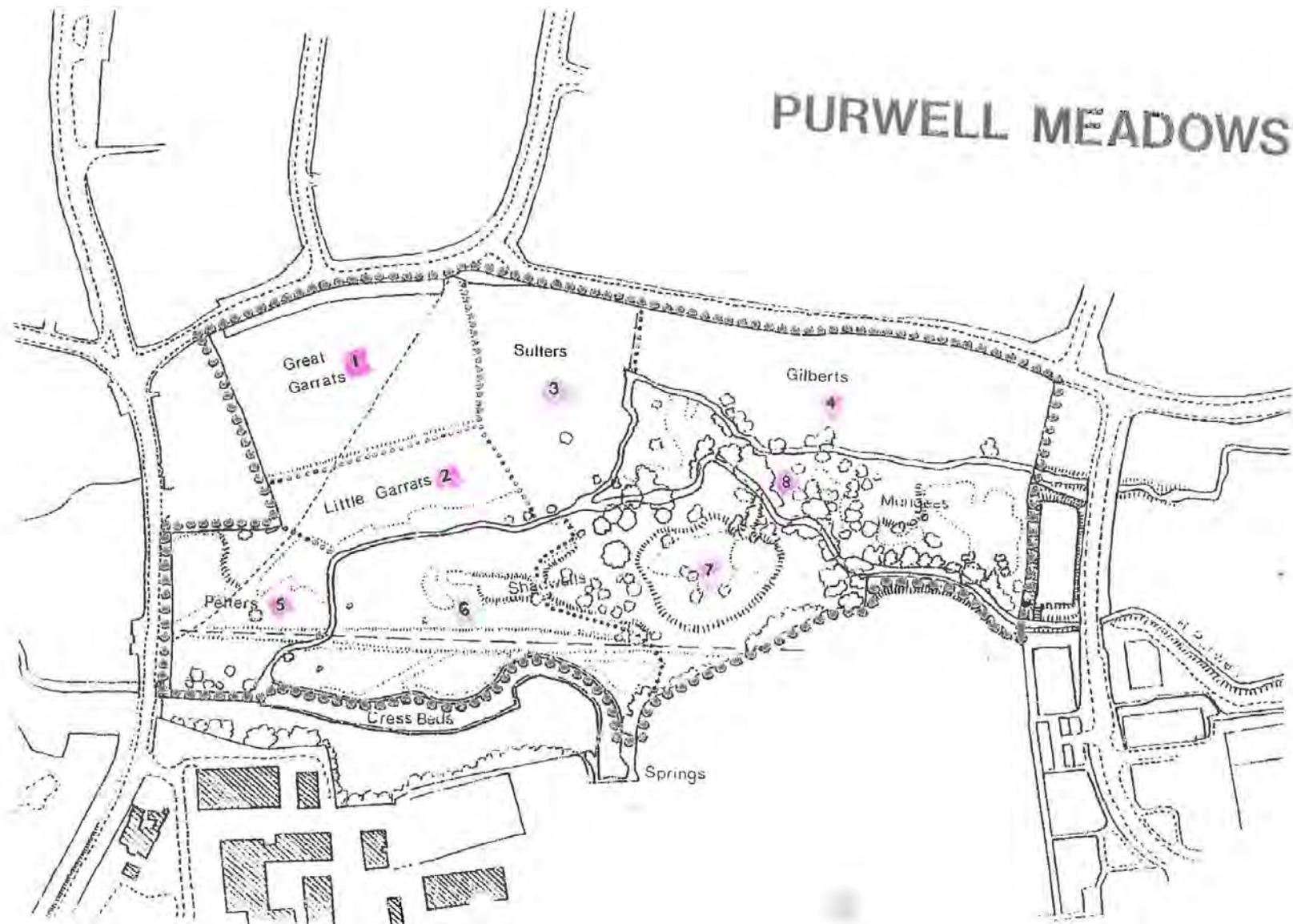
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## 6.0 APPENDICES

### 1. Purwell Meadows Management Plan (1984) compartments map



## 2. Local Wildlife Site 10 Year Monitoring Survey Form for: Purwell Meadows

The monitoring survey is to establish whether there's any noticeable changes to the LWS since the previous full LWS Survey

<b>Site Ref:</b>	20/053	<b>Site size (ha):</b>	9.66
<b>District:</b>	North Herts	<b>Central Grid Ref:</b>	TL200298
<b>Surveyors:</b>	A.Judges, M.Harris, C.Smith, S.Mason, J.Williamson, J.Wise		
<b>Form by:</b>	A.Judges	<b>Map by:</b>	M.Harris
<b>Date of survey:</b>	26/11/15	<b>Duration on site:</b>	2 Hours

<b>Geology:</b>	<b>Bedrock:</b>	Zig Zag Chalk Formation
	<b>Superficial Deposits:</b>	Clay Silt Sand and Gravel

<b>Original criteria:</b>	Grassland: calcareous	<b>Habitat:</b>	Grassland: calcareous, unimproved, Grassland: neutral, Grassland: marsh, Scrub, Open water: running
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<b>Recommended changes to boundary (with justification)</b>	N/A		
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<b>Original Site Description:</b>	Old pastures along the River Purwell and its associated streams, mostly of unimproved calcareous grassland with areas of marshy ground and associated springs, some scrub, a former cress bed and secondary neutral grassland. The site supports a diversity of lower and higher plant species including a number of species uncommon or rare in Hertfordshire. Species of interest recorded include Quaking Grass ( <i>Briza media</i> ), Spiny Rest-harrow ( <i>Ononis spinosa</i> ), Greater Bird's-foot Trefoil ( <i>Lotus pedunculatus</i> ), Common Fleabane ( <i>Pulicaria dysenterica</i> ), Water Horsetail ( <i>Equisetum fluviatile</i> ), Blunt-flowering Rush ( <i>Juncus subnodulosus</i> ), Brown Sedge ( <i>Carex disticha</i> ), Bottle Sedge ( <i>C. rostrata</i> ), Adder's-tongue ( <i>Ophioglossum vulgatum</i> ) and Southern Marsh-orchid ( <i>Dactylorhiza praetermissa</i> ). The meadows are of local importance to birds especially for passage and feeding. Protected species have been recorded on the site. Wildlife Site criteria: Grassland indicators; fen and swamp indicators.		
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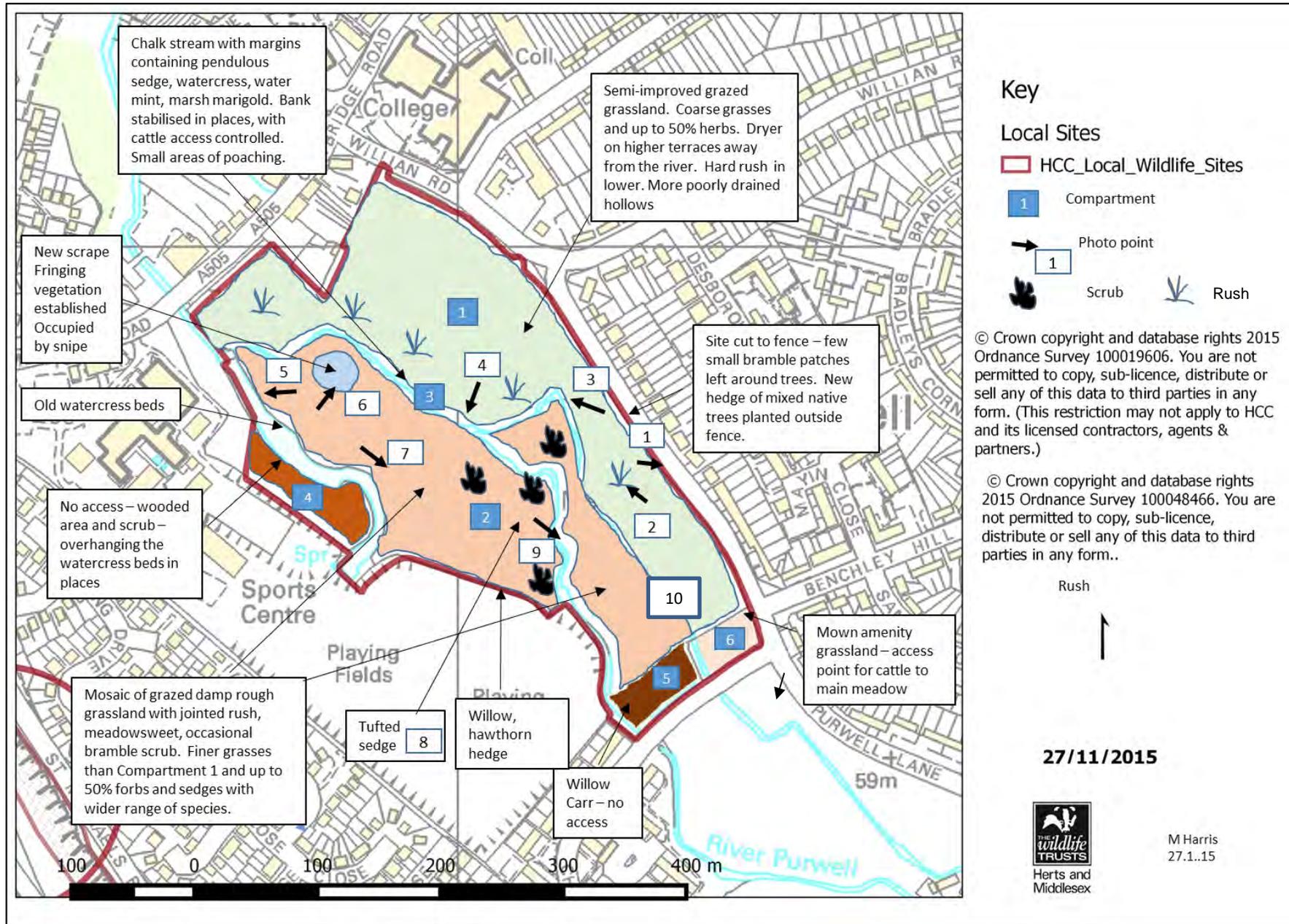
<b>Landowner questionnaire (filled in by the WSO) – how the site has been managed since the previous survey</b>			
<ul style="list-style-type: none"> <li>• <b>Is the site in Environmental Stewardship?</b> Yes – Low Input Grassland. Also part of Veolia, HCC and NHDC funded conservation project. Management Plan written in 2011</li> <li>• <b>How has the landowner been using/managing the site in the past 10 years (or since the previous survey)?</b> 2011 Management Plan – management works include Hedge Restoration, Hedge Planting, Fencing Replacement, Grazing, Scrub Clearance, Wader Scrape Construction, River Bank Restoration and Ford Construction</li> <li>• <b>Is the landowner aware that the site is a LWS and what that means? ~</b> Yes</li> <li>• <b>How had the landowner expected the site to be managed in the next 10 years or so (i.e. before receiving our advice)?</b> The scheme ends in 2017. Hopefully maintenance management will continue. CL is</li> </ul>			

<p>awaiting news re this.</p> <ul style="list-style-type: none"> <li>• <b>Has the landowner received any management advice (from other sources)?</b> Yes – CMS wrote the management plan.</li> <li>• <b>Does the landowner have the previous Survey Report?</b> Yes</li> <li>• <b>Would the landowner welcome management advice, to improve the site for wildlife?</b> Yes</li> </ul>	
<p><b>Compartments: write an ecological description of each:</b>  <i>Note the description of each compartment in the original Survey Report (if provided) and note down any gross changes. Does it appear to have degraded? Or become better for wildlife?.</i></p> <p><u>Woodland:</u></p> <ul style="list-style-type: none"> <li>- <i>Notice structural changes in particular – are the trees the same age? How old?</i></li> <li>- <i>Are there natural glades? Are they because of mature trees falling? Natural or felled?</i></li> <li>- <i>Is there a ground layer (herbs, Bramble)?</i></li> <li>- <i>Is there a shrub layer (Holly? Tree saplings? Honeysuckle or other climbers? Hawthorn etc</i></li> <li>- <i>Are the trees natives? Broadleaves or conifers or mixed? Are there lots of Sycamore?</i></li> <li>- <i>Is there evidence of management (coppicing, glade creation, any cutting/clearing)? Is there much deadwood being left? Is it stacked or naturally fallen/left?</i></li> <li>- <i>Note invasive species if identifiable in winter (e.g. Rhododendron/Laurel/Snowberry/Bamboo, cultivated Yellow Archangel)</i></li> <li>- <i>Is there any dumping and if so where (eg behind residential areas)</i></li> <li>-</li> </ul> <p><u>Grassland:</u></p> <ul style="list-style-type: none"> <li>- <i>The sward will give an impression to some degree of gross changes since the previous survey.</i></li> <li>- <i>Are there areas where scrub is invading?</i></li> <li>- <i>Are nettles/thistles etc beginning to dominate, and if so where (eg at the bottom of slopes? Edges?)</i></li> </ul>	
<p>Gross changes to the site since previous survey.</p>	<p>Overall the site does not appeared to of changed drastically since the last survey in 2005. The site is still grazed by cattle (18 bullocks) and is well used by locals. It is clear that the site is being managed, for example the planting of the new hedgerow along the eastern border, the development of the scrape and ford as well as the instillation of erosion defences along sections of the river bank.</p> <p>The river itself was fast flowing and clear. The grassland on the east of the river was heavily grazed by cattle but still contained a high population of forb species. The area on Western side of the river was less intensely grazed and still supports a wide variety of herbs.</p>
<p>Compartment 1: Main Grazed Grassland</p>	<p>This is the main grazing area for the cattle, as a result the sward is kept at a very low height level. Species such as Creeping Buttercup (<i>Ranunculus repens</i>), Spear Thistle (<i>Cirsium vulgare</i>), Ribwort Plantain (<i>Plantago lanceolata</i>), Common Sorrel (<i>Rumex acetosa</i>), Dandelion (<i>Taraxacum officinale</i>) and White Clover (<i>Trifolium repens</i>) are still visible.</p> <p>There are wetter patches, closer to the river which are dominated by Hard Rush</p> <p>There is a newly planted hedgerow along the eastern boundary, comprising of Ash, Hawthorn, Field Maple and Bramble.</p>

<p>Compartment 2: Mosaic habitat</p>	<p>2a) This area of the site is not as intensely grazed by the cattle. There is a scrape the North of the compartment, where two Snipe were spotted. Due to the reduced grazing pressure the plant species are much taller in this area, along the wetter patches of the compartment, Meadowsweet (<i>Filipendula ulmaria</i>) and Hard Rush (<i>Juncus inflexus</i>), Soft Rush is also present (<i>Juncus effusus</i>).</p> <p>There is an area of the compartment that is a wet tussocky area with Greater Tussock Sedge, and Water Starwort (<i>Callitrichaceae sp.</i>).</p> <p>Towards the Southern end of the compartment there is a dryer section which contains a large number of Willow saplings. There is some encroachment of Bramble and other scrub species in a small area, this is possibly due to a lack of grazing.</p> <p>2b) This was formally compartment 6. Even though this area was inaccessible due to the river there didn't appear to be any gross change between this compartment and compartment 2a. However due to the lack of grazing there scrubs were much denser, however this is a good habitat for birds when the rest of the site is very open. There is a small amount of Bulrush along the river in this compartment. Even though it does not appear this area can be grazed by the cattle it is assumed some management must be occurring as even though the scrub is denser it does not dominate the area.</p>
<p>Compartment 3: River Banks</p>	<p>There is a clear fast flowing river which runs through the centre of the site. There are some areas where the ground has been poached by the cattle, but considering there are 18 Bullocks in the site this is minimal, and poached areas are still supporting plants. Some of the plants present include Pendulous Sedge, (<i>Carex pendula</i>), Hard Rush (<i>Juncus inflexus</i>) a large amount of Water Cress (<i>Nasturtium officinale</i>), Brooklime (<i>Veronica beccabunga</i>). There is some scrub areas along the river, there is a small amount of litter around one of these areas.</p> <p>There were several small holes along a stretch of bank, unclear whether they are Water Vole holes or Signal Crayfish.</p> <p>There is a small amount of fencing along a stretch of the river on the eastern side, as well as some erosion control matting.</p>
<p>Compartment 4: Watercress Bed</p>	<p>This area of the site is inaccessible due to barbed wire fencing however it was obvious that the water course is dominated by Water Cress (<i>Nasturtium officinale</i>) there is a small amount of shading by nearby trees and shrub areas.</p>
<p>Compartment 5: Willow Carr</p>	<p>No access to this area, does not appear to have changed since previous survey. Tall, dense, low-lying willow-carr with Hawthorn between water-channels.</p>
<p>Compartment 6: Amenity Grassland</p>	<p>This area is used for vehicle access to the site, and possibly to keep the cows if they are being moved, fed etc. It is a species poor semi improved grassland of little to no importance to the Wildlife Site.</p>

<b>Is a summer survey required?</b>	<b>No</b>	Justification if yes:
<b>Invasive species:</b>	Please mark the position of any invasive spp on the map.	
<b>Other species:</b>	Bird Species list – Julie Wise.	
<b>Current Management (as seen):</b>	Currently grazed by 18 cattle, as well as planting of Hedgerows, River bank protection from erosion.	
<b>Recommended Management:</b>	(NB: refer to any invasive species recorded, as well as their abundance and distribution, under the relevant compartment)	
Compartment 1	This site has been grazed by Cattle for many years and does not appear to have deteriorated under this management, however if looking to improve the floral diversity of the compartment it may be worth considering decreasing grazing pressure at certain times of year , either by decreasing the number of cattle or removing the cattle from the site.	
Compartment 2	As the Cattle appear to not graze this side of the river as frequently it may be necessary to manually control some of the scrub encroachment especially to the south of the compartment.	
Compartment 3	Even though a small amount of poaching of river banks can be beneficial by creating a new habitat and aiding seed germination, however too much poaching can result in a loss of riverside biodiversity and also negatively impact the health of the river. It is therefore advised to fence of a larger stretch of the river from the cattle.	
Compartment 4	As this compartment does not appear to have changed drastically from the last survey continue current management ensuring that the river side scrub does not become over grown resulting in limited sunlight entering the Watercress bed.	
Compartment 5	Continue existing management as area does not appear to have degraded in anyway.	
Compartment 6	As this holds little floral interest and is only a small fragment of the site with a practical purpose, no management is required	

<b>Any additional comments</b>	This site has not deteriorated since the last visit. The construction of the scrape as added value to the site.
<b>Surrounding landuse</b> (briefly describe):	Housing.





Picture 1: New planted hedgerow



Picture 2: Compartment 1



Picture 3: Compartment 3



Picture 4: Holes in River bank



Picture 5: Compartment 4



Picture 6: Scrape in Compartment 2



Picture 7: Meadow Sweet in compartment 2



Picture 8: Greater Tussock Sedge  
Compartment 2



Picture 9: Looking across river into compartment 2b



Picture 10: Compartment 6.