

Logan's Meadow Local Nature Reserve Summary Management Plan 2004-2014



Cambridge City Council declared Logan's Meadow as a Local Nature Reserve on the 18th April 2005. This summary management plan outlines the principal objectives to oversee the continued conservation and enhancement of the habitat and species of the site, and to investigate the opportunities for education and access over the next 10 years.

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Site Details

Site Name:	Logan's Meadow Local Nature Reserve
Local Planning Authority:	Cambridge City Council
Ownership:	Freehold owned by Cambridge City Council
Area:	1.0 Hectares
Grid Ref:	TL4659SW
Conservation Status:	Proposed LNR Spring 2005. City Wildlife Site and County Wildlife Site. The site is also lies within the flood zone of the River Cam.
Byelaws:	None
Access:	The site has free, open access throughout. The site is accessed via a metal kissing gate from Logan's Way. There are 2 sleeper footbridges within the site allowing access over a ditch.

Summary Description

Logan's Meadow is located on the northwestern bank of the River Cam within 1km of the City of Cambridge. The site is dominated by a mosaic of poor semi-improved grassland and tall herb community species with a number of planted broadleaved tree species. Two ponds were excavated approximately 10 years ago but failed to hold any water. A wet ditch exist along the NE Boundary of the site. There has been little management of the reserve except for the control of docks.

Works approved by the Environment Agency were carried out in February 2005. These works are aimed at enhancing the existing habitat and therefore contributing towards Local Biodiversity Action Plans. The following improvements have been made:

1. **Ditch Management:** The existing ditch on the northeast boundary had become heavily silted. The ditch has been de-silted and re-profiled to encourage the growth of emergent vegetation and to introduce open water into the site. Spoil from the ditch has been stored on site as an earth bank of no higher than 1m.
2. **New Ditch:** To provide a consistent flow of water, a new ditch has been excavated, joining the existing ditch with the nearest pond. The profile of the ditch has been created in a way that will allow emergent vegetation to develop. The pond nearest the ditch now holds water at river level.
3. **Installation of filter/pipe:** Using a chamber filled with graded stone, drainage pipe and valve the second pond now holds water. Using the valve the level of the pond can be adjusted (i.e. drained if necessary to remove any fish) and it is hoped that the pond will provide an important refuge for amphibians, dragonflies and breeding birds.
4. **Bank re-profiling:** The existing revetment has been replaced and to allow emergent vegetation to become established. Using willow faggoting and biodegradable geotextile netting, a new berm has been created. Emergent plant species have been introduced to establish a riparian habitat favourable to otters, breeding birds and dragonflies. Three fishing platforms have also been installed to provide anglers with designated swims.
5. **Inlet re-establish:** The existing inlet used as a public launch has been cleared of river silt.
6. **Otter Holt Installed:** Otter spraints have been recorded at the site. An underground chamber has been created within 5m of the River Cam. It has been constructed using timber and brash from the site. A new fence has been installed to protect the Holt from disturbance.
7. **Kingfisher Bank installed:** Kingfishers have been recorded at the site. A kingfisher bank holding two nest chambers has been created using temporary shuttering and spoil created through other works. It is hoped that the bank will be suitable for breeding within one year of its construction.
8. **Footpath improvements:** Sections of the existing footpath have been cleared of river silt.

Geology

Logan's Meadow lies upon river gravel deposits.

Geomorphology

The site is situated within the floodplain of the River Cam at a maximum height of 5mOD above sea level. Successive years of flooding have left significant areas of river silt.

Flora

Rank grassland with tall herbs occupies about 50% of the site area. Species include Cow Parsley (*Anthriscus sylvestris*), Perennial Rye-grass (*Lolium perenne*), False Oat-Grass (*Arrhenatherum elatius*), Stinging Nettle (*Urtica dioica*) and Broad-leaved Dock (*Rumex obtusifolius*). More favourable species have been noted including Meadowsweet (*Filipendula ulmaria*) and Purple Loosestrife (*Lythrum salicaria*).

A number of naturally colonizing *Salix* spp. dominate small areas of scrub scattered throughout the site. There is some evidence of pollarding but the majority of the tree species present on the site are of similar age and structure. Other tree species have been planted including Italian Alder (*Alnus cordata*), Hawthorn (*Crataegus monogyna*), Poplar (*Populus* spp.) and Bird Cherry (*Prunus padus*). A Veteran Willow exists on the northern boundary.

Ponds and Ditch:

The failure of the ponds to hold any water has meant that little associated flora has developed. Species recently introduced to the riverbank include Water Figwort (*Scrophularia aquatica*), Common Reed (*Phragmites communis*), and Yellow Iris (*Iris pseudacorus*). The ditch contains Fool's Watercress (*Apium nodiflorum*) and Reed Canary Grass (*Phalaris arundinacea*) but more species are expected to colonize.

Further survey work is required to determine lower plant communities of all the habitats present.

Fauna

The variety of habitats within this small site has a high potential value to invertebrates. Further study is required to determine species present, valuable habitat features and the potential for improvements. Species currently recorded include Small Tortoiseshell (*Aglais urticae*), Speckled Wood butterfly (*Pararge aegeria*) and Broad-bodied Chaser (*Libellula depressa*) Dragonfly.

Common Frog (*Rana temporaria*) has been recorded on the site but there has been no evidence of breeding. Grass Snake (*Natrix natrix*) is also present. Foxes (*Vulpes vulpes*), Muntjac Deer (*Muntiacus reevesi*), Grey Squirrels (*Sciurus carolinensis*) and Rabbits (*Oryctolagus cuniculus*) frequent the site. Otter (*Lutra lutra*) spraints have been recorded at the site. Water Voles (*Arvicola terrestris*) seem to be absent.

Bats recorded include Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Daubenton's (*Myotis daubentonii*). Further study of small mammals is required.

The site is an important refuge for birds, with Sparrowhawk (*Accipiter nisus*), Great Spotted Woodpecker (*Dendrocopos major*), Long Tailed Tit (*Aegithalos caudatus*), Bullfinch (*Pyrrhula pyrrhula*) and Redwing (*Turdus iliacus*) recorded. The introduction of water into the reserve should make the site more favourable to a variety of warblers.

Rarity of Habitat

Areas of semi-improved grassland are rare in the North of the city and Logan's Meadow represents an important refuge for wildlife close to the city centre. The site contains several important habitats as identified under the Cambridgeshire Local biodiversity Action Plan 1998 including Rivers & Wetlands, Trees & Woodlands and Urban habitats. Priority species also present include Song Thrushes, Daubenton's Bats, Otter and Bullfinch.

Historical and Cultural Importance

Little is known of the historical use of the site.

Recreational Use

Logan's Way provides good vehicular access to the site for users. There is one formal access point through a metal kissing gates designed to DDA 1995 regulations. Informal access to the site from the northeastern boundary has been prevented through the replacement of an existing fence line. The site is well used by the general public for dog-walking and general outdoor leisure. Anglers use the site frequently and there are some negative impacts including littering.

Current Management

The site is currently managed with help from volunteers supervised by Ellis Selway (Community Reserves Officer) of Cambridge City Council and Iain Webb (Project Worker) of the Cambridge Greenbelt Project.

Streetscene (Cambridge City Council) are responsible for the general maintenance of the site under the guidance of Parks & Recreation Department. A general maintenance plan has been drawn up for the site but this needs to be reviewed in order to maximise its potential in assisting in the management of the site and to promote sensitive management.

Threats and Opportunities

The locality of the site to the City Centre and good vehicular access means that miss-use of the site for illegal activities including drug taking, public drinking and fly tipping are evident. The opportunity to extend the site is limited but negotiations with local developers could be made.

The management of the site will be dependent on the continued efforts of volunteers. Management operations have therefore been considered using current levels of resources.

Maintenance carried out by Streetscene will need to be reviewed in light of these new objectives.

Key Aim

The following key objectives have been formed to oversee the conservation and enhancement of the habitat/species and to promote its wider use by the public.

Site Objectives

- 1. To create and maintain areas of open water. (LHAP for Cambridgeshire-Rivers & Wetlands)**
- 2. To enhance and maintain the riparian habitat including the pollarding of trees. (LHAP for Cambridgeshire-Rivers & Wetlands)**
- 3. To enhance and maintain the scrub/grassland mosaic.**
- 4. To install and improve access/interpretation on the reserve**

Management Rationale and Operations

Please refer to the management table and maps for details of locations and timing for the following operations

Objective 1- To create and maintain areas of open water. (LHAP for Cambridgeshire-Rivers & Wetlands)

Rationale

Improve aquatic habitat through the restoration of the existing ditch and construction of a new ditch to introduce a consistent flow of water into the reserve's ponds. Maintenance of the ditch and filter will be required in due course. Further management of the ponds may be necessary to reduce vegetation cover to maintain areas of open water and/or adjust water levels for the benefit of amphibians/invertebrates in Pond No2.

Operations

The following operations must only be carried out between September-February:

Ditch Management:

- 1.1 Remove any accumulation of silt/debris on a 3-year minimum rotation by either mechanical or manual means. All debris removed should be used to create habitat piles close to the watercourses where possible.*
- 1.2 Cut the banks alternatively by mechanical means on 3-year minimum rotation to promote flora diversity.

*(Any major operations to remove silt/organic debris must be retained on one bank only and on site for no more than two weeks to allow aquatic invertebrates to return to their habitat.

Pond Management:

- 1.3 Himalayan Balsam (an invasive non native plant) should be hand-pulled from the reserve in June to reduce the risk of it out-competing native plants.

The following operations must only be carried out between November- February:

- 1.4 Remove 1/10th of the pond vegetation** each year in each pond on rotation. Maintain existing areas of open water in southern fringes of ponds*. Monitor growth of partially submerged trees, maintain as necessary.
- 1.5 Cut bank-side vegetation up to 2m from top of bank, on 5 year rotation on alternate sides

*(Any major operations to remove silt/organic debris must be retained on one bank only and on site for no more than two weeks to allow aquatic invertebrates to return to their habitat.

**Larger size timber should be maintained within the watercourse to encourage invertebrates that utilise this scarce habitat

Objective 2- To enhance and maintain the riparian habitat including the pollarding of trees. (LHAP for Cambridgeshire-Rivers & Wetlands)

Rationale

Enhance the riverbank through the creation of a berm (emergent vegetation shelf) and through the introduction/maintenance of native plant species of local provenance. Maintain existing pollards throughout reserve. Restrict public access where necessary to protect native plant species.

Operations

- 2.1 Introduce new native plant species of local provenance to re-establish bank after works carried out in February 2005.

The following operations must only be carried out between September-February:

- 2.2 Monitor growth of emergent vegetation and maintain where necessary i.e. where it is encroaching on fishing platforms
- 2.3 Introduce selective pollarding of willow trees, cut on rotation >10 years*

*Any cut material should be used to create small habitat piles in a variety of areas throughout the site. The number of habitat piles should be monitored and removed if there is an increased risk of fire through vandalism.

Objective 3- To enhance and maintain the scrub/grassland mosaic.

Rationale

To enhance the grassland/scrub mosaic through rotational cutting and through the removal of invasive plant species*. A variety of cutting regimes will be introduced to allow the development of a diverse sward.

Himalayan Balsam (an invasive non native plant) should be hand-pulled from the reserve in June to reduce the risk of it out-competing native plants.

Operations

Grassland/Tall Herbs:

- 3.1 Cut areas of grassland/tall herbs annually between 1st July-31st July only, mechanically cut and remove cuttings from 1/3rd of the meadow (Spring flowering)
- 3.2 Cut areas of grassland/tall herbs annually between 1st April-31st May only, mechanically cut and remove cuttings from 1/3rd of the meadow (Summer flowering)

- 3.3 Repeat rotation and monitor.
 - 3.4 Control rank vegetation at peak growth rates where necessary
 - 3.5 Create alternate bays around the main path network
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Scrub:

- 3.6 Introduce selective pollarding of willow trees, cut on rotation >10 years*
- 3.6 Maintain graded edges to scrub through selective pollarding/coppicing of trees*.

*Any cut material should be used to create small habitat piles in a variety of areas throughout the site. The number of habitat piles should be monitored and removed if there is an increased risk of fire through vandalism.

Objective 4- To install and improve access/interpretation on the reserve

Rationale

To maintain and improved the existing path network and to install an interpretation panel. To promote the wider use of the reserve through the LNR website, leaflets, events and other publicity.

Operations

- 4.1 Monitor and maintain the surface of the main path network and 2 wooden sleeper bridges to provide safe access
 - 4.2 Between April- November maintain overhanging vegetation to allow safe access around the site
 - 4.3 Restrict access on site to main path by using natural methods i.e. brash to direct the public away from desire lines.
 - 4.4 Install an interpretation panel by the end of Summer 2005.
 - 4.5 Organise at least one event per year on the reserve
 - 4.6 Encourage the wider use of the reserve for educational purposes by providing guided pond dipping sessions.
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