

# Riverside Meadows Site Management Plan 2020-2025



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



Earth Trust Registered Charity No. 1095057



Listening Learning Leading



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Appendix 1 – Biological Information

Appendix 2 – Sites of Archaeological Interest

Appendix 3 – Risk Assessment

## Appendices

All appendices are available as separate documents that can be found by emailing the Earth Trust at [admin@earthtrust.org.uk](mailto:admin@earthtrust.org.uk) Documents are also available as hard copies on request.

## 1. Introduction

This is the fourth version of this management plan, now covering the period 2020-2025. This management plan follows three earlier plans, where the management of the site has evolved through the development of those plans. The aim of this management plan is to set out a framework for the management and use of Riverside Meadows, over the next five years.

The site of Riverside Meadows lies largely in Crowmarsh Parish with part of the land adjacent to the Bridge in Wallingford Parish. This management plan takes into account all of the available information regarding the reserve and attempts to strike a balance between what is desirable and what is achievable within the various levels of protection on the land i.e. the three known sites of archaeological importance; natural restrictions e.g. the meadows are in the Thames floodplain; available resources and the terms of the covenants 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."*

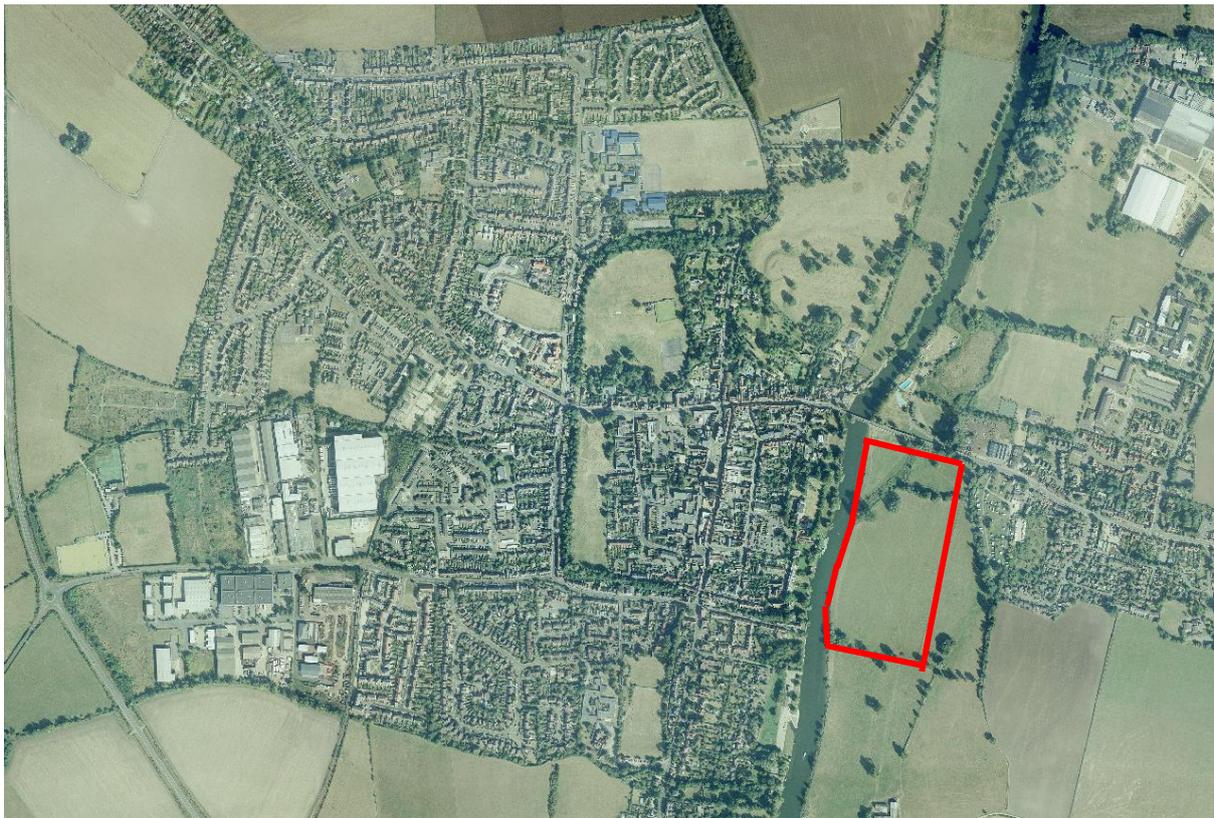
The plan is wholly in accordance with this covenant and will be under continual yearly review during the period of the plan as a dynamic document. It sets out how the Earth Trust will actively manage the site under the primary purpose of agriculture, on behalf of SODC, where public access is not prohibited and has been considered for each aspect of the plan along with wildlife and archaeology present on site. Success will be measured against the management activities with site surveys, ecological monitoring and a review of the completion of the work plan.

Detailed annual work programmes have been drawn up based on the recommendations contained in this document. The plan will allow operational staff to understand and follow the management and monitoring activities for the site and for stakeholders to understand the management of the site and rational behind it. It also seeks to highlight the importance of community involvement on the site and its contribution to future plans. The structure of the plan is such that the plan should be a working document that is easy to use and refer to.

### 1.1. Executive summary

<b>Reserve Name:</b>	Riverside Meadows
<b>OS Grid Reference:</b>	SU 612 893
<b>District:</b>	South Oxfordshire
<b>County:</b>	Oxfordshire
<b>Local Planning Authority:</b>	South Oxfordshire District Council (SODC)
<b>Owner:</b>	SODC

## Map 1. Riverside Meadows in its landscape context



**Agri-environment Scheme:** Higher Level Stewardship (HLS) AG00282979

**Natural England Contact Team:** Oxfordshire and Buckinghamshire Team

**Current status:** Site contains three known sites of archaeological importance, and lies immediately to the south of Wallingford Bridge which is a Scheduled Ancient Monument. As such the whole site has been placed on the Sites and Monuments Register as an area of known archaeological interest.

**Total area:** 9.25 hectares (c. 23 acres)

**Overall responsibility:** Edward Church, Senior Countryside Officer; Planning, SODC, 135 Eastern Avenue, Milton Park, Milton, OX14 4SB  
Tel: 01235 422 422  
Email: [planning@southandvale.gov.uk](mailto:planning@southandvale.gov.uk)

**Type of holding:** Freehold, subject to restrictive covenant

**Date of purchase:** May 2001

**Works/vehicle access:** Through double gate, off The Street; SU 612 893

**Land Tenure:**

This is not a legal document. Please refer to the original tenure documents before taking any decision or action that may have legal implications.

**Site context**

Riverside Meadows sits within the Chilterns AONB, contains three known sites of archaeological importance, and lies on the east bank of the River Thames and immediately to the south of Wallingford Bridge which is a Scheduled Ancient Monument. There are no biological designations on the site. Riverside is made up of three fields (A, B & C) and is divided by a mixture of drains, hedgerows, fence lines and trees, comprising of a mix of lime, chestnut, maple, poplar, willow, with a few alder. Two public footpaths cross the site. The area of Fields A and C immediately adjacent to the river are used for informal recreation. 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. As a result of this any work or structures on the site have to be designed with flooding in mind. There is a World War II pillbox alongside the main ditch, which has been converted into a bat hibernaculum. The meadows are managed to ensure that they are a valuable habitat for wildlife and provide a space for quite recreation for the people who visit the site.

Through the purchase of Riverside Meadows SODC's aim was to secure the future of the site, which had been under threat of development. In addition, the purchase of the site has secured the important separation between Wallingford and Crowmarsh.

Riverside Meadows is currently under a 10 year Higher Level Stewardship Agreement, which runs until the 31<sup>st</sup> March 2021. The agreement promotes positive management of the site and restricts certain activities. More information is given under section 4.2 Meadows and section 5. on the Legal Responsibilities and Obligations. Natural England and the Rural Payments Agency must be consulted in relation to any operations or activities that are not described in this management plan, for which consent may be required until the 31<sup>st</sup> March 2021. At the time of writing there is a degree of uncertainty regarding the future of agri-environment schemes. The plan will be updated if necessary to reflect any changes once the current agreement ends in 2021.

**2. General description****2.1. Location & Site Boundaries**

Riverside Meadows is located 1 mile from the centre of Wallingford, towards the East of the town (SU 612 893), nearest postcode is OX10 8EA.

**2.2. Tenure**

SODC acquired Riverside Meadows in 2001 and the 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, as detailed in section 1.

### **2.3. Management/Organisational Infrastructure**

As the site owner, SODC (comprising Councillors and Officers) is the budget-holder and ultimate decision-maker for the site. Within SODC the Senior Countryside Officer has overall responsibility for the management of the reserve.

SODC employ the Earth Trust to manage Riverside Meadows as well as two other sites in its ownership (Wallingford Castle Meadows in Wallingford and Mowbray Fields in Didcot). The current contract between SODC and Earth Trust runs from April 2016 to April 2021 and will be reviewed on or before April 2021 in accordance with the Councils Contract Procedure Rules.

The Earth Trust employ a Community Reserves Warden within its Land Management Team who has responsibility for the management of Riverside Meadows including undertaking all aspects of site management contained in this plan. The warden's duties include regular site checks, organisation of voluntary work, employment of contractors and undertaking the majority of management tasks, outlined in sections 4 and 8.

The warden and the Council have six monthly review meetings to review progress against an agreed set of targets and there is regular communication over all aspects of site management between the Trust and Council.

### **2.4. Resources**

In order to effectively implement the objectives and actions identified in this plan sufficient resources are required. The massive contribution of the local community in the management of the site through various forms of volunteering cannot be overstated in its importance and the maintenance of good community relations is key to ensuring the effective long-term management of the site.

In addition to these staff and voluntary resources the Council has and continues to invest significantly in the development of the site since its purchase in 2001.

### **2.5. Associated Groups**

#### **Meadows Advisory Group**

The Meadows Advisory Group was set up in 2000 to help the council in its management of Wallingford Castle Meadows. When Riverside Meadows was purchased in 2001 the groups' remit was widened to include Riverside Meadows as well. The group has members from all the principal bodies with an interest in the site. As less and less capital works are required at the two sites and the management of the site has moved into a maintenance phase, the role of the Meadows Advisory Group has evolved into one of ambassadors in the local community. The Earth Trust warden sends out a six monthly "Warden's report" by email and if there is anything identified as requiring further input or discussion a Group meeting would be called e.g. if new capital works were proposed.

#### **Wallingford Green Gym**

Wallingford Green Gym are a small community volunteer conservation set up in 2003, affiliated with, but run independently of TCV (The Conservation Volunteers) and work at sites around South Oxfordshire. They work at the SODC sites managed by Earth Trust once a month on average.

## **2.6. Environmental Information**

### **Soils**

There is no record of a systematic survey. The 1:25,000 Soilscape of England and Wales (2019) records the area as within an area of freely draining, slightly acid but base-rich soils. Water protection issues within this soil area are listed as: Groundwater contamination with nitrates; siltation and nutrient enrichment of streams from soil erosion often found on these soils.

### **Climate**

Riverside Meadows reserve is located in the Thames Basin, which is characterised by a continental climate with high summer temperatures and little wind exposure. Frost occurs on an average of less than 80 days per year. Mean monthly minimum temperatures of around -1°C occur in February. Mean monthly maximum temperatures of around 24-26°C occur in July.

### **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. A species list collated from these surveys is included in Appendix 1. The ecological surveys undertaken on site have not been exhaustive but give 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.

### **Flora**

The first botanical surveys were undertaken in early after the sites purchase in 2001. Since this time a few surveys have been undertaken on the site combined with casual observations. The results of the surveys to date are listed in Appendix 1. Generally the botanical composition of the grassland is species poor as it has been intensively managed in the past. There are localised patches of more diverse grassland particularly associated with the meadow restoration in Field B, where top-soil was removed and a wildflower seed mix introduced. It is our hope that an area of more diverse meadow has been established in Field C following a re-seeding project in 2018 funded by the Floodplain Meadows Partnership.

A number of species have possible implications for management. There are patches of thistles, including Spear and Creeping thistle and common ragwort scattered across the site. These are potentially invasive species.

### **Fauna**

#### **Reptiles and amphibians**

Casual observations have been made including common frog (*Rana temporaria*) which has been recorded in the ditch. Newts have not been positively recorded.

#### **Birds**

Periodic bird recording has taken place on site, supplemented by additional records from the site warden, volunteers and others; a summary of the findings is included in Appendix 1. Eleven bird boxes were installed in 2008 to provide additional breeding sites for birds.

## **Mammals**

Six species of bat have been recorded using the site. These include the common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), daubenton (*Myotis daubentonii*), brown long-eared (*Plecotus auritus*), serotine (*Eptesicus serotinus*) and the noctule (*Nyctalus noctula*). All species of bat are protected under both British and European legislation. It is likely that other species use the site. Further recording will be needed to determine the status of bats on the site and to identify any roosting sites. There are fifteen Schwegler bat boxes have been installed on site (eleven during autumn 2008, and a further four installed in 2013), to encourage a variety of nesting bats to use the site.

The World War II pillbox alongside the main ditch has been converted into a bat hibernaculum by the addition of tiles, planks and bricks on the inside to create roosting sites. Large holes and windows have been gapped up to create small slits for entrances and the main door secured with a locked metal grill to prevent unauthorised access. A long-eared bat was known to be inhabiting the bat hibernaculum in 2006, but since then we have not had further positive records of bats regularly using the feature. Diversification of the range of habitats on site is required to provide additional insect habitats.

A number of other mammalian species have been recorded including woodmouse (*Apodemus sylvaticus*), muntjac deer (*Muntiacus reevesi*), grey squirrel (*Sciurus carolinensis*) and fox (*Vulpes vulpes*). Badgers (*Meles meles*) are known to use the site; although there are no setts on site. There is also a sizable population of rabbits (*Oryctolagus cuniculus*) on site.

## **Invertebrates**

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

### **2.7. Map Coverage**

The reserve is covered by OS Landranger (1:50 000) no. 175 (Reading & Windsor) and OS Explorer (1:25 000) no. 171 (Chiltern Hills West).

### **2.8. Photographic Coverage**

There are current and past aerial photos for Riverside Meadows on the Earth Trust's QGIS mapping system.

## 2.9. Compartments

Map 2. Riverside Meadows, compartments



### **3. People, Stakeholders and Local Community**

#### **3.1. Local Communities and Stakeholders**

The reserve is commonly visited by local and regional residents and Field A is particularly popular during the summer months for informal recreation.

#### **3.2. Access and Tourism**

The site is well used by residents of Wallingford and Crowmarsh as well as many visitors to the two towns. The site is open to the public and it is not possible to close the site to those on foot. 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. There are 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 only official access point which is suitable for users with restricted mobility is the main access on Watery Lane.

There are no recreational facilities at the site, in line with the covenant on the land. Dogs are currently allowed on the reserve if kept under control/on a lead. The informal recreational uses of the reserve are for walking, which does not generally conflict with the interests of the reserve management. Public rights of way exist around the exterior of Field B and C along Watery Lane. In order to keep the river bank open for people, and in an attempt to regulate access to this area, a strip is mown alongside the river bank in Field A. The area mown is between the eastern edge of the public footpath and the River as well as the two public footpaths and the desire line paths, are all mown in an attempt to control the access routes across the fields. In the past problems have occurred with the trampling of the hay crop. It is hoped that mowing the footpaths and the area adjacent to the river reduces pressures on other parts of the site – such as problems of litter and fires.

Field A immediately adjacent to the river is used for informal leisure purposes including the annual Rowing Club Regatta and the Wallingford Raft Race, which is permitted within the covenant on the land.

#### **3.3. Interpretation Provision**

Interpretation panels have been placed at two of the entrance points to the site. These give information on the site, about its current management, history and ecology. These were recently updated during the Summer of 2019. For more information relating to interpretation please see section 4.6 Visitor enjoyment and public access.

#### **3.4. Educational Use**

Since its acquisition the site has been used on an irregular basis for education purposes. There have been occasions when students of ecology and archaeology have undertaken field visits to the site as part of wider projects. Other groups have also used the reserve including the Wallingford Wildlife

Group, which have carried out Bat walks and habitat surveys. However, the use of the site for educational purposes is ancillary to the primary agricultural land use.

Earth Trust has just launched its new Strategy covering 2018-2023 and as part of this process we are currently reviewing and rewriting our Engagement Strategy, which includes outdoor education on the Community Reserves, including Riverside Meadows. When this is available it will be available as an appendix.

#### **4. Conservation Features of Interest**

In defining the overall features of interest and their 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 was purchased in order to safeguard the site against future development, for the benefit of the environment and local communities. 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, seven broad areas for the future management of the site have been defined. These are not presented in order of importance.

1. Archaeology
2. Meadows; Floodplain and improved grassland
3. Drains and associated habitats
4. River bank
5. Trees and Hedgerows
6. Visitor Enjoyment & Public Access
7. Community Engagement

For full summary table of management and monitoring activities please see Section 8.

#### **4.1. Archaeology**

##### **4.1.1. Evaluation**

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 2.

### **4.1.2. Past Land Use**

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.

From 2002 until 2011 the universities of Leicester, Exeter and Oxford undertook surveys of Wallingford called the Burh to Borough Research Project. These surveys involved a review of documentary evidence and excavations, as well as geophysical and topographical surveys. At Riverside Meadows the project 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/](http://www.le.ac.uk/ar/njc10/wallingford_project/)

There is also a World War II pillbox alongside the main ditch, which has been converted into a bat hibernaculum.

During the 19<sup>th</sup> Century the site was part of a farm and the purchase of the land by South Oxfordshire District Council in 2001 has brought the site of Riverside Meadows into public ownership.

### **4.1.3. Current Status**

The site has no standing 'remains', which leaves the majority of the site accessible for both non-invasive investigation and, where considered appropriate, excavation. The undeveloped nature of the whole area means the site is an archaeological resource of national importance which makes it one of the principal features of the site.

### **4.1.4. Factors and Constraints**

- Positive factors
  - Possibility of organic evidence in waterlogged soils on site
  - Burh to Borough archaeological project now complete but there is the possibility of attracting future funding for well-conducted research to assist interpretation
- Constraints
  - Poaching of earthworks by cattle a concern if stocking densities not regulated
  - Geophysical research is costly
  - Risk from illegal metal detecting (although wider public presence could inhibit illicit activity)
  - Constraints imposed by the Higher Level Stewardship Agreement

#### **4.1.5. Archaeological Resource Objective**

To interpret and protect the archaeological interest of the site.

#### **4.1.6. Management Rational**

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.

#### **4.1.7. Management Activities**

- Control grazing pressure to protect the below ground archaeological/historic features
- Provide interpretation for site and individual features
- Mow preferred paths
- Maintain the volunteer warden network and reporting system
- Liaise with Archaeologists, English Heritage, SODC, Wallingford Museum and Defra over any excavations planned
- Discourage metal detecting through signage and interpretation

#### **4.1.8. Monitoring Activities**

- Monitor the site for damage to below ground historic features caused by other factors such as human pressure and grazing animals
- Monitor the site for signs of metal detecting and report if found

### **4.2. Meadows: Floodplain improved/semi-natural grassland**

#### **4.2.1. Evaluation**

Improved/semi-natural grasslands account for a significant proportion of all grassland found in rural and urban parts of the UK. They are dominated by grass species, with few flowers, and are often sown for agricultural or recreational use. Modifying or 'improving' previously unimproved grasslands, by applying large quantities of fertilisers and selective herbicides, creates improved grasslands. They are particularly characterised by the abundance of rye-grass species (*Lolium spp*) and white clover (*Trifolium repens*). Sometimes these grasslands are temporary and sown as part of a rotation of arable crops, in which case they are known as leys.

Floodplain meadows bordering rivers and watercourses in the flat, low-lying vales are a unique habitat type. They are susceptible to winter flooding which traditionally restricted grazing to the summer months. Many would have been managed as hay meadows, which meant that they were usually cut in mid-July and then grazed until conditions became wet once again. Sites typically possess ditches; they may contain seasonal water-filled hollows and permanent ponds; they may contain areas of emergent swamp communities but not extensive areas of tall fen species like reeds. Lowland improved/semi-natural grassland in the floodplain is generally neutral in character but normally not botanically species rich.

Lowland grassland and floodplain meadow habitats and their associated species face a number of pressures and threats, which conservation initiatives are trying to address. Most grassland in the UK has undergone agricultural improvement through ploughing and re-sowing, heavy inputs of fertilisers, and intensive cutting or grazing. This remains an important threat, as does over-grazing or cutting at the wrong time of year. Increasingly, grasslands are also threatened by under-management or abandonment of traditional grazing or cutting. Although the total area of this habitat has declined drastically over the last 40-50 years Oxfordshire has some of the best surviving examples. The exact extent of lowland grasslands and floodplain meadows in the UK is not known, although they are habitats that have decreased in extent by more than 40% since 1930, primarily as a result of drainage and agricultural improvements, and the UK Biodiversity Action Plan (BAP) estimates some 300,000 ha of grazing marsh (including that in coastal areas) survives nationwide. Within this total, unimproved seasonally-flooded grasslands are less widely distributed with <1000ha remaining in the County (Wicks and Cloughley, 1998). Floodplain meadow is one of the key habitats targeted in the Oxfordshire Local BAP (Stevenson and Liwicki 1999) and lowland grasslands/meadows (GO6 lowland meadow) are now considered as a priority habitat in the UK BAPs (UK Biodiversity Steering Group, 1999).

#### **4.2.2. Current Status**

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. The sward is dominated by perennial rye grass (*Lolium perenne*) representing an MG7 Rye Grass ley, but with a significant coverage of and creeping buttercup (*Ranunculus repens*) in Field C especially.

#### **Field C**

In Field C a process of diversification was started in 2006 when wildflower 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. 100m<sup>2</sup> was sprayed off with glyphosate before being sown with a specific wildflower seed mix. Results in this area have been very encouraging with approx. fifteen of the seventeen species sown being visible in the sward.

#### **Higher Level Stewardship**

Currently (from 2011 until March 2021) Field C is under the Natural England Higher Level Stewardship (HLS) option HK7 – Restoration of species-rich, semi-natural grassland.

In May 2012, with funding from Natural England (through the HLS agri-environment scheme) the whole area of Field C was sprayed off with glyphosate before being sown with a specific wildflower seed mix. Sadly over that winter the Thames burst its banks and Riverside Meadows was under water for three months, none of the seed germinated and the re-seeding project was unsuccessful.

#### **Floodplain Meadows Partnership**

In September 2018, with funding from The Floodplain Meadows Partnership and a derogation from Natural England, half of Field C was again re-seeded with a grassland flower rich mix (total area 6.75ha, re-seeded 3ha). The aim of this re-seeding was to increase the floristic biodiversity and in turn improve insect diversity and so on up the food chain. It was felt that rather than start the process

of spraying off, as this has not changed the dominance of creeping buttercup especially in previous re-seeding attempts, the field was grazed tightly instead. It was then disked in two perpendicular directions, power harrowed and the wildflower seed spread at a rate of 5kg/ha using a spreader (Sowing at 5kg/ha (as wildflower only mix); 3ha = 15 kg needed). The wildflower mix was a bespoke mix from Charles Flowers, with crop-grown seed of British-native origin, as specified by the Floodplain Meadow Partnership including at least six of the indicator species for lowland meadow BAP habitat. Finally the area was rolled, to ensure the seed had good contact with the soil for germination. During June 2019 Floodplain Meadows Partnership returned to Riverside Meadows to carry out some vegetation surveys (within the area re-seeded and outside as controls) and initial indications show that of the fourteen wildflower species in the seed mix about half have taken, including oxeye daisy (*Leucanthemum vulgare*), common knapweed (*Centaurea nigra*), and birdsfoot trefoil (*Lotus corniculatus*), which is very promising. Field C will continued to be monitored closely in future years to determine the schemes success or to inform future management.

## Field B

The development of Bellemay Way (across The Street from Riverside Meadows) required a new road to be built within the floodplain down to the car park at Riverside Park and Pools. This meant bringing materials into the floodplain, which required offsetting in the locality, i.e. removing the same amount of material out of the floodplain somewhere else nearby. This provided an opportunity for habitat creation at Riverside Meadows. During summer 2016 up to 2" of topsoil was removed from an area approx. 0.15ha in Field B adjacent to the ditch, this was then re-seeded with a wild flower mix by the developer. As the top soil was removed, so to was the seed bank, including the dominant perennial rye grass and thus the wild flower mix has taken very well with common knapweed, lady's bedstraw (*Galium verum*), meadow cranesbill (*Geranium pratense*), self-heal (*Prunella vulgaris*), wild carrot (*Daucus carota*) and salad burnet (*Sanguisorba minor*). It is hoped this will act as a source of colonisation for the rest of Field B.

### 4.2.3. Factors and Constraints

- Positive factors
  - Within the 2016 small area in Field B and the 2018 three hectare re-seeding area several wild flower species have initially taken. This can act as a source of colonisation for the rest of Field's B and C.
  - The fields (mainly A and C) still flood in some years, and this might (with time) help to re-establish some species lost through past management.
- Constraints
  - South Oxfordshire District Council relies on contract graziers.
  - The bulk of the land has been improved for agriculture and failed re-seeding has disturbed the ground leaving a serious weed problem.
    - Weed control is expensive and time consuming.
  - Excessive disturbance by the public (and their dogs) is likely to inhibit some species, especially certain bird species, e.g. snipe and curlew.
  - Past intensive management, has left the grasslands species poor.
  - Land is very prone to poaching.
  - Very few desirable plant species are left (except what has been added through re-

seeding) and it is unlikely that any seed remains in the soil seed bank or that the plants could colonise rapidly (nearest area of unimproved grassland is at Benson Lock).

#### **4.2.4. Meadows Objectives**

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.

To maintain in a favourable condition the floodplain meadow/semi-improved grassland habitat on site, where:

- At least two high-value indicator species for BAP grassland habitat (GO6 lowland meadow) should be frequent in the sward in Field C e.g. knapweed, bird's-foot-trefoil, lady's bedstraw.
- Cover of wild flowers in the sward (excluding undesirable species but including rushes and sedges), should be between 30% and 90%.
- At least 40% wildflowers should be flowering during May-June.
- Butterflies such as Meadow Brown (*Maniola jurtina*) and Marbled White (*Melanargia galathea*) feed across the whole site
- Control of undesirable species:
  - Creeping thistle (*Cirsium arvense*) and spear thistle (*Cirsium vulgare*) together account for less than 5% cover
  - Common ragwort (*Senecio jacobaea*) accounts for less than 1% cover

Some species e.g. creeping thistle, ragwort and common dock, can completely dominate the grassland so reducing herb abundance and diversity by effectively out-competing the important flora. These species may also indicate over-grazing, poaching and nutrient enrichment. However, many of these species provide a nectar source for invertebrates, so it is not our wish to eradicate them from the site.

- Sward height between 5cm and 15cm in November
- Scattered clumps and tussocks between 15-30 cm tall on up to 30% of the meadows
- There are few if any shrub seedlings or saplings within the field areas.

The key to providing valuable habitat for many small birds, mammals, insects and other invertebrates, and for wild flowers is to get the sward structure right at key times of the year.

- Small areas of bare ground on up to 5% of each of the fields, distributed throughout the field in hoof prints and other small patches.

Bare ground is an important element of grasslands/meadows as it provides germination niches for plants and sunning spots for invertebrates. However too much bare ground is undesirable, as this leads to a loss of key flora. Bare ground can also be caused by increased visitor pressure or over grazing leading to excessive poaching.

- Maintain fence lines in safe and stock proof condition.

#### **4.2.5. Management Rational**

Riverside Meadows is managed by:

- Grazing and/or hay cutting

- Controlling scrub
- Weed control
- Sward diversification
- Permissive footpath mowing

### **Grazing and or hay cut**

Cattle grazing and/or hay cutting is the traditional management for this type of grassland, to ensure that quantities of grasses are reduced and that diverse herbs can dominate the sward. In addition to reducing the dominance of grass the stock will remove any low or small regenerating tree seedlings and scrub. The high visitor numbers, particularly dog walkers, means that grazing with sheep isn't desirable due to the potential for sheep worrying/attacks from dogs.

Fields A and B are currently managed with an annual cut and arisings removed between May and July due to the low sward quality and the high risk of fires, either accidental from leisure activities (e.g. BBQ's) or intentional as arson; both of which have occurred in the past on site. There is no aftermath grazing of these fields due to difficulties with stock control and dog nuisance/fouling.

In order to maintain a sward height between 5cm - 15cm and the sward diversity we are aiming for, cattle are used to graze Field C for at least 6 weeks between May and November and/or the field is cut with the field-dried hay removed after the 15<sup>th</sup> July (unless a derogation is applied for and earlier cut). In years when hay is taken the aftermath is grazed during autumn. In years when spring grazing takes place, cattle are excluded at least seven weeks before cutting for hay. A hay cut is taken in at least two years in every three years. Grazing is carefully controlled to ensure that excessive poaching does not occur in wet weather.

Cows graze unselectively allowing summer grazing, without the potential for the grazing to target the desirable wildflowers. This means that summer grazing can keep on top of the more competitive grasses creating a more open sward in which wildflowers can compete. Hardy breeds will also eat the tall/rough grasses, bramble and woody species which help maintain the permanent pasture and prevent succession towards woodland. The weight of the cows can help to break up the litter layer and produce small patches of bare soil which encourage fine herbs to germinate. They can cause heavy poaching which can lead to problems with invasive species such as creeping thistle and particularly ragwort, but this can be minimised by having lower stocking densities.

Stock needs to be regularly checked to ensure that they remain healthy, a water supply (there is one trough in the Field C), and a stock proof fence. All fences around Field C were replaced in 2001/02. Since then some of the fencing, especially between Field B and C and sections alongside the River where conditions are often wet, have recently been replaced (2017).

The site is used by many dog walkers, so it is necessary to alert visitors to the presence of cattle and to explain the purpose of the grazing regime. Likewise, hay cutting is highlighted and explained to the public, for reasons of safety and public awareness.

### **Scrub control**

Scrub at Riverside Meadows is limited to isolated patches within the grassland. Therefore control is limited to the removal of occasional scrub seedlings. All cutting of scrub must be done between 1<sup>st</sup> October and 28<sup>th</sup> February, outside the bird-nesting season; unless there is no danger of disturbing birds nesting, for example isolated individual saplings in grassland, or to low dogwood re-growth. Cut scrub is taken down to ground level without disturbing the roots.

### **Weed control**

Over the last eighteen years a great deal of effort has gone into tackling the weed problems that were brought about by past management at Riverside Meadows. This has meant an annual programme of thistle control which has seen populations of these undesirable weeds reduced to smaller scattered patches. Continued action, primarily hand pulling (but it may be necessary to use spot spraying) will continue to be used to keep weed species under control.

### **Sward diversification**

Various attempts have been made to diversify the sward in Field C with limited success. It is likely that past intensive use of the site as a farm and applications of fertilisers limit the potential for diversification in the short term. Management will now focus on a longer term strategy to gradually reduce the fertility of the fields with continued but limited introductions of more competition tolerant wildflower species when funding allows.

### **Permissive footpath mowing**

Mowing of the preferred paths was introduced in 2005 in an attempt to provide visitors with areas to walk where they would not disturb wildlife, the cattle or cause erosion to the site. Results from earlier visitor surveys have shown that this is popular with site users. Permissive footpaths are mown between April and September.

#### **4.2.6. Management Activities**

- Negotiate annual grazing licence (undertaken by SODC).
- Fields A and B: annual cut and arisings removed between May and July (to reduce fire risk)
- Field C:
  - Control weeds by hand pulling and spot spraying when necessary.
  - Introduce competition tolerant wildflower species as funding allows.
  - Graze between April (or following hay cut) and the end of November depending on the weather.
- Mow preferred paths (undertaken by SODC contractors) between April and September.
- Erect signs warning public of cattle on site and hay cutting operations (when appropriate).
- Assess perimeter and internal fences for deterioration and replace as necessary.

#### **4.2.7. Monitoring Activities**

- Casual recording of wildlife sightings (birds, mammals etc.)
- Vegetation survey of the grasslands.
- Extent and duration of flooding.
- Undesirable weeds.
- Annual Butterfly Conservation BMS butterfly survey (weekly April – September).

## **4.3. Ditches and Associated Habitats**

### **4.3.1. Evaluation**

Ditches are man-made features that were primarily created to drain farmland. They can be an important part of the historic landscape as well as performing a wide range of functions. In addition to their water supply and drainage functions, many ditches also act as stock-proof field boundaries, 'wet fencing', which are too deep and wide to allow stock to cross. A ditch, initially containing open water, undergoes natural succession through various stages, through colonisation by aquatic plants and plants from the banks, resulting in ditches that support dense, species-rich plant communities. It can take several (3-5) years for a ditch to reach its maximum plant diversity (longer for maximum animal diversity, with a number of rare species being found only in late-succession ditches). Ditch invertebrate communities undergo succession, organisms coming in and moving away as the system develops from grassland to wet carr. Fencing off bank side encourages the development of vegetation and prevents livestock regularly poaching bank edges and reduces bacterial contamination of the watercourse. Ditches in England and Wales are of great importance for biodiversity, and are especially rich in aquatic invertebrates and plants. These networks of channels, although artificial, act as refuges for communities typical of previously extensive natural wetland systems.

Ditches are yet another of the UK's threatened habitats. They are rapidly deteriorating in quality due to range of issues, including agricultural pollution, unsuitable water level management and the wholesale filling in of ditches. Ditches and their associated habitats are a priority habitat in the Oxfordshire BAP, 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.

### **4.3.2. Current Status**

As identified in Section 5.1 of this plan the main ditch is also thought to be of significant historical importance and may have originally formed part of a defensive earthwork related to Wallingford Bridge. The ditch is fed by drainage from the surrounding meadow, from a concrete lined ditch and culvert which enters the site from The Street, and from Riverside Car Park.

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 (*Phalaris arundinacea*), reed sweet grass (*Glyceria maxima*), water mint (*Mentha citrate*), meadowsweet (*Filipendula ulmaria*), silverweed (*Argentina anserine*), cuckoo flower (*Cardamine pratensis*), purple loosestrife (*Lythrum salicaria*), amphibious bistort (*Persicaria amphibia*), common fleabane (*Pulicaria dysenterica*) and wild angelica (*Angelica sylvestris*). The ditches 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 kingfisher (*Alcedo atthis*), reed warbler (*Acrocephalus scirpaceus*), banded demoiselle (*Calopteryx splendens*), and orange tip butterfly (*Anthocharis cardamines*), which have been regularly recorded on site.

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. 150m<sup>3</sup>. It has

been seeded with a mixture of emergent and aquatic plants. There is a concrete culvert at the point where this ditch crosses the footpath between Fields A and B.

Currently the ditch is heavily silted and as a result the upper parts are relatively dry and dominated by species such as great willowherb (*Epilobium hirsutum*) and nettle (*Urtica dioica*). 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.

#### **4.3.3. Factors and Constraints**

- Positive factors
  - Stock proof fencing already present
  - Remedial action to increase the amount of marginal vegetation is relatively straight forward
- Constraints
  - No ability to control water levels
  - Heavily silted
  - Scrub shading ditches reduces the amount of aquatic and marginal vegetation
  - Invasive non-native species – although none are present in the ditches currently, the ditches do directly link with the main flow of the river Thames and seeds (e.g. Himalayan balsam) can be easily brought onto site especially during flooding events. Some species are also easily transferred on animals (e.g. Australian swap stonecrop on wetland bird feet).
  - Weed control is expensive and time consuming.

#### **4.3.4. Ditches and Associated Habitats Objectives**

Ditches with abundant marginal vegetation on both banks, (possibly some aquatic vegetation water levels allowing), where:

- Marginal vegetation continues to grow on all the ditches

The marginal plant species growing in and around the ditches are one of the most important elements of the habitat. Not only are they important in their own right but they also provide a habitat for many of the ditch species; from somewhere to hide from predators to providing a pollen and nectar source for many insect species. Diversity as well as abundance is important.

- Scrub is allowed to develop along sections of the ditch between, to provide laying-up habitat for otters
- There is no access for grazing animals (3m buffer min)
- Non-native species – water fern / Australian swap stonecrop / parrot's feather/ Hydrocotyle / Orange or Yellow Monkey flower / Himalayan balsam / Japanese knotweed are absent
- Deadwood is present in the ditches for invertebrates and structural diversity

Some species of insect lay their eggs in dead wood. Some beetle larvae feed on decaying wood, whilst others eat fungi and algae on the wood surface. It also adds structural diversity to the site, thus providing an important refuge for invertebrates to hide from predators.

### **4.3.5. Management Rational**

Riverside Meadows ditches are managed by:

- Removing some scrub
- Undesirable weeds and non-native species control
- Annual rotational cut of the tall herb vegetation
- Clearing silt from concrete culvert

#### **Removing scrub**

If the vegetation inside and alongside the ditches is left unmanaged it will scrub up leading to over-shading and loss of soft vegetation (marginal vegetation). Willow and other trees are to be pollarded where possible, and blackthorn and other scrub along the ditch is to be coppiced on a rotation, so that at any one time only a few areas of the ditch are in heavy shade. This is to ensure the marginal vegetation has the best chance to flourish in the absence of shade.

#### **Undesirable weeds and non-native species control**

If areas along the ditch become infested with undesirable weeds (e.g. broad-leaved dock) or non-native species these should be controlled to prevent spread to the meadows. However, chemicals will not be used within 2m of the centre of the ditch or 1m of the top of the banks.

#### **Annual cutting of tall herb vegetation**

An annual rotational cut of the tall herb vegetation i.e., one third of the ditch is cut every year. This will prevent the build-up of plant matter which would, in the long term, increase the rate at which the ditch silts up.

#### **Clearing silt from concrete culvert**

The concrete culvert between Fields A and B 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 for any blockages.

### **4.3.6. Management Activities**

- Maintain un-shaded areas along ditch banks by rotational coppicing
- Maintain integrity of stock fencing along ditch between Fields B and C
- Remove invasive species, such as orange monkey flower, from ditches
- The concrete culvert between Fields A and B is cleared of silt and vegetation regularly
- The two sections of pipe are also checked regularly and cleared as required

### **4.3.7. Monitoring Activities**

- Maintain functioning of ditch – monitor for blockages
- Carry out Freshwater Habitat's Trust National Frogspawn Survey
- Casual recording of wildlife sightings (birds, mammals etc.)

## **4.4. River Bank**

### **4.4.1. Evaluation**

The river bank at Riverside Meadows is alongside the River Thames, known alternatively in parts as the Isis. At 215 miles (346 km), it is the longest river entirely in England and the second-longest in the United Kingdom, after the River Severn. The River Thames' catchment area (Thames River Basin District) covers a large part of south-eastern and a small part of western England (including the Medway catchment), an area of 6,229 square miles (16,130 km<sup>2</sup>); the river is fed by at least 50 named tributaries.

### **4.4.2. Current Status**

One of the two most important habitats at Riverside Meadows 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. Boats moored tend to use spikes in the bank for their ropes which when removed tend to destabilise the bank. Anglers use the whole of the river bank within Riverside Meadows. The main area for informal recreation is in Field A.

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.

### **4.4.3. Factors and Constraints**

- Positive factors
  - Public appreciation of the river side access is very marked
- Constraints
  - The river banks are within the remit of the Environment Agency and restoration works require consent
  - Popularity during the summer months for recreation, leaving scorch marks on the ground and lots of litter along the bank edge
  - The informal basis for overnight moorings makes it hard to enforce

### **4.4.4. River Bank Objectives**

The prevention of excessive erosion of the river bank, where:

- Stabilisation works have been undertaken in Field A and C which appears to be working well. Long term monitoring will be undertaken to check the effectiveness of these works.
- Poaching is prevented by cattle at the water's edge.

### **4.4.5. Management Rational**

Riverside Meadows river bank is managed by:

- Fencing and planting
- Path mowing

- Green engineering

### **Fencing and planting**

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 (*Prunus spinose*), common dogwood (*Cornus sanguinea*), hawthorn (*Crataegus monogyna*) and alder (*Alnus glutinosa*). The intention of this planting is to protect these areas from further erosion. As these measures have proved very successful with little active erosion evident, a further three areas have been fenced and planted during 2017, with a similar species mix.

### **Path mowing**

In order to keep the river bank open for people, and in an attempt to regulate access to this area, a strip is mown alongside the river bank in Field A. The area 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.

### **Green engineering**

Two areas, very close to the Towing Path, that were suffering from heavy erosion by cattle, people and dogs accessing the river were fenced off in 2006 and 2009. The first was the purpose built cattle drink that was installed as an alternative to the pasture pump during the period of the first management plan (2002-2007) was 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 HLS scheme. The cattle drink was fenced off in 2006, the second was an area in Field A poached by people and dog, which was fenced in 2009. Once both areas were fenced sections of willow spiling (woven willow hurdle into the river bank following the original line of the bank) and willow bundles were put in place behind to trap silt and help to build up the bank again. This has been very successful and additional layers of willow bundles are added in year on year. The willow for the willow bundles and stakes comes from one of the other SODC owned and Earth Trust managed sites, Mowbray Fields LNR. As this work is along the River Thames, a major river, EA consent to carry out works that may be considered to have a flood risk is required. Until 2018 this was an annual permit that had to be applied for, but since 2016 there is a now an in perpetuity consent, Riverside Meadows is no. EXFRA000127.

#### **4.4.6. Management Activities**

- Add layers of willow bundles to the cattle drink and the other eroded area to continue to build the bank up to its original level and prevent further erosion.
- Continue to mow preferred paths

#### **4.4.7. Monitoring Activities**

- Monitor fenced areas for signs of erosion and take remedial measures if necessary.

## **4.5. Trees (copses) and Hedgerows**

### **4.5.1. Evaluation**

Lowland mixed deciduous wooded areas includes woodland growing on the full range of soil conditions, from very acidic to base-rich, and takes in most semi-natural woodland in southern and eastern England. The woods tend to be small, less than 20 ha. There are no precise data on the total extent of lowland mixed deciduous woodland in the UK, but in the late 1980s the Nature Conservancy Council estimated the total extent of this type to be about 250,000ha. There is however no doubt that the area of woodland sites has declined in area by clearance, overgrazing and replanting with non-native species, by about 30-40% over the last 50 years.

Wooded copses are dynamic landscape features and prone to periodic losses. Tree loss is in part due to a number of stress factors such as climate change, local hydrology, air pollution, soil compaction and overgrazing through expansion of populations of deer in southern regions leading to change in the woodland structure, ground flora impoverishment and difficulties for regeneration.

Hedgerows are often associated with BAP priority species, such as house sparrow (*Passer domesticus*), bullfinch (*Pyrrhula pyrrhula*), and song thrush (*Turdus philomelos*) all of which occur at Riverside Meadows. Hedgerows provide food sources and nest sites for a huge variety of insects, birds and mammals such as the woodmouse. Hedges can also help prevent soil erosion, capture pollutants, and allow wildlife to move more freely across the countryside.

### **4.5.2. Current Status**

The boundaries on the site consist of lines of mature trees, such as common lime (*Tilia x europaea*) and horse chestnut (*Aesculus hippocastanum*) as well as planted hedgerows. The Council's parks department 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 copses of trees in Field C, one to the north and one to the south. The northern stand is dominated by grey poplar (*Populus x canescens*) with a few alder; the southern stand is comprised mainly of field maple (*Acer campestre*). 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 with the help of the Wallingford Green Gym volunteers. The trees planted were a conservation hedge mix including hawthorn, field maple, dog rose (*Rosa canina*), hazel (*Corylus avellana*), spindle (*Euonymus europaea*) and common dogwood. The boundaries of Field C were replaced with stock proof fencing in 2002/03, however this was placed very close to the planted hedge and as a result of grazing pressure it has taken the hedge a long time to become established with lots of gaps. At the time of writing this plan it is felt the hedge has grown up sufficiently enough to be laid in the traditional midland style, with in-fill.

In addition there are the areas of bank stabilisation that have been planted with hedgerow species as mentioned in section 5.4.

### **4.5.3. Factors and Constraints**

- Positive factors
  - Some of the trees have a considerable potential remaining life span
  - Many of the trees provide valuable habitat for nesting birds, roosting bats, invertebrate fauna and fungal flora
  - Public appreciation of the trees is very marked
- Constraints
  - Many trees are mature or post-mature and have limited remaining life
  - Public perception may not favour necessary management of trees (i.e. tree surgery), which will have to be carried out in order to prolong the healthy life of some of the trees, and also on grounds of health and safety
  - Bat surveys of trees or limbs will need to be conducted before any works are commenced
  - Tree surgery required for health and safety reasons will reduce the amount of standing dead wood and may also destroy nesting sites for birds
  - Replanting will need to be done skilfully to maintain character
  - Lying deadwood provides material for unauthorised fires on site

### **4.5.4. Trees (copses) and Hedgerows Objectives**

To maintain the characteristics of the landscape planting by replacing trees in a planned way, over the long term. To maintain the small copse areas and hedgerows in favourable condition, where:

- There is a good mixture of trees of different ages across the site

Wooded areas in good condition should have a complex structure of tree seedlings, ready to grow into trees; an understory layer of tree saplings; and a canopy layer of mature trees. This structure provides the mix of habitats and conditions that woodland species need to thrive.

- The species composition of the trees approximates to the original planting on site
- The pattern of landscape planting is maintained
- Habitat suitable for nesting birds, roosting bats and dead wood invertebrates is maintained, as far as is compatible with public safety

Dead wood is a significant part of a woodland ecosystem. It is provided in a variety of ways from fallen trees and limbs to standing dead trees.

- Ground cover of typical woodland ground flora species in the woodland copse areas

The more diverse and abundant the woodland flora, the better the wooded area will be for biodiversity. The wooded areas at Riverside Meadows are very small, secondary woodland, subjected to disturbance in the past as a consequence of the sites history as a farm.

### **4.5.5. Management Rational**

Riverside Meadows trees (copses) and hedgerows are managed by:

- Maintaining tree and hedgerow structure:
  - Tree safety surveys
  - Tree strategy/tree planting scheme
  - Retaining deadwood

- Infilling and laying hedgerows where suitable

### **Tree safety survey**

An annual tree safety survey is undertaken by the SODC Tree Officer and any resulting remedial works are undertaken by the SODC arboriculture contractors.

### **Tree planting**

A tree planting scheme for the site was produced by SODC. Re-planting has been targeted towards reproducing the current planting scheme, in order to perpetuate the survival of the landscape planting, and to ensure a varied age structure. Where necessary young trees have/will need to be protected with tree guards/tree corrals/fencing to prevent damage from grazing livestock.

### **Retaining deadwood**

Trees that are/have been felled for safety reasons are left on site where possible to provide other deadwood habitat. Where possible dead branches have been left on trees as they unlikely to affect the health of the tree.

### **Infilling and laying hedgerows where suitable**

Infilling and hedgelaying is a way of managing hedgerows to ensure that they remain an impermeable barrier for livestock, a linear corridor for wildlife and do not succeed into a line of large trees with sizable gaps in-between. Primarily, by having a hedge and not removing field boundaries (to create larger plots) or using fencing, a large amount of highly valuable habitat is made available to wildlife. By managing the hedge by laying, the trees are encouraged to regenerate; this extends their life, and that of the hedge as a whole. It also creates a constant supply of new, bushy growth, providing cover for a greater number of species.

#### **4.5.6. Management Activities**

- Maintain existing planting scheme and carry out necessary works to ensure public safety and health of trees
- Carry out planting when required to retain pattern of landscape planting and species composition (where appropriate)
- Retain all standing and falling dead wood unless it presents a genuine safety hazard.
- Tree growth in the small copses are monitored, and when the planted trees are large enough the tree guards will be removed and recycled, and some rotational thinning to take place.
- Hedge growth along the eastern boundary of Field C and the bank stabilisation areas are monitored, and when the planted trees are large enough the tree guards will be removed and recycled, and the hedgerow laid.
- Bird and bat boxes replaced when required/if necessary

#### **4.5.7. Monitoring Activities**

- Monitor standing deadwood monoliths and stability of trunks – liaise with SODC Tree Officer
- Carry out regular monitoring for unsafe limbs, especially after windy/stormy conditions and Liaise with SODC Tree Officer if action becomes necessary
- Monitor health of new plantings, particularly in dry conditions

- Monitor use of bat and bird boxes and the bat hibernaculum annually (suitably licensed bat worker present) and ensure fixings are secure

## **4.6. Visitor Enjoyment and Public Access**

### **4.6.1. Visitor Enjoyment Objectives**

To allow informal public use and enjoyment of the riverside, where:

- All visitors to the site have a positive experience.
- Interpretation of the site, its historical importance and its wildlife will be clear and concise in a language that is accessible to all, content will be kept up to date and the interpretation boards maintained to a high standard, so that:
  - The visiting public are aware of the site's main features and its significance for archaeological and biological conservation.
  - The public are aware of the significance of the site in relation to the other historic features of Wallingford and the surrounding area.

### **4.6.2. Current Status**

#### **Interpretation**

Two A1 interpretation panels were installed in 2005 and recently refreshed with the assistance of Wallingford Museum during the summer of 2019; one at the entrance off Watery Lane, and one adjacent to Wallingford Bridge. These panels provide information on history and ecology as well as the code of conduct for the site. In addition Wallingford Museum, which includes special displays on the history and importance of the castle, is situated within ½ mile of the site.

The metal framed interpretation panels are erected lectern style, so that they can be easily viewed by people of all sizes, whether standing or in wheelchairs. All boards should be erected on two posts for security, with one third of the height of the post buried in the ground. To reduce likelihood of damage by weather and vandalism metal frames and posts are recommended.

Information gathered during research into the history and archaeology of the Riverside Meadows site is only valuable if it is used to inform both the management of the site and the visiting public. Therefore, there should always be a strong link between any research and the provision of interpretation both on and off the site (e.g. Earth Trust website). Any information collected on the archaeology or history of the site will be used to further inform the interpretation panels of the site organised in conjunction with partners such as the Wallingford Museum. Periodically it will be necessary to review the state and content of the interpretation panels on site and re-fresh them as necessary, either due to general weathering or new more up-to-date information available.

After visiting and using the interpretation at Riverside Meadows, the majority of visitors will:

- Be able to navigate around the site using orientation devices
- Understand that the site has over 1,000 years of history of people using it
- Understand that the site and its habitats (meadows, ditches, hedgerows etc.) are managed for wildlife, the archaeology and the public in a fine balance

- Know that Riverside Meadows is owned by SODC and managed by the Earth Trust following a management plan (which is available on request)
- Take care near water bodies
- Treat site resources with a sense of respect and stewardship
- Treat livestock with a sense of respect and keep their dogs on a lead
- Not to dig holes, bicycle, set fires, litter, or allow their dogs to foul on the site
- Want to visit the site again

As well as the *in situ* interpretation there is notice board at the Watery Lane entrance to allow for information on site management to be displayed and for advertising of permitted events.

### **Visitor access**

There are five official access points to the site (see section 3.2 for more detail) and two public rights of way that exist across the site, in addition there are several desire lines run across the fields which are used regularly by the public. The preferred paths are mown during the summer months. The nearest appropriate car parking is within Riverside Park on the other side of Wallingford Bridge.

### **Visitor surveys**

The site is well used by residents of Wallingford and Crowmarsh Gifford and many area also visitors to the area. To date no visitor surveys have been carried out at Riverside Meadows, but we are hoping to carry out some surveys next year along with those being carried out at Wallingford Castle Meadows. The visitor surveys that we have used on other sites have been used to find out more about people were using the site, where they travelled from and asking for their comments and suggestions on site management. The results of past surveys at other sites have helped us to make improvements to that site, plan interpretation and find out what the visitors really think about the site as a whole, including access and accessibility. They also help us to monitor and report on visitor numbers and visitor satisfaction, with our aim being that visitors are happy with the site management in at least 90% of interviews.

### **General attractiveness**

Regular litter picks are carried out at Riverside Meadows. Both interpretation panels are checked and cleaned regularly. A dog bin is provided for people convenience at the Watery Lane entrance into the site. Footpaths are mown between April and September.

Volunteer Wardens act as site wardens during weekends, evenings and holiday periods when the site warden is not available. The wardens talk to the visiting public, carry out litter clearance and report problems, incidents or health and safety issues directly to the site warden so they can be acted on immediately.

#### **4.6.3. Factors and Constraints**

- Positive
  - General attractiveness of site, presence of excellent local museum and team of local historians.
  - Several other related Ancient Monuments nearby (e.g. Wallingford Bridge, Wallingford Castle Meadows and Castle Gardens).

- Potential for a good range of quality habitats on the site.
- Constraints
  - Lack of original maps of phases of the sites historical use.
  - Some forms of interpretation could be visually intrusive and conflict with the landscape and setting.
  - Vandalism to expensive interpretation panels, World War II pillbox etc.

#### **4.6.4. Management Activities**

- Public access and enjoyment of the site continues without restriction

The management of the site would not discourage this type of use, and none of the proposed management activities would be allowed to compromise this situation.

- 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 a dog bin.
- Maintenance of access points and access furniture (e.g. gates) 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.
- Maintenance of interpretation panels as and when required, including cutting back encroaching vegetative so that access to the signs is not impeded, and regular cleaning to keep them in good order.
- Maintain the network of Volunteer Community Wardens
- Site risk assessment carried out every 6 months, see section 5.2 for further information.

### **4.7. Community Engagement**

#### **4.7.1. Current Status**

Riverside Meadows is considered to be "natural" by most of the visiting public. However, the landscape of the meadows has been shaped over hundreds of years as a result of human intervention and management. The site is managed primarily for agricultural purposes where informal recreation consistent with the proper preservation and interpretation of historical landscape features, and the conservation and enhancement of wildlife.

The main objectives of management are to:

- Promote nature conservation
- Not restrict informal public access and enjoyment
- Preserve the buried archaeology present on site

The management of Riverside Meadows directly contributes to two of the Council's Strategic Objectives:

- To maintain and enhance the environment
- To improve health and well-being

The Earth Trust's mission statement is:

*"To give people access to and experience of the environment through the natural green spaces we manage and together understand what we should do to care for the planet."*

This will be achieved by:

- Engaging and inspiring the public
- Demonstrate and communicate sustainable management and the public benefits of land
- Care for, improve and communicate about the natural green spaces we manage
- Being financially sustainable

In order to ensure that the management of Riverside Meadows fits with SODC's and Earth Trust's strategic objectives it is crucial the site is used to engage with the visiting communities where possible within the restrictions of the lands' covenants.

Riverside Meadows has an active community group, Wallingford Green Gym who understand the importance of the site in terms of agriculture, archaeology and for wildlife. They are committed to enabling other people to visit, enjoy the site and learn about the natural world and the history of the site. Members of the community group keep an eye on the site and inform staff of any issues that arise. The group also undertake general maintenance of the site with the site warden. The community Green Gym group is a mutually beneficial partnership between local residents and Earth Trust.

#### **4.7.2. Factors and Constraints**

The factors and constraints affecting community engagement are:

- Anti-Social Behaviour and Vandalism
- Barriers to Engagement

##### **Vandalism and anti-social behaviour**

Riverside Meadows has had problems with anti-social behaviour in the past. However, compared to many areas the problems encountered were relatively trivial involving minor vandalism of interpretation signs, littering and fires associated with parties on summer evenings, littering litter and dog fouling.

##### **Barriers to Engagement**

There are a number of barriers which may stop people engaging with a green space, such as Riverside Meadows. These can be availability (proximity to), accessibility (such as walkability and connectivity to) and attractiveness (whether they would want to visit e.g. a place subject to antisocial behaviour or vandalism is not likely to be frequently visited by most members of the local community. For many people, safety fears (whether real or perceived) are a concern which may preclude people from going to a site.). There may also be cultural barriers or people may not perceive the place as being relevant to them.

Community work at Riverside Meadows is balanced within the restriction of the covenants on the land and aims to reduce barriers to green space engagement where possible. We work to develop an inclusive culture providing opportunities for people to get involved in a variety of community engagement activities, through which we can communicate our messages about the importance of

the natural world and agriculture, encouraging people to consider their actions, working together to benefit wildlife.

### **4.7.3. Community Engagement Objectives**

- The community near to and regular users of the site (e.g. families, walkers, dog walkers) will respect the site and understand and uphold any restrictions that may apply.
- They will know that there is an active community group and understand how to become involved if they wanted to.
- They will be engaged with the Earth Trust and the work that we do, in general terms.

People who attend permitted events at Riverside Meadows will continue to have an enjoyable experience providing them with a better understanding of wildlife, the history, the site and its management. They will leave the event with an understanding of the work of Earth Trust. Attendees are inspired to take action for green spaces. They will be able to participate further with the organisation and make changes to their lifestyle, such that it becomes more sustainable and lessens its impact on the natural world.

### **4.7.4. Management Activities**

#### **Supporting community groups**

Wallingford Green Gym has been in existence for several years. Their main interest has been and continues to be practical management of the reserve. They are also keen to encourage other members of the community to visit the site and get involved with its management. The main focus for staff is to support the group in their current activities on the site.

#### **Wallingford Museum and the Wallingford Historical and Archaeology Society (TWHAS)**

It is Earth Trust's desire to continue to assist the Wallingford Museum and TWHAS in their programme of primarily non-invasive research on the archaeology and history of the site.

#### **Carry out informal events**

Within the terms of the covenants we are able to carry out a number of low-key informal events on the land immediately adjacent to the river, but nothing that interferes with the primary agricultural use of the site.

The main format for events on Community Nature Reserves is likely to be a Wildlife Wednesday. They are small scale, fun family, drop-in events for local people encouraging them to discover the natural world. It may or may not have a theme. It is likely to include a series of family friendly environmental education activities, relevant to the site and season, designed to help people to get closer to nature. By keeping the activities simple it reduces the resources required and the activities may be replicated at other sites where appropriate.

Other events appropriate for Riverside Meadow's include guided walks (staff or volunteer led; sticking to footpaths) showing people around the site, explaining certain aspects of the site in detail e.g. Bat Walk or a History Walk. It may be organised by Earth Trust staff, the Wallingford Wildlife Group, the Museum or together.

## **Establish/maintain good relationships with neighbours**

For more details on this, see section 5. Legal Responsibilities and Obligations.

## **Regular updates for the Meadows Advisory Group**

See section 2.5: Associated Groups, for further details.

## **5. Legal Responsibilities and Obligations**

### **5.1. Legal Responsibilities and Obligations at Riverside Meadows**

#### **Conservation Area**

The whole site is within the Wallingford Conservation Area. In addition to works affecting trees (see below), there would be a duty under the terms of the Planning (Listed Buildings & Conservation Areas) Act 1990 on the Council as Local Planning Authority to ensure that any works within the site had the effect of 'preserving or enhancing the character and appearance' of the area.

#### **Wildlife and Countryside Act (1981)**

The Wildlife and Countryside Act 1981 prohibits:

- the killing, injuring or taking by any method of those wild mammals listed on Schedule 5 of the Act.
- the damage, destruction, or obstruction of access to any structure or place which any wild mammal listed on Schedule 5 uses for shelter or protection and the disturbance of any such mammal while it is occupying a structure or place which it uses for that purpose.

The following Schedule 5 species have been found or are likely to be present at Riverside Meadows; list including

- common frog
- common toad
- bats
- otter

#### **Trees**

As set out in the 1975 regulations (amendments to the Town and Country Planning Act regarding Trees in Conservation Areas) the Council is exempt from the regulations "for work on trees on land occupied by the Local Planning Authority and carried out with the Local Planning Authority's consent". Clearly, the Council's Parks Officer for Trees would be closely involved in any works necessary.

#### **Occupier's Liability Act**

This Act imposes an obligation on all occupiers of the land, to ensure that every reasonable care is taken to remove any risk both to visitors and trespassers.

#### **Health and Safety at Work Act 1974**

All operations carried out on site must be undertaken by trained personnel using methods and equipment approved by the Health and Safety Executive, and also in compliance with national and local safety procedures. This obligation is extended to ensuring compliance by contractors working on the site.

## **Other Legal Agreements**

The management and use of the site is constrained by the terms and covenants 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."

## **5.2. Health and Safety Responsibilities**

### **Review site risk assessment**

A site risk assessment is required to ensure compliance with statutory and organisational health and safety procedures. In the UK all organisations which employ staff on sites, or provide public access to sites, must complete a detailed risk assessment or audit of the site. All potential dangers or threats on the site must be identified. All the implications for the health and safety of visitors are considered, and then controls, if necessary, are established and applied. Access to any site may be restricted by the presence of hazards. In extreme circumstances, there may be an obligation to close parts of sites, or even entire sites. Of course, in most instances, it will be possible to take remedial action to remove or isolate the risk and ensure visitor safety.

A site risk assessment should be reviewed at least on a six month basis and also whenever a new hazard is known to be present. A date for review should be set and adhered to – these can be staggered to avoid the need to review lots of sites at the same time but should not be allowed to run on beyond the year for any individual site. An earlier visit and review will be prompted if a likely cause of new hazards is known to have occurred, e.g. exceptional winds or flooding. Site risk assessments are freely available for anyone who requests them. In addition, they should be sent out to visiting groups or contractors before activities and used by anyone planning a project on a nature reserve to inform their 'on the day' risk assessment.

The Riverside Meadows site risk assessments is the responsibility of the site manager (e.g. Community Reserves Warden) but the task of reviewing can be delegated to any person with competence to carry out a risk assessment. A formal risk assessment process has been adopted following the Council's corporate procedure, a copy of the risk assessment form used can be found in Appendix 3. Formal risk assessments are conducted every six months but can be updated between times if issues are reported.

Site safety inspections are carried out regularly by the warden; any issues are noted and actions taken noted on the site risk assessment form. In addition, the volunteer wardens and members of the public are encouraged to report any issues to the site warden. The warden will deal with issues that pose a threat to public health and safety immediately or the area is cordoned off with appropriate warning signs and the council are then notified. If the problem does not require immediate action then it is scheduled into the quarterly work plan or the council informed and appropriate contractors appointed.

The warden or the council are contactable at all times in the event of an emergency.

Risk assessment process:

- Risk identified – assess level and severity of risk.
- Warden/volunteer removes/reduces risk immediately where possible.
- If immediate removal is not possible then reduce level of risk to an acceptable level and plan work to remedy situation as soon as reasonable.
- If this is not possible and there is a significant risk to site users then the site can be closed until level of risk is made acceptable.

### **Carry out tree safety work**

The condition of trees on the reserve in relation to health and safety should be regularly reviewed and any safety work identified carried out. SODC has a Tree Officer who carries out an annual tree safety survey and any works with additional works being undertaken as and when necessary to maintain the safety of the site, undertaken by SODC arboriculture contractors.

Once the need for safety work has been identified there are decisions to be made about carrying out remedial work. Safety work tends to involve much higher potential for serious outcomes than tree work in a general nature reserve surrounding where the public can be kept at a safe distance. A risk assessment must be carried out, looking at the factors around each individual tree and the SODC Tree Officer organises an approved arborist contractor (e.g. Arboricultural Association registration).

## **5.3. Legal Responsibilities**

### **Check Stock**

Selective grazing of Riverside Meadows with livestock is vital to protect and enhance the wildlife that depends upon them. Livestock needs checking on a regular basis to ensure that the animals are safe, healthy and happy. The livestock at Riverside Meadows are Holstein cattle and belong to an external grazier who is responsible for their overall health and safety, however, the Warden and volunteer wardens also monitor the cattle and report any health and safety issues to the grazier so they can be acted on immediately.

The grazier as a livestock keeper has legal obligations to ensure the welfare of our animals. There are numerous Acts addressing the treatment of animals when alive, dying or dead. Further information can be sourced through DEFRA.

### **Comply with HLS Requirements**

Riverside Meadows Field C is currently under a Higher Level Stewardship agreement. This agreement started on 01/04/2011 and is due to end on the 31/03/2021. The agreement number is AG00282979.

Annual payments under HLS are for:

A13 – Non-payment option – permanent grassland for Article 13

HK7 – Restoration of species-rich, semi-natural grassland.

Details of the management requirements for these two key areas are given within the HLS agreement document. The agreement specifies what management should and should not be carried out, the

details of this are given in the 'do's and don'ts' section of the agreement and should be carefully adhered to.

Various capital works were also agreed within the course of the plan (e.g. cattle trough, re-seeding project), more details are again in the HLS agreement document.

### **Comply with Protected Species Legislation**

A large number of different species are protected under law through various pieces of legislation. In general this does not pose a problem for conservation work, which is aimed at protecting habitats and species. However, it is essential that SODC and Earth Trust remains both legal and also demonstrates best practice. The majority of species are legally protected from standard activities including: being disturbed; injured; killed; sold; up-rooted; or having their 'shelter/home' disturbed or damaged.

The main pieces of legislation which protect species are:

- The Birds Directive 1979
- The Wildlife and Countryside Act 1981 (as amended)
- The Badger Act 1992
- Wild Mammals (Protection) Act 1996
- European Habitats Directive 1992 (The Conservation of Habitats and Species Regulations 2017 (as amended))

As otters are widespread across Oxfordshire the potential presence of otters should be considered as there ditches connected to the Thames on site. Similarly, it is assumed that as there is woodland on site and trees are considered as potential bat roosts, appropriate bat best practice guidance should be adhered to.

## **5.4. Site Infrastructure and Administration**

### **Maintain site boundaries**

Site boundaries are important to maintain in their exact positions so that there is no chance of boundary disputes with neighbours. If fences or hedges are removed, the exact position of the boundary should be recorded.

As the site has livestock on it the fencing must be sufficient to contain the animals safely. (Please note that there are different specifications for different livestock.) Fence lines should be checked before livestock are put onto a reserve and then checked regularly whilst stock remain there, especially after high winds.

Boundaries which border roads, footpaths or private properties should be checked for dangerous trees by the SODC Tree Officer.

Roadside hedges should be maintained in such a way that the growth does not interfere with passing vehicles or pedestrians. They should also not impede the view for road users. Hedgerow management should only be carried out in autumn or winter so as not to disturb breeding birds.

### **Create/maintain access points**

See section 4.6 Visitor Enjoyment and Public Access.

### **Establish/maintain good relationships with neighbours**

Riverside Meadows is not an isolated patch of land but are bordered on all sides by neighbouring land owners, these may be organizations such as other charities or companies, local authorities, private estates, or individual farmers or home owners.

Periodic liaison or contact with our neighbours is important for several reasons. Work that we carry out may have impacts outside our boundaries, most often these will be visual, but there may also be practical implications such as noise, alteration to drainage, access, bonfire smoke, or increased traffic and public presence. Without warning or discussion with our neighbours, these could become negatives and lead to a poor opinion of SODC and Earth Trust being created. Good communication of our objectives may also help to protect green spaces, if our neighbours can be persuaded to adopt sympathetic land management on their boundaries, to buffer the habitats on our land. Good lines of communication with neighbours will also help in the speedy resolution of problems if they arise.

Liaison with neighbours should take place when we are planning works or events likely to have any of the impacts listed above, or when any work needs to happen on common boundaries such as fencing or tree safety work. It may also be appropriate if practices are observed or reported on neighbouring land likely to have an impact on a Trust reserve. More general regular contact could also be useful, even if there is no specific issue to discuss, just for the purposes of maintaining lines of communication.

Liaison with neighbours may take various forms, namely phone call, email, or letter; it could even be chatting over a fence. Records of communication should be noted on the Earth Trust database, and if appropriate, copies of letters or emails retained in the database. Contact details for key neighbours should also be retained by the Community Reserves Warden. SODC/Earth Trust signage should always be visible, so that it is clear to new neighbours (or members of the public) who we are as landowner or leaseholder, and so they can contact us.

### **Liaise with Natural England/Rural Payments Agency**

Earth Trust must liaise with Natural England (NE)/the Rural Payments Agency (RPA) to gain consent for any other operations on HLS registered compartments at Riverside Meadow's that are not outlined in the Agri-environment application. It is usually possible to carry out many of these operations in certain ways, or at specific times of year, or on certain parts of the site, without damaging the features of interest. The relevant contact at NE/RPA must be contacted in order to gain consent. The detail in agri-environment schemes such as HLS allows the Community Reserves Warden to carry out the operations outlined in these documents without gaining any further consent for the work. The purpose of this is to ensure special features of that site are not damaged by general conservation practices. Where possible, NE/RPA will suggest alternative ways in which you may proceed, which would enable consent to be issued. To proceed without Natural England's consent may constitute an offence.

### **Liaise with the Wallingford Museum**

See section 4.1 Archaeology and section 4.6 Visitor Enjoyment.

## **Review the Management Plan**

A management plan should be a reactive strategy which can change if and when the situation on site changes; rather than a list of projects set in stone for the next five years.

Once a year in the autumn, the whole of the management should be briefly checked to ensure that the projects planned for the next year are still viable, that costs are still accurate and to re-plan any projects which failed to take place in the previous year and are still required.

It is also important that once every five years the plan as a whole is reviewed. This should involve taking a step back and looking at the bigger picture of the reserve and its features; making sure that they are still relevant and appropriate. While it would not be sensible to change features every five years, it is possible with the unknown impacts of Climate Change that features and objectives for sites may well significantly change in the future.

## **6. Environmental Sustainability**

SODC & the Earth Trust seek to manage Riverside Meadows in the most sustainable way. The key issues relevant to the sustainable management of the site are:

- Biodiversity protection and enhancement
- Sustainable procurement
- Carbon reduction
- Waste management Pollution reduction

### **6.1. Biodiversity Protection and Enhancement**

One of the key aims of site management is the protection and enhancement of biodiversity. Section 5 of the management plan sets out how this, along with the other key objectives, will be achieved.

### **6.2. Sustainability Procurement**

The management of the site does not require large scale or regular procurement of goods or services however; we will always seek to obtain goods and services from local, sustainable sources. Examples of this include the purchase of timber products from local suppliers, the use of wood chip from the council's tree works contracts for path surfacing and mulching of trees, the printing of leaflets on chlorine free paper and the purchase of log benches from local forestry contractors.

### **6.3. Carbon Reduction**

The main factors contributing to carbon emissions are the use of contractors for regular maintenance such as the mowing of paths and travel to and from the site by site managers, volunteers and visitors. Contractors are used to mow the preferred paths. The contractors visit the site six times annually in the summer months and combine visits with other work on sites in Wallingford. The level of carbon emissions from contractors is therefore relatively low. Site managers are based either in nearby Little Wittenham (warden). Travel to and from the site is therefore minimal in carbon terms. Regular

volunteers are encouraged to car share where necessary and the Earth Trust provides transport for volunteers to the site from Little Wittenham. The majority of regular volunteers are local and either walk or cycle to the site.

In order to reduce the carbon footprint we seek to reduce emissions where this is possible. The management of the site for biodiversity and the planting of more than 1000 hedgerow plants over the last 18 years will help to offset remaining impacts.

#### **6.4. Waste Management**

Currently no litter bins are provided on site, although there are three litter bins very close by the other side of the Wallingford Bridge. This is a deliberate stance to encourage site users to act responsibly and take their litter home to recycle it. Experience over the management of the site suggests that this policy works very well as the level of littering is generally very low. Where problems have occurred this is as a result of unauthorised parties, in this case it is unlikely that the presence of bins would make any material difference. The litter situation is continually monitored and if there is any significant change then this policy will be reviewed.

One dog bin is provided at the Watery Lane entrance to the site; this is emptied regularly throughout the year and the frequency of collections can be increased during the busier summer months. Although there is only one dog bin the level of dog fouling is moderate, this is regularly monitored and if problems begin to become apparent then consideration will be given to increasing the number of bins available.

Any litter that is left on the site is collected either by the warden, volunteer wardens or volunteers. The Earth Trust offices have recycling facilities that deal with any recyclables. Non-recyclable waste is also disposed of at the Earth Trust offices. Relatively little waste is produced on the site from management operations.

#### **6.5. Pollution Reduction**

The only potential source of pollution which arises from the management of the site would be through the use of herbicides. The use of herbicides on the site is strictly controlled as a result of the Higher Level Stewardship Agreement and due to the presence of the river. The Stewardship agreement prohibits the use of herbicides for site management unless a specific derogation has been agreed with Natural England. As a result of the presence of the River Thames the use of herbicides in Field's A and C are licensable where they are within a certain distance of the banks.

The site has suffered from infestations of certain weeds (mainly spear/creeping thistle). Management efforts in the past have concentrated on non-chemical control (pulling or cutting/topping) however, due to the severity of the infestations in the past it the only effective way to control the infestations involves limited/targeted application of herbicides together with continued manual control. Derogations have been granted in the past for herbicide use in the main areas of infestation. All herbicide applications are carefully controlled and undertaken by licensed members of Earth Trust staff/contractors so that the likelihood of pollution occurring is minimised.

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[www.defra.gov.uk](http://www.defra.gov.uk)

[www.ukbap.org.uk](http://www.ukbap.org.uk) <<http://www.ukbap.org.uk>> (UK BAP web site)

## 8. Table of Management and Monitoring Activities

NB. Tasks that are *greyed out in italics* are not included within the management contract between SODC and the Earth Trust but are tasks carried out by SODC or their sub-contractor.

Management tasks					Month/s to be carried out											
Cpt.	Location	Task	One off, Annual, Continuous, HLS, SODC task	Detail	January	February	March	April	May	June	July	August	September	October	November	December
A	Meadow	Annual hay/silage cut	A	Excluding areas of tall herb adjacent to drains and a margin around rest of field. External grazer Neil Rydall.					✓		✓					
A & C	River bank	Install/maintain green erosion engineering using willow bundles. Until level with bank - to build riverbed up to original ground level	A	EA FRAEX001 rolling permit. Willow collected from other ET Community reserve during winter coppicing.	✓	✓								✓	✓	✓
A & B	Ditches	Rotational cutting of tall herb vegetation 1/3rd per yr	A	Removal of all arisings, to be carried out (when ditch is dry). Retain a fringe of vegetation on both sides of the ditch. To prevent excessive build-up of thatch and promote stronger growth of tall marginal vegetation		✓	✓					✓	✓			
A & B	Ditches	Remove invasive weed species	A	Specifically orange monkey flower/Himalayan balsam/Michaelmas daisy					✓	✓	✓	✓	✓			
B	Meadow	Annual hay/silage cut	A	Excluding areas of tall herb adjacent to drains and a margin					✓		✓					

				around rest of field. External grazier Neil Rydall.													
B	Ditch	Clear silt and vegetation along drainage ditch adjacent to Wallingford Bridge	A	To maintain drainage channel, allowing run off from The Street and Riverside Car Park to reach the main ditch and prevent flooding of Field B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B & C	Entrances	Erect cattle grazing signs as required when cattle on site	A	If Bull on site – Bull specific sign must be used.				✓	✓	✓	✓	✓	✓	✓	✓		
C	Meadow	HLS HK7: Early spring graze	HLS	External grazier.			✓	✓									
C	Meadow	HLS HK7: Annual hay cut after 15 July	HLS	External grazier.							✓						
C	Meadow	HLS HK7: Aftermath grazing following hay cut, until end of November	HLS	Max 1lu/ha. Sward height 5cm - 10cm in Nov - external grazier								✓	✓	✓	✓		
C	Meadow	HLS HK7: Weed control as required - hand pulling/spot spraying/topping - Book contractor if required	HLS	Dock, thistle and/or creeping buttercup control may be necessary after soil disturbance					✓	✓	✓	✓					
C	Hedge	Hedgerow maintenance/lay hedge winter 2020/21	A	Weeding and mulching of hedgerow and replacement planting if required.	✓	✓	✓								✓	✓	✓
C	Bat hibernaculum	Lay scrub around the pill box	A	To allow clear flight lines for bats and to deter vandalism and unauthorised access by the public	✓	✓									✓	✓	✓
C	Meadow	Weed control	A	E.g. Thistles, ragwort, docks. Hand pull					✓	✓	✓	✓	✓				
<i>All cpts.</i>	<i>Whole site</i>	<i>Replace declining standards</i>	<i>SODC</i>	<i>Diversification of the range of habitats, provision of bird and insect habitats</i>	<i>As and when required</i>												
<i>All cpts.</i>	<i>Whole site</i>	<i>Mow preferred footpaths</i>	<i>SODC</i>	<i>Paths and strip adjacent to the Thames mown. Contractors - once a month</i>				✓	✓	✓	✓	✓	✓				

All cpts.	Whole site	Introduce native wildflower species	O	Competition tolerant species ideally.	As funding allows											
All cpts.	Whole site	Regular litter picks	C	Whilst wardening and Volunteer community wardens to carry out in addition	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All cpts.	Whole site	Introduce native wildflower species	O	Competition tolerant species ideally.	As funding allows											
All cpts.	Whole site	Maintain and replace as necessary livestock proof fence lines across site	C	Currently in a rolling replacement; Started with worst fence line from WWII pillbox to vehicle gate.	As necessary											
All cpts.	Whole site	Replace as necessary 2 interpretation panels;	C	Keeping interpretation up-to-date with recent historical/archaeological findings	As necessary											
All cpts.	Whole site	Maintain and keep open (where possible) all access points and all permissive footpaths.	C	E.g. gates are adjusted if they drop, overhanging vegetation is cleared back etc.	As necessary											
All cpts.	Whole site	Retain and manage trees - Tree safety assessment	SODC	SODC tree safety officer carrying out safety surveys. Especially after windy/stormy conditions. Leave any fallen trees/limbs as dead wood if safe to do so.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All cpts.	Whole site	Monitor and maintain existing planting scheme	SODC	Although responsibility of SODC ET warden to liaise with SODC Tree Officer with any safety concerns.	As necessary											

Monitoring tasks					Month/s to be carried out											
Cpt.	Location	Task	One off, Annual, Continuous, HLS, SODC task	Detail	January	February	March	April	May	June	July	August	September	October	November	December
All cpts.	Whole site	Butterfly transect	A					✓	✓	✓	✓	✓	✓			
All cpts.	Whole site	Vegetation survey of the grasslands, including undesirable species (e.g. weeds)		Bi-annual, using meadow/grassland rapid assessment methodology.					✓	✓	✓					
All cpts.	Whole site	Bird box survey/clean bird boxes	A	Including Barn owl boxes	✓	✓			✓							✓
All cpts.	Whole site	Bat box survey/clean bat boxes	A		✓	✓			✓							✓
C	Bat hibernaculum	Monitor for presence or absence of bats	A	To add to species lists for the site												
	Ditches	Frogspawn survey	A				✓	✓								
	Ditches	Water vole survey	BBOWT	As part of the Water Vole Project	Next due 2020											
All cpts.	Whole site	Monitor anti-social behaviour		Liaise with SODC, PCSO's/Police as necessary	As necessary											
All cpts.	Whole site	Carry out visitor survey	Every 5 yrs	With volunteers assistance, working with Earth Trust's Visitor Experience Manager	Start in 2020											

Admin tasks					Month/s to be carried out											
Cpt.	Location	Task	One off, Annual, Continuous, HLS, SODC task	Detail	January	February	March	April	May	June	July	August	September	October	November	December
All cpts.	Whole site	Revise site management plan (5 yearly revision)			Next revision 2025											
All cpts.	Whole site	Revise site risk assessment (every 6 months)		Provide SODC with copy				✓						✓		
All cpts.	Whole site	Maintain the volunteer warden network and reporting system		Volunteer recruited and trained by Volunteer Officer and Warden at Earth Trust. Reporting via online survey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<i>Negotiate annual grazing licence with Neil Ryall</i>	<i>SODC</i>	<i>Through SODC lawyers</i>		✓	✓									
All cpts.	Whole site	Monitor external events	C	E.g. History walks by Wallingford Museum												
All cpts.	Whole site	Site used for education (internal & external)		Internal education event including Wildlife Wednesday & Night Safari, Bat walk. Tend to be in school holidays		✓		✓			✓	✓		✓		
Ditch		Liaise with archaeologists and English Heritage over any excavations planned		Buried Archaeology												
	Whole site	Write 6 monthly reports for SODC and the Meadows Advisory Group (MAG)		January and July for SODC; March and September for MAG	✓		✓				✓		✓			