

Riverside Meadows

Site Management Plan

2012 - 2017

**Prepared by the Earth Trust
on behalf of
South Oxfordshire District Council**



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1. Introduction

The aim of this management plan is to set out a framework for the management and use of Riverside Meadows, 9.25 hectares of land adjacent to the Thames to the south of Wallingford Bridge. The land lies largely in Crowmarsh Parish with part of the land adjacent to the bridge in Wallingford Parish. Detailed annual work programmes have been drawn up based on the recommendations contained in this document.

This is the third version of this management plan, now covering the period 2012 - 2017. This plan updates the information and actions outlined in the second plan which covered the period 2007 - 2012. A review of the objectives and the action plan has been undertaken and the results fed into this revised document. Additional objectives and actions were identified by looking at the experience of managing the site over the second plan period, and by consultation with the Meadows Advisory Group. Further objectives became apparent during the Higher Level Stewardship application process. Only those additional actions and objectives that were compatible with the overall plan vision and policies have been incorporated into the revised plan.

2. Background

South Oxfordshire District Council purchased Riverside Meadows in May 2001. The aims of the purchase were to secure the future of the site, which had been under threat of development, and to allow the continued use of part of the site for informal recreation, the annual Wallingford Regatta and Wallingford Raft Race. In addition, the purchase of the site has secured the important separation between Wallingford and Crowmarsh.

Riverside Meadows is within the Chilterns AONB, contains three known sites of archaeological importance, and lies immediately to the south of Wallingford Bridge which is a scheduled ancient monument. There are no biological designations on the site.

3. Description

Riverside Meadows is comprised of three fields lying to the south of Wallingford Bridge on the east bank of the River Thames. A map of the site is attached as Appendix A. Fields A and B are cut or topped twice a year by the neighbouring farmer and grazier. Field C is cut for hay after the 15th July and aftermath grazed until November.

In March 2011 the council was successful in entering the site into a 10 year Higher Level Stewardship Agreement jointly with Wallingford Castle Meadows. The agreement has provided funding for many of the capital projects on the site including the grassland restoration project and new bat and bird boxes as well as providing annual payments in return for the Council managing the land to preserve and enhance its historic and nature conservation value.

The site is known to contain areas of archaeological interest and much of the landform of Fields A and B is likely to have been influenced by historical land uses – this is explored further in Section 5.

The three fields are divided by a mixture of drains, hedgerows, fence lines and trees. The Council's Forestry Section undertakes an annual survey of the trees and a separate management plan and schedule of works is prepared and works undertaken. The tree works are designed to ensure the safety of the site for all users and to help ensure the longer term survival of the remaining trees.

There are two stands of trees in Field C, one to the north and one to the south. The northern stand is dominated by poplar with a few alder; the southern stand is comprised mainly of maple. Both stands were thinned and a more diverse under-story introduced in 2003/04.

The hedgerow along the eastern boundary of Field C was planted in 2004/05. Two public footpaths cross the site, one cutting across the north east corner of Field B, and the other running from north to south following the Towing Path along the eastern bank of the River Thames. The area of Fields A and C immediately adjacent to the river is used for informal recreation and for staging the annual Rowing Club Regatta and the Wallingford Raft Race. In addition, several desire lines run across the fields which are used regularly by the public.

The site, being adjacent to the Thames, is subject to frequent flooding during the winter months, and occasionally during the summer as well, during which time access becomes impossible. The extent of flooding varies but in July 2007 the flooding covered all but the far north-eastern corner of the site. As a result of this any work or structures on the site have to be designed with flooding in mind.

4. Ecology

The site has been surveyed by ecologists from the Earth Trust and by the SODC Countryside Officer over the period of the previous plans. The results of the surveys are included in Appendix E. The surveys are not exhaustive but allow a good understanding of the nature conservation status of the site, and allow informed decisions to be taken in the management plan. A key part of the monitoring over the coming years will be to undertake regular surveys to build up a comprehensive species list for the site, so that changes brought about by the actions in this plan can be assessed.

A butterfly transect was introduced in 2009, which has since been added to the UK Butterfly Monitoring Scheme (UKBMS) and is undertaken by volunteers from the Centre for Ecology and Hydrology (CEH) which are located very close to Riverside Meadows.

4.1 Grassland

An initial survey at the start of the first management plan found little of value to nature conservation in the main areas of grassland; the grass sward has been subject to agricultural improvement in the past resulting in low species diversity. In

Field C a process of diversification was started in 2006 when wild flower seeds were sown randomly, and in areas where the turf was stripped to allow for better germination. This was largely unsuccessful. In 2008 a trial patch of approx 100m² was sprayed off with glyphosate before being sown with a specific wildflower seed mix. Results in this area have been very encouraging with approx 15 of the 17 species sown being visible in the sward.

4.2 Other habitats

The most important features on the site are the habitats associated with the drains and ditches that bisect the site, and the habitats associated with the riverbank.

4.2.1 Ditches

The main ditch is thought to be very old and may have originally formed part of a defensive earthwork related to Wallingford Bridge. The ditch is fed by drainage from the surrounding meadow, and from a concrete lined ditch and culvert which enters the site from The Street and Riverside Car Park.

The vegetation of the ditch is comprised of wetland and wet grassland species including: reed canary grass, great willowherb, water mint, common fleabane, gipsywort, amphibious bistort, and cuckoo flower. Reed warbler, kingfisher, and snipe are known to use the area although there is no evidence that they are breeding on site. The ditch has potential for use by water vole and otter, although there is no evidence of either species on site at present.

Currently the ditch is heavily silted and as a result the upper parts are relatively dry and dominated by species such as great willowherb and nettle. The silting means that the majority of the ditch does not hold water throughout the summer months. Rotational cutting of the tall herb vegetation is undertaken annually to prevent further excessive build up of decaying vegetation.

4.2.2 River bank

There are many characteristic river bank plants surviving along the banks of the Thames (Appendix E), providing a valuable habitat and nectar source for insects. Four areas of the bank which were subject to heavy erosion were fenced off in 2003. The fenced areas were planted with a mix of blackthorn, dogwood, hawthorn and alder. The intention was to protect these areas from further erosion. Initial indications suggest that these measures have proved very successful with little active erosion evident.

5. Archaeology

Historic and archaeological investigations have revealed Riverside Meadows and its immediate environs to be a significant focal point for settlement, communication, ritual and strategic activity for at least 3000 years. Much of the archaeological interest is related to the alluvial deposits along the Thames corridor. Over 20 Bronze Age artefacts have been recovered from the bed of the Thames adjacent to the northern part of the site. In addition there are two known sites of archaeological importance within the site itself, which are shown in Appendix B.

The strategic location of the site at an ancient river crossing means that there is high potential for activity from the Roman period onwards. It is suggested that the existing ditch between Fields A, B and C may follow the original boundary of a Saxon Burh, excavated as part of an outwork defence for the Saxon bridge head. Maps from 1876 show a series of linked ponds called the Jack Ponds in Field A adjacent to the bridge. As a result of the amount of historical and archaeological interest, the whole site has been placed on the Sites and Monuments Register as an area of known archaeological interest.

Since 2002 the universities of Leicester, Exeter and Oxford have been undertaking surveys of Wallingford called the Burh to Borough Research Project. These surveys have to date involved a review of documentary evidence and excavations, as well as geophysical and topographical surveys.

At Riverside Meadows the project has conducted geophysical surveys and excavated a small (11 x 1.5m) trench. The trench was excavated as a result of speculation over the possible site of a siege castle. However, no further evidence of this was found as a result of the excavation.

Further information and contacts can be found on the project web site at:
http://www.le.ac.uk/ar/njc10/wallingford_project/

6. Management constraints

The future management and use of the site is constrained by the terms and conditions set out in a transfer document which the Council agreed to at the time of the purchase, in May 2001.

The restrictions state: "Not to use the Property or permit or allow the Property to be used otherwise than for agricultural purposes including grazing of cattle and horses provided always that this covenant shall not restrict the use of that part of the Property immediately adjacent to the river for informal leisure purposes including the annual Rowing Club Regatta and the Wallingford Raft Race."

The Higher Level Stewardship Scheme also places certain restrictions on management activities, all of which have been incorporated into this management plan. If for any reason the management is to deviate from that outlined in this plan then prior consent will need to be obtained from Natural England.

7. Management objectives

In defining the overall management objectives for the site it is important to look at a number of factors:

- The reasons the site was purchased by the Council
- The current status of the site including the ecological, agricultural, historical, archaeological and amenity interests
- The constraints on future management and use of the site
- The potential of the site to contribute to targets for biodiversity conservation

Riverside Meadows were purchased in order to safeguard the site against future development and to ensure continued public enjoyment. Future management therefore has to ensure that this aim is not compromised. The overriding consideration that must guide the future management and development of the site is, therefore, to ensure that it remains in agricultural management.

In light of the above, six broad objectives for the future management of the site have been defined. These are not presented in order of importance.

- A. To maintain the agricultural and landscape character of the site
- B. To enhance the biodiversity value of the site
- C. To allow informal public use and enjoyment of the riverside
- D. To prevent excessive erosion of the river bank
- E. To protect the site from inappropriate or damaging use
- F. To interpret and protect the archaeological interest of the site

Rationale behind these objectives:

- A. To maintain the agricultural and landscape character of the site:

This will mean ensuring that any management activities do not change the overall character of the site or affect its ability to be managed for agricultural purposes.

- B. To enhance the biodiversity value of the site:

Section 4 identified the current nature conservation status of the site as being relatively low. Management over the last two plan periods has begun to improve this but it is a long term process and should be continued into the future to reap the benefits. These enhancements would assist in achieving the targets set out in the Oxfordshire Biodiversity Action Plan.

- C. To allow informal public use and enjoyment of the riverside:

Part of the site is currently used as an area for informal recreation and enjoyment. The management of the site would seek to continue to allow this type of use, and none of the proposed management activities would be allowed to compromise this situation. However, dog owners using the site will be encouraged to exercise control over their dogs to prevent conflicts with the livestock and to reduce dog-fouling problems by the discreet provision of dog bins.

- D. To prevent excessive erosion of the river bank:

Work has been undertaken to stabilise the erosion in Field A and C which appears to be working well. Long term monitoring will be undertaken to check the effectiveness of these works.

- E. To protect the site from inappropriate or damaging use:

Any uses to which the site is put in the pursuit of allowing informal recreation will be strictly controlled if they in any way materially damage the site, or conflict with its agricultural or conservation management.

- F. To interpret and protect the archaeological interest of the site:

Riverside Meadows are adjacent to Wallingford Bridge, which is a scheduled ancient monument, and the meadows themselves also contain areas of archaeological interest. Any works on the site will need to be undertaken in consideration of the potential archaeology and its preservation.

8. Rationale for management activities

The detailed actions required to achieve each of the broad management objectives set out above are identified and prioritised in the management activities table on page 11. A map showing the management activities is included as Appendix C. The following section outlines the rationale for management of the main habitats on the site and the reasons why these courses of action have been chosen.

8.1 Meadows

8.1.1 Introduction

Traditionally Riverside Meadows would have been managed as flood plain meadows with extensive cattle grazing and/or hay cuts. The current management seeks to restore the species diversity of these meadows.

Unimproved grassland has become an increasingly rare habitat, with less than 1000ha remaining in the County (Wicks and Cloughley, 1998). Of this total area, wet grassland in the floodplain is particularly valuable and is thus acknowledged as a key habitat of conservation importance in Europe, and is protected under the 1994 European Species and Habitats Directive. Wet grassland is one of the key habitats targeted in the Oxfordshire Local Biodiversity Action Plan (Stevenson and Liwicki 1999) and lowland meadows are now considered as a priority habitat in the UK Biodiversity Action Plans.

Management over the last 10 years has been aimed at reintroducing traditional management systems and the introduction of greater species diversity.

8.1.2 Current management

Fields A and B are currently managed with an annual cut between May and July, there is no aftermath grazing of these fields due to difficulties with stock control and dog nuisance. Field C is managed with an early spring graze and an annual hay cut, followed by aftermath grazing until the end of November. Species rich seed was spread in Field C in 2006 in an attempt to diversify the sward. In 2008 a trial patch of approx 100m² was sprayed off with glyphosate and then over-seeded with a specific wildflower mixture. This trial area has proved very successful with approx. 15 of the 17 species shown being visible in the sward.

8.1.3 Future management

Fields A and B are those which are currently most heavily used by people for informal recreation purposes and it is these fields which are used during the annual raft race and regatta.

Future management of these fields will continue with an annual cut which will be taken between May and July, with weed control operations carried out if necessary.

Over time, as the fertility of the grassland decreases, it is hoped that the fields will begin to diversify naturally with the spread of seed from the more active restoration taking place on Field C.

In order to keep the river bank open for people, and in an attempt to regulate access to this area, a strip will be mown alongside the river bank in Field A. The area to be mown is between the eastern edge of the public footpath and the River. It is hoped that this will encourage people to use this area for picnics etc, and so reduce the problems of litter and fires.

In the past problems have occurred with the trampling of the hay crop and as a result the desire lines, as well as the public footpaths, are mown in an attempt to control the access routes across the fields.

Field C has the best potential for restoration since it receives far less visitor pressure than Fields A and B. In autumn of 2012 Field C will be disked, harrowed and over-seeded with a bespoke wildflower mixture, which will be rolled in. This field will then be managed with an early spring graze followed by an annual hay cut and summer cattle grazing at a density of approx 1 LSU per hectare. The restoration of Field C is possible thanks to funding from the Higher Level Stewardship Scheme.

8.2 Drains and associated habitats

8.2.1 Introduction

The main drainage ditch that bisects the site is one of the richest habitats, with a good mixture of wetland species including reed canary grass, reed sweet grass, water mint, silverweed, cuckoo flower, purple loosestrife, amphibious bistort and wild angelica. The drains do not hold water all year round and usually begin to dry up during May/June; there is also evidence of a substantial build up of silt. These areas form an important habitat for a variety of species, including the reed warbler, banded demoiselle, orange tip butterfly and snipe, which have been regularly recorded during the winter months.

An extra section of ditch was excavated in 2010 due to the loss of flood storage capacity when new moorings were created at Riverside Park. The capacity of this new section is approx 150m³. It has been seeded with a mixture of emergent and aquatic plants.

Ditches and their associated habitats are a priority habitat in the Oxfordshire Biodiversity Action Plan, due to their potential importance for a number of priority species, the most notable of which being the otter and water vole. Otters are recorded on the Thames in this area and the habitats in the ditches provide a suitable laying up area for otters. There is suitable habitat available for water voles in the ditch at Riverside Meadows although the drying of the ditch in the summer months may make this a sub-optimum habitat for the species.

As identified in Section 5 of this plan the main ditch is also thought to be of significant historical importance.

8.2.2 Current management

The ditch is maintained by an annual rotational cut of the tall herb vegetation – half the ditch is cut every year. The concrete culvert is cleared of silt and vegetation annually to ensure it serves its purpose of clearing run off from The Street and Riverside Car Park. The two sections of pipe are also checked annually and cleared as required.

8.2.3 Future management

Management will continue with rotational cutting of the tall herb vegetation which will prevent the build up of plant matter which would, in the long term, increase the rate at which the ditch silts up. The new section of ditch will be monitored for the establishment of seeds and added to the rotational cutting regime when necessary.

8.3 Access provision and maintenance

8.3.1 Introduction

There are currently five official access points to the site. These are at the entrance and exit of the Mongewell footpath, the entrance and exit of the Towing Path along the Thames bank, and the access gate at the junction with Watery Lane. In addition, it is possible to access the site at many points from under Wallingford Bridge. The only official access point which is suitable for users with restricted mobility is the main access on Watery Lane.

8.3.2 Current management

Maintenance of access points and access furniture as and when required. The preferred paths across Fields A and B are mown throughout the summer months to prevent trampling of the hay crop.

8.3.3 Future management

Continue to mow preferred paths and maintain the access furniture.

8.4 Site boundaries

8.4.1 Introduction

The boundaries on the site consist of lines of mature trees and planted hedgerows. The boundaries of Field C were replaced with stock proof fencing in 2002/03.

8.4.2 Current management

All fences are maintained to prevent danger to the public and to maintain site security. The planted hedgerow in Field C has been protected from stock browsing with additional barbed wire.

8.4.3 Future management

Maintain fence lines in safe and stock proof condition. Monitor hedgerow and replace failed plants if necessary.

8.5 River bank

8.5.1 Introduction

One of the two most important habitats on the site at present is that associated with the banks of the River Thames. This is also the area that receives most pressure from users of the site, river users, natural erosion and the cattle that graze the site. The river bank is currently used on an informal basis for overnight moorings, by local anglers and for informal recreation. The main area that is used for moorings is the river bank of Field C. The bank alongside Field A is used less because of the shallow nature of the riverbed at this point. Anglers use the whole of the river bank within Riverside Meadows. The main area for informal recreation is in Field A.

8.5.2 Current management

Four areas of the bank that were subject to heavy erosion were fenced off in 2003. The fenced areas were planted with a mix of blackthorn, dogwood, hawthorn and alder. The intention was to protect these areas from further erosion. Initial indications suggest that these measures have proved very successful with little active erosion evident.

Two areas, very close to the Towing Path, that were suffering from heavy erosion by people and dogs accessing the river were fenced off in 2009 and a section of willow spiling and faggots put in place to trap silt and help to build up the bank again. This has been very successful and additional layers of faggots are added in year on year.

The purpose built cattle drink that was installed as an alternative to the pasture pump during the period of the last management plan has been heavily poached up by cattle. The subsequent erosion resulted in it almost doubling in size, interfering with access from the gate between Field A and C. Agreement was reached with the neighbouring farmer, whose cattle graze Field C, for a water supply to be connected up to a trough, which was funded by the Higher Level Stewardship scheme.

8.5.3 Future management

Monitor fenced areas for signs of erosion and take remedial measures if necessary. Add layers of faggots to the cattle drink and two other eroded areas to build the bank up to its original level and prevent further erosion.

8.6 Other biodiversity enhancements

8.6.1 Introduction

Eleven bird boxes were installed in 2008, to encourage a variety of nesting birds to use the site. Bat walk events have noted pipistrelle, Daubenton's and noctule bats foraging around the site. A long eared bat was known to be inhabiting the bat hibernaculum in 2006. Diversification of the range of habitats on site is required to provide additional bird and insect habitats.

8.6.2 Current management

Bird boxes are checked every May for presence or absence of nesting birds; species and number of eggs/chicks counted where possible. Bird boxes are cleaned out in October.

8.6.3 Future management

Four Schwegeler bat boxes will be erected in 2013 to encourage bats to roost on the site. Declining standard trees around the site and in the hedgerows will be replaced as and when necessary, to diversify the range of habitats.

8.7 Interpretation and community involvement

8.7.1 Introduction

The site is regularly patrolled by a number of volunteer wardens and much of the management has been done with the help of volunteers from the Earth Trusts Friday and Wednesday Groups and Wallingford Green Gym. Since 2005 regular events have been organised in the summer months combined with those on offer at Wallingford Castle Meadows. Interpretation panels were erected on the site in 2005.

8.7.2 Current management

Maintenance of interpretation facilities and continuation of the events programme.

8.7.3 Future management

Continue the programme of events and maintain the interpretation boards. Replacement of wooden interpretation panels with metal ones when wooden ones become rotten or damaged.

8.8 General site maintenance

8.8.1 Introduction

Regular site checks and maintenance will be needed to ensure the site meets health and safety regulations.

8.8.2 Current management

Regular site checks to ensure health and safety. A six monthly site risk assessment review is undertaken and any issues resolved within acceptable timeframes.

8.8.3 Future management

As above.

8.9 Monitoring

8.9.1 Introduction

In order to measure the successes and failures of management it is important that all the actions are monitored to ensure they are having the desired effects.

8.9.2 Current management

Regular site checks pick up most of the general monitoring. In addition there are specific schemes set up for monitoring the bat hibernaculum (Pill box), butterfly transects, and an annual survey of Field C to monitor the species composition of the field following the seed introduction.

8.9.3 Future management

The current monitoring arrangements will continue.

9. References:

- Stevenson, M & Liwicki, S. 1999 Habitat Action Plan for Grazing Marsh and Neutral Grassland 2002-2005. Oxon LBAP
Wicks, D & Cloughley, P. 1998 The Biodiversity Audit of South East England: An audit and assessment. Eastleigh, Hampshire and Isle of Wight Wildlife Trust.

10. Table of management activities

(The management activities outlined below are illustrated on the site map attached as Appendix C)

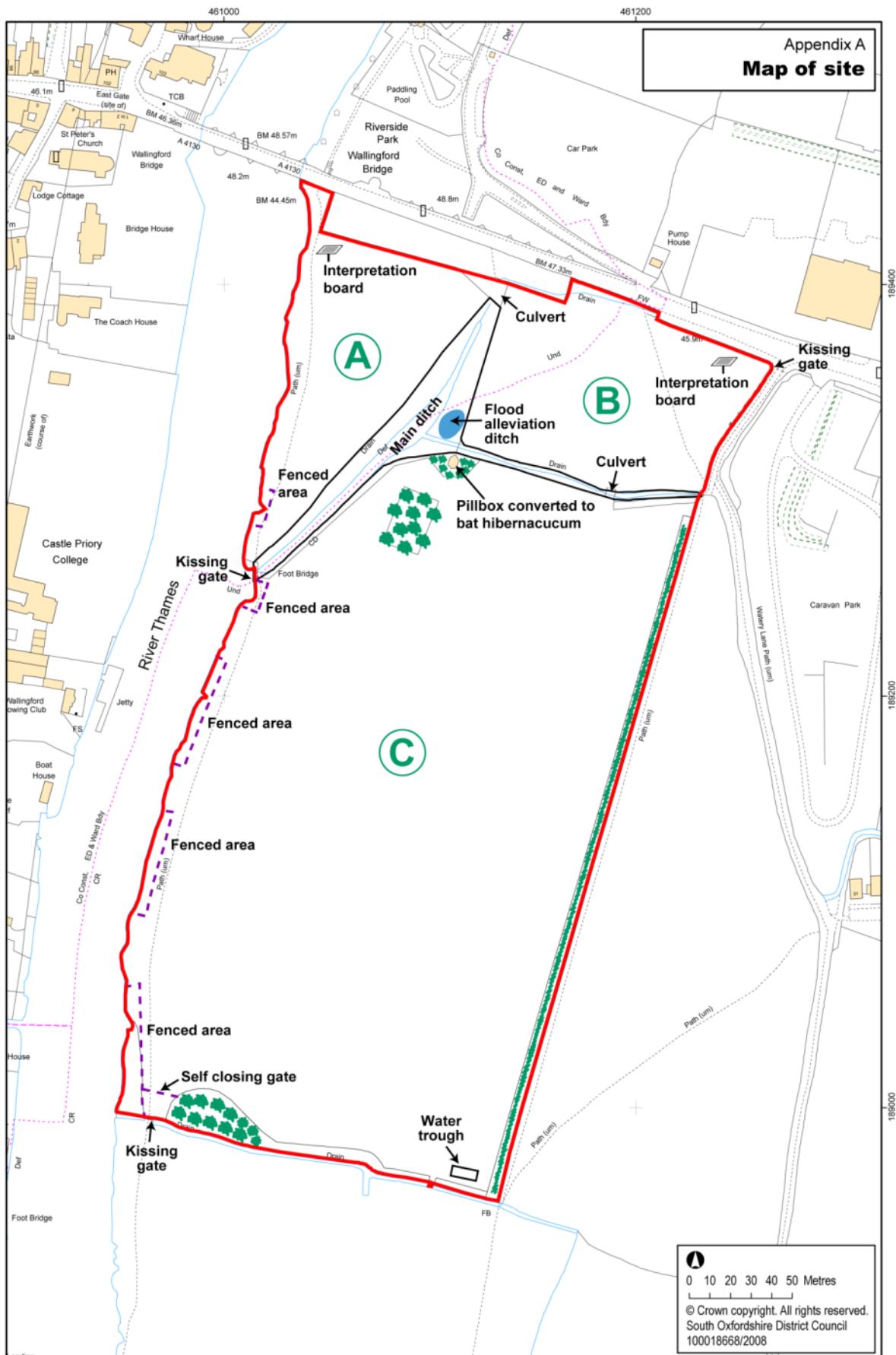
Location	Management Activity	Desired outcome	Timing
Meadows			
Field A (excluding areas of tall herb adjacent to drains and a margin around rest of field)	Annual hay/silage cut prior to Regatta (usually held in May) or Raft Race in July (whichever is the sooner)	Providing access for Regatta/Raft Race	Annual
	Mowing paths and a 5 metre strip along riverbank 6 times per year (between April and September)		6 times p.a.
Field B (excluding areas of tall herb adjacent to drains and a margin around rest of field)	Annual hay/silage cut as field A	Providing access for Regatta/Raft Race	Annual
	Mowing paths 6 times per year (between April and September)	To allow for informal recreation, prevent trampling of hay crop and to attempt to guide users of the site to those areas where access is least damaging	6 times p.a.
Field C	Cultivate and sow wildflower mix	To diversify the sward	Autumn 2012
	Early spring graze	To prevent grasses from smothering the newly seeded pasture	Annually from 2013
	Annual hay cut after 15 July (HLS agreement)	Reducing the fertility of the sward and returning to a more traditional management system	Annual
	Aftermath grazing following hay cut, until end of November	Max 1lu/ha	After 15 th July
	Weed control as required in the years following cultivation	Thistle and/or creeping buttercup control may be necessary after soil disturbance	Summer
Drains and associated habitats			
Flood alleviation ditch	Monitor for establishment of aquatic and emergent vegetation	Add in to rotational cutting regime when necessary	Ongoing

Between fields A,B and C	Rotational cutting of tall herb vegetation. One half cut every year. Removal of all arisings, to be carried out in early autumn (when ditch is dry) Retain a fringe of vegetation on both sides of the ditch	To prevent excessive build up of decaying material and promote stronger growth of tall marginal vegetation	Annually in Sept
Drain and concrete culvert	Clear silt and vegetation every year to maintain drainage channel	To allow run off from The Street and Riverside Car Park to reach the main ditch and prevent flooding of Field B	Annually in Sept
Access provision and Maintenance			
Access points	Maintenance of access furniture as required	To meet health and safety and disabled access requirements	Ongoing
Fields A and B	Paths and strip adjacent to the Thames mown 6x per annum	To allow for informal recreation, prevent trampling of hay crop and to attempt to guide users of the site to those areas where access is least damaging	6 x p.a.
Site Boundaries			
Fences	Maintain fence lines in safe and stock proof condition	To meet health and safety and livestock requirements	Ongoing
Hedgerow alongside Field C	Hedgerow maintenance	Weeding and mulching of hedgerow and replacement planting if required	Ongoing
Riverbank			
Fields A & C	Monitor effects of bank protection, take action if necessary		Ongoing
Fields A & C	Add layers of willow faggots to 3 eroded areas	To build riverbed up to original ground level	Ongoing
Other biodiversity enhancements			
Whole site	Erection of bird and bat boxes in suitable locations	To encourage the use of the site by a variety of species of birds and bats	2013

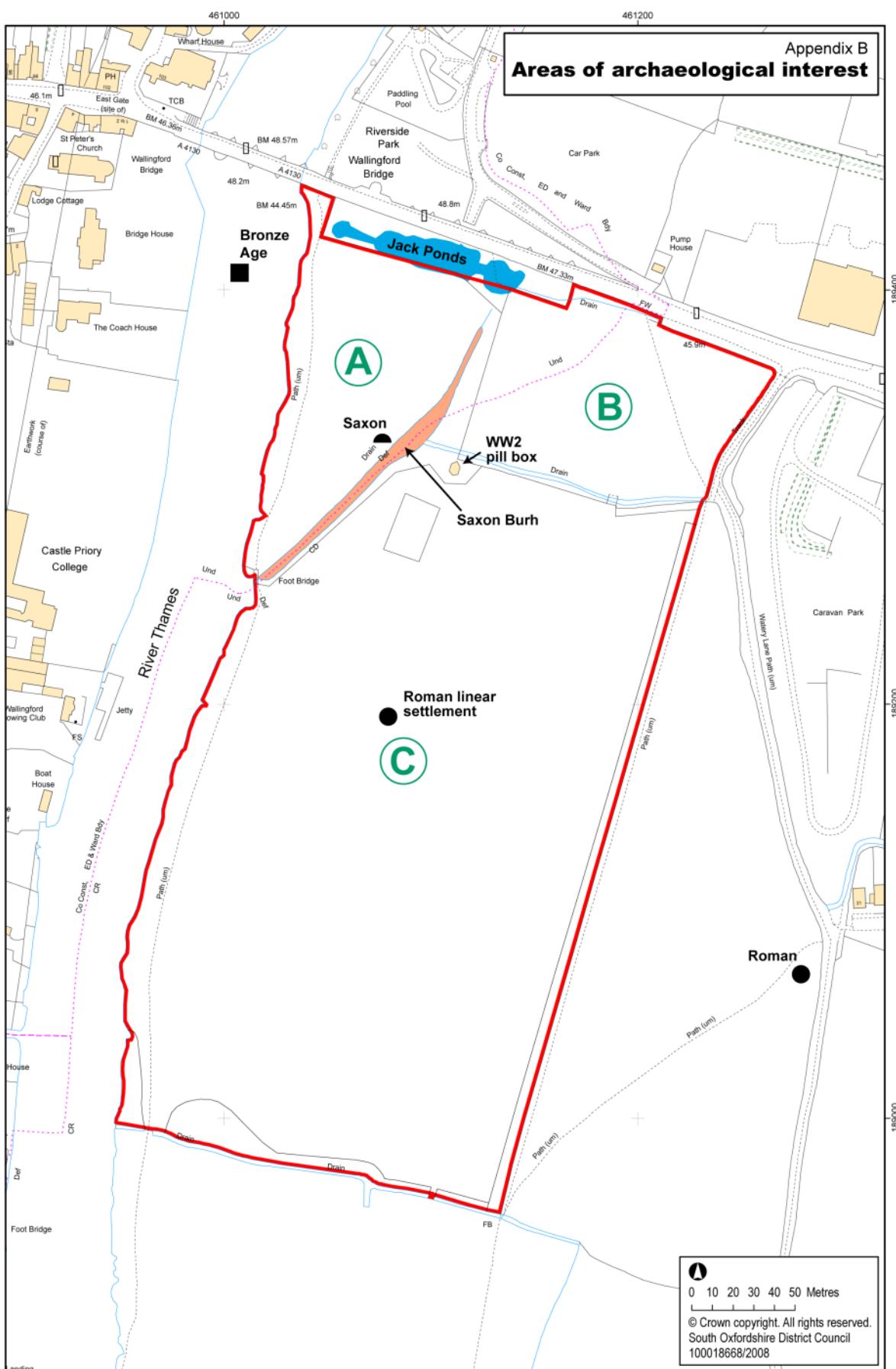
Whole site	Replace declining standards as and when required	Diversification of the range of habitats, provision of bird and insect habitats	Ongoing
Bat hibernaculum (WW2 pillbox)	Check and carry out repairs as necessary	To ensure continued functioning as a bat hibernaculum	Ongoing
Interpretation and community involvement			
Whole site	Continue to involve the local community in management and monitoring, through the Green Gym, Meadows Advisory Group and Earth Trust volunteer groups	Encouraging community participation is a key way of encouraging local people to respect the site, and it will provide a willing work force to carry out tasks	Ongoing
Whole site	Maintain and increase the number of volunteer wardens	Volunteer wardens check the site, respond to visitors questions and feedback issues to the site warden	Ongoing
Whole site	Promotional events to encourage community participation for example an annual bat walk	To link in with the annual programme of events at the Earth Trust	Ongoing
Whole site	Maintenance of interpretation panels	Replace existing wooden boards with metal ones as required	Ongoing
General site maintenance			
Whole site	Litter picking as and when required (regular collections in summer months)	To reduce littering problems	Ongoing
	Updating of the site risk assessment every 6 months	To comply with health and safety legislation	Twice a year

Monitoring			
Bat hibernaculum	Monitor for presence or absence of bats	To add to species lists for the site	Annual
Bat boxes	Monitor for presence or absence of bats	To add to species lists for the site	
Field C	Butterfly transect	Monitoring of species composition - the number of species and individuals should increase as the botanical diversity improves	Annual from April to September
Field C	Undertake annual vegetation survey to monitor success of seed introduction	Monitoring the progress of the wildflower seeding undertaken in 2012	Annual
Whole site	Recruit volunteer to monitor bird species using the site or breeding on site	To add to species lists for the site	Annual
Field C	Monitor/map areas of significant weed infestation	Soil disturbance after grassland restoration may increase weeds	June/July

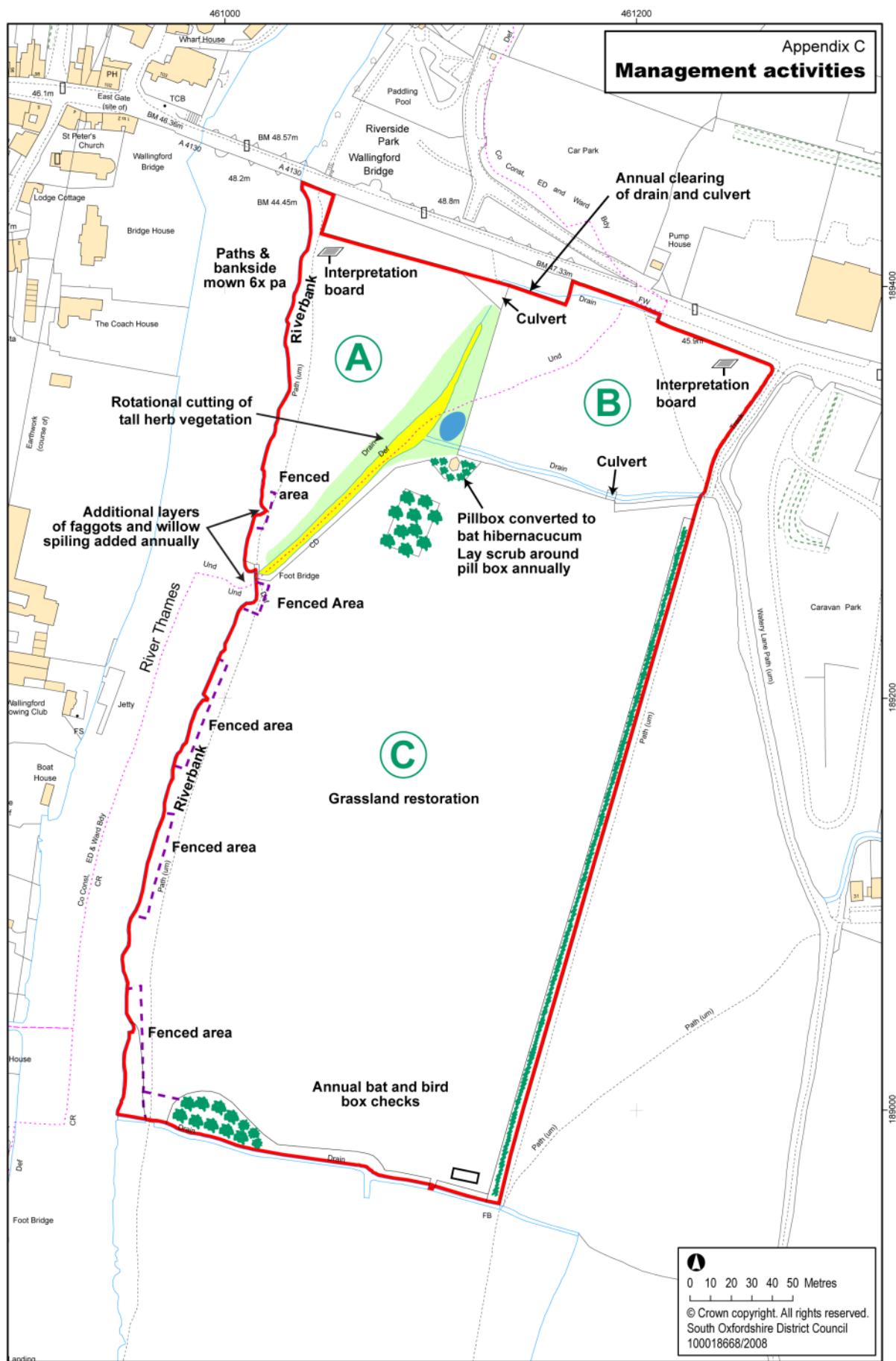
Appendix A
Map of site



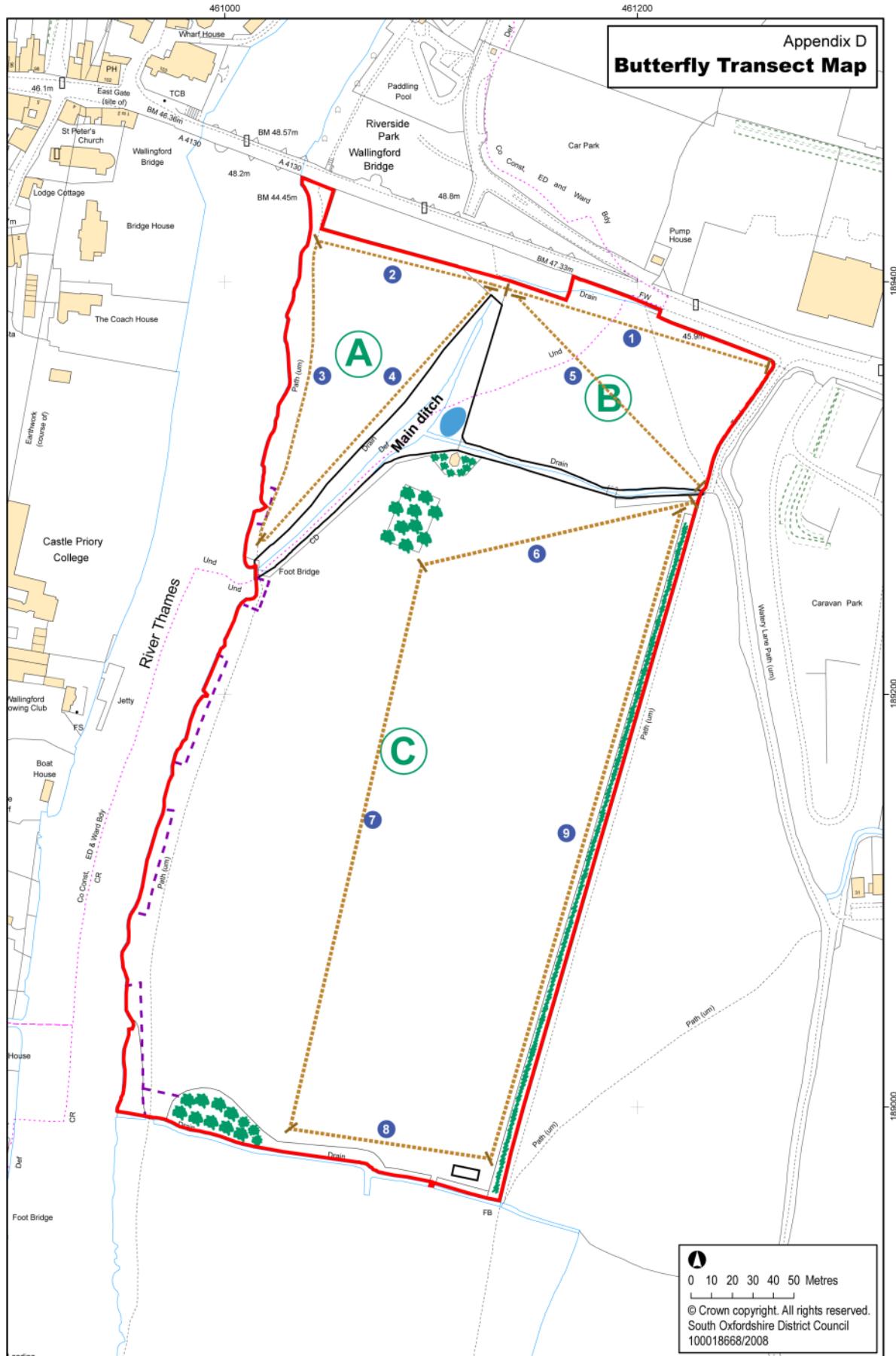
Appendix B **Areas of archaeological interest**



Appendix C
Management activities



Appendix D
Butterfly Transect Map



Appendix E

Species list

Fields A and B

Mainly Couch Grass and Cock's-foot
Rye Grass
Red Fescue
Tall Fescue
Meadow Buttercup
Creeping Buttercup
Dandelion
Field Bindweed
Redshank
Silverweed
Cut leaved Cranesbill
Yarrow
Silverweed
Common Dock

Plants noted in wet Tall Herb area

Meadow Foxtail
Reed Canary-grass
Reed Sweet-grass
Bittersweet
Comfrey
Great Willowherb
Marsh Woundwort
Meadowsweet
Purple Loosestrife Teasel
Water Mint (and hybrid with Corn Mint?)
Ground Ivy
Cuckoo flower
Yarrow
Common Fleabane
Creeping Cinquefoil
Broad leaved plantain
Silverweed
Gypsywort
Amphibious bistort
Garlic mustard
Wild angelica
A Grey Sallow bush
Also lots of Nettle and Thistles

Riverbank: Field A

Creeping Thistle
Curled Dock
Field Bindweed
Great Willowherb (and others)
Gypsywort

Hard Rush
Marsh Bedstraw
Meadowsweet
Nettle
Purple Loosestrife
Skullcap
Soft Rush
Water Figwort
Wood Dock
Yellow Flag

Hedge between A,B and C

Blackthorn
Crab Apple
Elder
Field Maple
Hawthorn
Horse chestnut
Oak
Limes (northern field)
Balsam? Poplars (north field & near pill box)

Field C

Mainly Cocksfoot and Rye Grass
Arrhenatherum
Red Fescue
Creeping Buttercup
Creeping Cinquefoil
Dandelion
Field Bindweed
Meadow Buttercup

Species planted in Field C trial plot

Yarrow
Common Knapweed
Lady's bedstraw
Meadow cranesbill
Field scabious
Meadow vetchling Rough hawkbit
Oxeye daisy
Birdsfoot trefoil
Musk mallow
Ribwort Plantain
Cowslip
Self heal

Meadow buttercup
Yellow rattle
Common sorrel
Bladder campion

Species planted in major grassland restoration of Field C in 2012

Yarrow
Birdsfoot Trefoil
Common Knapweed
Ribwort Plantain
Cowslip
Meadow Buttercup
Common Sorrel
Oxeye Daisy
Lady's Bedstraw
Selfheal
Yellow Rattle
Pepper Saxifrage
Ragged Robin
Wild Red Clover
Tufted Vetch
Meadow Cranesbill
Field Scabious
Meadow Vetchling
Musk Mallow
Bladder Campion

Riverbank: Southern Field

Amphibious Bistort
Common Ragwort
Curled Dock
Dogwood
Field Horsetail
Great Willowherb (and others)
Gypsywort
Hawthorn
Hedge Mustard
Meadow Vetchling
Meadowsweet
Perennial Sow-thistle
Purple Loosestrife
Skullcap
Wild Turnip
Winter Cress (*Barbarea* sp.)
Wood Dock
Yarrow
Yellow Cress (*Rorippa* sp.)
Yellow Loosestrife

Copse near southern boundary

Maple and Willow planted
Cleavers
Cow Parsley
Ground Ivy
Hogweed
Nettles

Butterflies (across whole site)

Gatekeeper
Green-veined White
Large White
Meadow Brown
Peacock
Red Admiral
Small Tortoiseshell
Small White
Orange Tip

Bumblebees (across whole site)

Bombus hortorum
Bombus lapidarius
Bombus pascuorum
Bombus terrestris and/or *lucorum*
Psithyrus rupestris (male dissected)
Psithyrus vestalis

Other species

Banded demoiselle
Bank vole
Snipe
Reed warbler
Grey wagtail
Song thrush
Brown long-eared bat – roosting in
pillbox
Daubentons bat - over River
Pipistrelle spp.

Appendix F **Riverside Meadows Butterfly Survey Results 2009**

Butterfly Species	Totals	Section Number	Totals
Small White	48	5	15
Large White	8	7	15
Meadow Brown	6	1	14
Ringlet	6	6	14
Speckled Wood	2	4	9
Small Tortoiseshell	2	3	7
Painted Lady	2	2	5
Peacock	1		
Gatekeeper	1		
Green Veined White	1		
Brimstone	1		
Chalkhill Blue	1		
Totals	79	Totals	79

Riverside Meadows Butterfly Survey Results 2011

Butterfly Species	Totals	Section Number	Totals
Small White	29	5	26
Meadow Brown	20	6	21
Large White	14	4	18
Gatekeeper	10	7	9
Brimstone	6	1	6
Ringlet	2	2	5
Green Veined White	2	3	5
Common Blue	2	Totals	90
Speckled Wood	1		
Small Tortoiseshell	1		
Painted Lady	1		
Red Admiral	1		
Comma	1		
Peacock			
Chalkhill Blue			
Totals	90		

Appendix G
Bird Box Checks
Riverside Meadows

	Date Checked		
Box Number	10/5/08	21/5/09	12/5/10
1	Feathers	4 x Blue tit fledglings	1 blue tit on nest
2	Droppings	Moss	Box missing
3	Blue tit + 7 eggs	Empty nest	Empty nest
4	Feathers + Droppings	Empty	Empty
5	Empty	Empty	Empty nest
6	Moss + Droppings	4 x Blue tit fledglings	Blue tit on nest
7	Blue tit + eggs	Empty	Blue tit on nest
8	Blue tit + nest	5 x Blue tit fledglings	Blue tit on nest