

LNR SUMMARY PLAN

BARNWELL LOCAL NATURE RESERVE

Barnwell East

Barnwell West

Cambridge City Council
October 2001

SITE DETAILS

Name: Barnwell Local Nature Reserve consisting of Barnwell East and Barnwell West.

Local Planning Authority: Cambridge City Council

Nature of legal interest: Freehold owned by Cambridge City Council

BARNWELL EAST

Area: 3.4 Hectares

Grid Ref: TL 479 582

Warden: None at present

Conservation Status: Statutory LNR declared 1992. City Wildlife Site in Cambridge Local Plan for calcareous grassland (NE12-14). Wildlife Corridor in Cambridge Local Plan (NE15).

Byelaws: Byelaws are in force

Access: The site has free, open access throughout. There are pedestrian access points from Barnwell Road (including wheelchair access) and Uphall Road. Vehicular access from Uphall Road via a padlocked gate. Keys are held by Cambridge City Council and the Cambridge Green Belt Project.

BARNWELL WEST

Area: 4.05 ha

Grid Ref: TL 478 584

Warden: None at present

Conservation Status: Statutory LNR declared 2001. City Wildlife Site in Cambridge Local Plan for scrub (NE 12-14). Wildlife Corridor in Cambridge Local Plan (NE 15).

Byelaws: No byelaws are in force

Access: The site has free, open access throughout. There are pedestrian access points from Barnwell Road. There is a vehicular access route through the middle of the site towards Coldhams Common. There is pedestrian access from the Common.

BARNWELL EAST

Site Description

Barnwell East is a mixture of grassland and scrub on the urban fringe of Cambridge. Barnwell Road to the west, Marshall's airfield to the east, industrial units to the north and Nuttings Road and Uphall Road to the south bound the site.

The underlying geology is lower chalk and the site is flat. There is a pond in the northern part of the site. The site was formerly used as a piggery.

The semi-natural coarse grassland community is dominated by False Oat-grass, Cocksfoot, Perennial Rye-grass and Bent grass species. The herbs have a distinct calcareous influence and indicator species include Lady's Bedstraw, Perforate St John's Wort, Fairy Flax, Common Bird's-foot-trefoil and Ploughman's Spikenard. Colonies of Bee Orchid, which are uncommon in Cambridge, are also present. There are several 'garden escapes' such as Raspberry, Goldenrod and Michaelmas Daisy.

The scrub species form dense blocks around the edge of the main grassland are predominantly Hawthorn, Bramble, and Blackthorn. In some areas young scrub is encroaching the grassland. Scrub and tree belts have been planted around the margins of the site. The main species planted are Ash, Pedunculate Oak, Field Maple, White Willow and Lombardy Poplar.

The southwest edge of the pond is open which allows light to get to the pond. The north-east edge has a number of trees along it including Willow and Hawthorn. Tall emergent vegetation includes Reedmace, Reed Canary-grass, Water-plantain, Hard Rush, Gipsywort and Yellow Iris. The White Water-lily present is likely to have been planted.

The hedgerow on the north side of the site is thought to be ancient.

The site is an important refuge for birds, and the scrub provides food and cover. Species that have been recorded include Nightingale, Kingfisher, and Linnet.

The pond is reputed to contain Great Crested Newts and is a breeding ground for the Common Frog. During the summer numerous species of dragonfly and damselfly use the pond.

The reserve is not used greatly by locals. There are opportunities to enhance the site for access and educational purposes.

Key Aim

To conserve existing and, where possible, enhance habitat and species typical of meadow and scrub by prioritising national and local BAP targets for the enjoyment of local people.

Site Objectives

- 1 To improve the diversity of the grassland and increase the coverage of Bee Orchid, calcareous herb species, and grasses associated with chalk grassland (LHAP for Cambridgeshire – Lowland Calcareous Grassland).
- 2 To enhance the traditional woodland/scrub species and encourage diverse age structure and diversity of ground flora (LHAP for Cambridgeshire – Scrub).

- 3 To ensure that scrub does not encroach into the grassland to the detriment of the overall site biodiversity.
- 4 To maintain current shade/open water status of the pond and prevent it becoming too shaded and silting up (LHAP for Cambridgeshire – Ponds)
- 5 To manage ancient hedgerow and newly planted hedge (LHAP for Cambridgeshire – Hedgerows)
- 6 To survey for notable species – Bee Orchid, Great Crested Newt and Harvest Mouse. If found, to maintain and enhance populations. If not, to actively manage habitats to encourage colonisation.
- 7 To enhance access opportunities and use of site by Cambridge people.
- 8 To enhance the educational value of the site.

Main Management Operations.

- 1.1 Mow grassland and remove all cuttings to encourage fine grasses and a herb rich meadow.
- 1.2 Survey for calcareous herb species including Bee Orchid.
- 1.3 Investigate spread and control of garden escapes which may be spreading at the expense of calcareous herbs.
- 1.4 Monitor
- 2.1 Gradually fell inappropriate woody species and replace where appropriate with species suited to the habitat and general biodiversity objectives.
- 2.2 Cut areas of scrub on appropriate rotation including area between the reserve and Barnwell Road. Leave the occasional tree to mature.
- 3.1 Cut scrub that is invading the designated area of grassland and treat to prevent regrowth.
- 3.2 Monitor
- 4.1 Cut back scrub that is invading the south west of the pond and treat to prevent regrowth.
- 4.2 Cut back encroaching Common Reed and Reedmace on the pond during the autumn or early winter.
- 4.3 Monitor amount of silt in pond.
- 4.4 Remove litter from the pond.
- 5.1 Weed hedgerow until it is established.
- 5.2 Gap up hedge where saplings have died.
- 5.3 Survey ancient hedgerow and devise appropriate management.
- 5.4 Manage ancient hedgerow
- 6.1 Survey for Great Crested Newt
- 6.2 Survey for Harvest Mouse
- 6.3 Survey birds.
- 6.3 Implement appropriate management regimes
- 7.1 Mow paths 6 times per year and ensure there is no encroachment by Bramble
- 7.2 Create/maintain circular path
- 7.3 Repair/provide waymarker posts as necessary
- 7.4 Organise and promote guided walks and events in the reserve
- 7.5 Rewrite and Distribute leaflet.

- 7.6 Provide casual seating using logs near pond area, ensure they are anchored.
- 8.1 Provide educational material
- 8.2 Contact school to gain their perspective of the site.

Site Maps

Map 1 shows the location of the main areas of scrub and grassland, the pond the location of the notable species

Map 2 shows the desired state of the site.

Map 3 shows the different management operations and the area to which they apply.

Special thanks go to Sharon Hearle of the Greenbelt Project, Miriam Woolnough, Imogen Howlett and Iain Webb of the Greenways Project. Much of the information in the Summary Plan has been drawn from their work on the Management Plans.

ACTION	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1.1	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings	Mow and remove all cuttings
1.2		Survey grassland species			Survey grassland species			Survey grassland species		
1.3		Investigate spread and control of garden escapes								
1.4				Monitor and review management				Monitor and review management		
2.1		Fell and replace			Monitor fell and replace			Monitor fell and replace		
2.2	Coppice					Coppice				
3.1	Cut scrub		Cut scrub if necessary			Cut back scrub				
3.2						Monitor				
4.1	Cut scrub		Cut scrub			Cut scrub				
4.2	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents	Cut back emergents
4.3	Remove silt if necessary					Remove silt if necessary				
4.4	Remove litter	Remove litter	Remove litter	Remove litter	Remove litter	Remove litter	Remove litter	Remove litter	Remove litter	Remove litter
5.1	Weed hedgerow	Weed hedgerow	Weed hedgerow	Weed hedgerow						
5.2	Gap up hedge	Gap up hedge	Gap up hedge	Gap up hedge						
5.3		Survey ancient hedgerow								
5.4	On going	On going	On going	On going	On going	On going	On going	On going	On going	On going
6.1		Survey for Bee Orchid				Survey for Bee Orchid				

6.1		Survey for Great Crested Newts				Survey for Great Crested Newts				Survey for Great Crested Newts
6.2		Survey for Harvest Mouse				Survey for Harvest Mouse				Survey for Harvest Mouse
6.3		Survey birds				Survey birds				
6.4	On going	On going	On going	On going	On going	On going	On going	On going	On going	On going
7.1	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts	6 annual cuts
7.2	On going									
7.3	On going	On going	On going	On going	On going	On going	On going	On going	On going	On going
7.4	On going	On going	On going	On going	On going	On going				
7.5	Leaflet									
7.6	Seats				Seats					
8.1	Provide educational material									
8.2	Contact schools									

This table ascribes actions to various partner organisations within the Steering Group. The actions will be under constant review to improve and refine management procedures. Major departures from the programme will be reported back to the Steering Group.

The City Council will undertake the routine tasks of management and maintenance of the site. The Greenbelt Project is to underwrite tasks that can be carried out by voluntary/community action groups or surveys by specialists.

All funding requests and applications for grant aid are to be initiated by the Steering Group.

	Greenbelt/Greenways Project
	Cambridge City Council
	Cambridge City Council in consultation with the Steering Group
	Cambridge Sustainable City in consultation with Greenbelt/Greenways Projects

Contact: Helen Hepburn, Planning Department, Cambridge City Council, The Guildhall, Cambridge. CB2 3QJ. Tel: (01223 457134)

BARNWELL WEST

Site Description

Barnwell West is directly across the Barnwell Road from Barnwell East. Coldham's Common lies to the west and to the north is Priory School. The site is in the urban fringe of Cambridge and within the Cambridge Green Belt.

The underlying geology is lower chalk and the site is flat. A stream and a drain run around the perimeter of the site.

The site is dominated by mature Hawthorn and Elder scrub with scattered clearings covered with Nettles. A short access road runs through the middle of the site having the effect of forming two separate areas.

The area to the south includes several mature White Willow and Ash. Several young White Willow and Alder have been planted in the clearings and along the bank of the brook. There is a large clearing that is covered with Nettles.

The area to the north is dominated by over mature Hawthorn with only feeble Nettles and Ground Ivy underneath. The Hawthorns are prone to shedding limbs and falling. There is a small clearing at the far northern end where a few herbs have taken advantage of the increased light.

Coldham's Brook and the East Cambridge Main Drain run around the perimeter of the reserve. Both watercourses have vertical steep sided banks and are considerable shaded by Elder and Hawthorn. Coldham's Brook is clean and several different plant species grow where they are exposed to light, including Water-milfoil.

Fish up to 30cm long live in the Brook in large numbers. The Water Vole is found in Coldham's Brook. The East Main Drain contains very little invertebrate life probably due to pollution.

The site is important for birds and rabbits have taken advantage of the dark coverings produced by the Hawthorn cover. Birds seen include Yellow Hammer, Song Thrush and Kingfisher along the brook. Nightingale has also been heard.

The site has great potential.

Key Aim

To enhance habitat and species typical of scrub by introducing standard trees and by prioritising national and local BAP targets, for the enjoyment of local people.

Site Objectives

- 1 To convert some areas from a predominantly hawthorn scrub to a species rich scrub mosaic with around 10/12 standard maidens to the acre, so achieving diversity of habitat and encouraging passerine species such as Nightingale. LHAP for Cambridgeshire – Woodland
- 2 To improve the diversity of the grassland in the open clearings. (LHAP for Cambridgeshire – Lowland Calcareous Grassland).
- 3 To maintain and improve Water Vole habitat. LSAP for Cambridgeshire – Water Vole

- 4 To increase age diversity of scrub. (LHAP for Cambridgeshire – Scrub).
- 5 Diversify and manage existing tree groups.
- 6 To improve opportunities for public access.
- 7 To provide opportunities and facilities for educational use.

Main Management Operations

- 1.1 Clear 30% of Hawthorn scrub on north side. Plant standards and coppice understorey.
- 1.2 Allow standards to grow on.
- 1.3 Establish coppice regime on understorey.
- 1.4 Repeat 1.1 following cycle 1.2 and 1.3
- 1.5 Monitor changes
- 1.6 Make decision whether to extend scrub clearance or to increase age diversity of remaining scrub.

- 2.1 Mow clearings on annual basis. Remove cuttings.
- 2.2 Monitor
- 2.3 Scrape off topsoil in the southern clearing to reveal chalk (after testing trial pit).

- 3.1 Cut back some scrub along the brook.
- 3.2 Liaise with Drainage Engineers to encourage the sympathetic management of water courses.
- 3.3 Survey and monitor existing populations of Water Voles.
- 3.4 Create higher awareness about Water Voles among the local community.

- 4.1 Cut back existing scrub 10% yearly for 3 years on south side. Allow 50% of stumps to grow back. Treat the rest to prevent regrowth.
- 4.2 Cut back 5% of scrub yearly for 3 years around clearings in the northern area. Treat stumps as above.
- 4.3 Remove scrub in clearings as appropriate
- 4.4 Maintain cleared areas along the brook, and clear out a further 5% per year for the next few years.
- 4.5 Monitor

- 5.1 Pollard White Willows in rotation.
- 5.2 Plant two White Willows by Coldham's Brook.
- 5.3 Prune yellow plum trees

- 6.1 Provide and maintain safe and easy clear path routes including maintenance of bridges etc.
- 6.2 Clear disabled persons access path with 6 No cuts per annum.
- 6.3 Erect wheelchair gate at entrance to Coldham's Common.
- 6.4 Remove concrete posts and replace with timber fencing.
- 6.5 Monitor visitor pressure.
- 6.6 Erect information board at entrance to northern area of site
- 6.7 Erect 2 waymarker posts off Barnwell Road pointing to the reserve and Coldham's Common.
- 6.8 Organise and promote guided walks and events in the reserve
- 6.9 Rewrite and distribute leaflet.

- 7.1 Maintain dipping platform and bridge
- 7.2 Provide educational material

- 7.3 Contact school to gain their perspective of the site
- 7.4 Contact Cambridge City Council's environmental education department to gain ideas about schools using the area as an educational asset.

Site Maps

Map 1 shows the location of the main areas of scrub and clearings, the brook and main drain etc

Map 2 shows the desired state of the site.

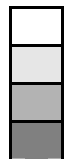
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