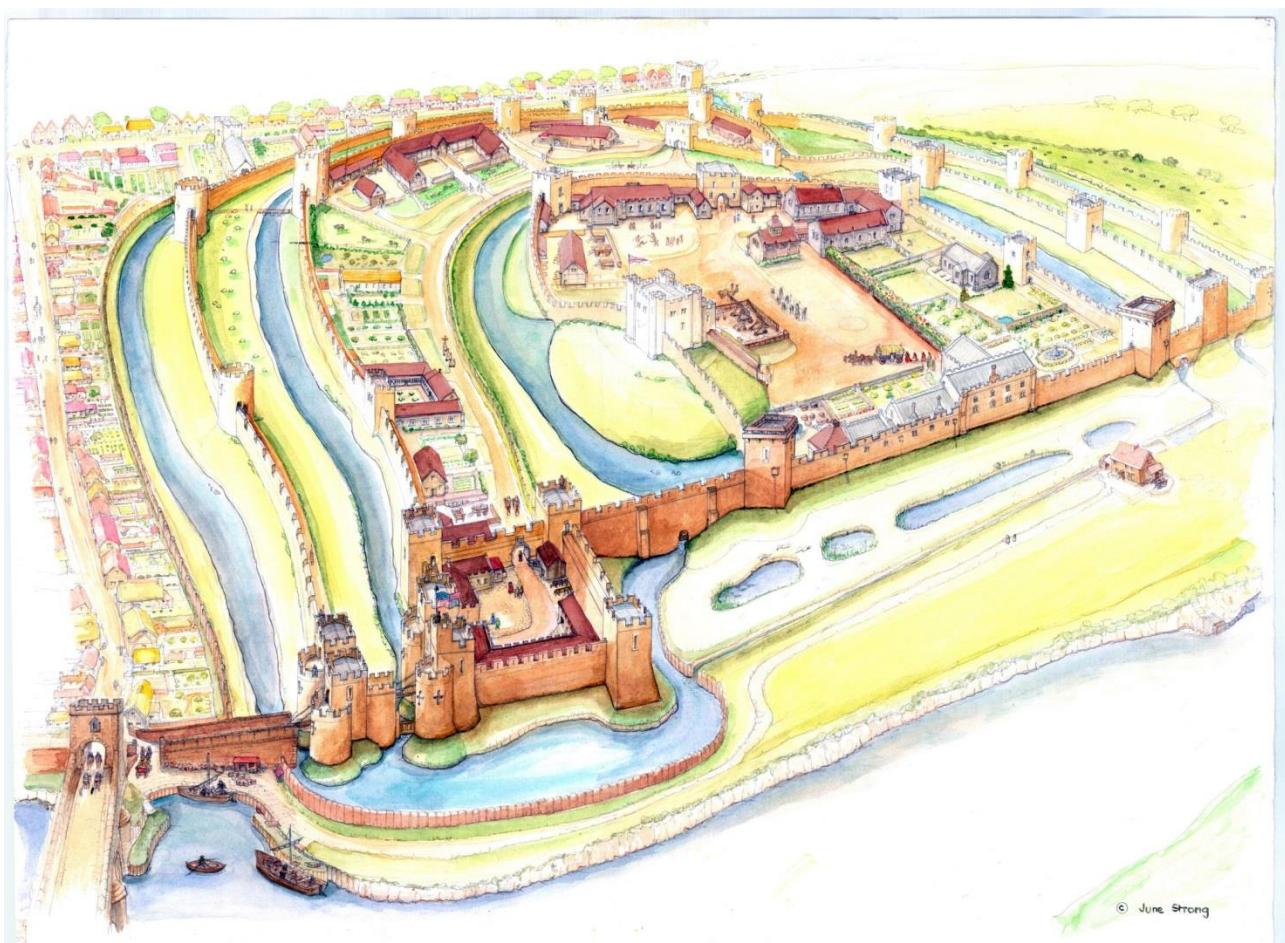


Wallingford Castle Meadows

Management Plan

2019 – 2024



Artist's impression of Wallingford Castle in the late 13th Century



Listening Learning Leading

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Appendix 1 – Biological Information

Appendix 2 – Accessibility Information

Appendix 3 – Archaeology and past land use

Appendix 4 – Risk assessment

Appendices

All appendices are available as separate documents that can be found by emailing the Earth Trust at 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 2019-2024. 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 Wallingford Castle Meadows, over the next five years.

This 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 Scheduled Ancient Monument Status; natural restrictions e.g. the two lower meadows are in the Thames floodplain; and available resources. The plan covers a five year period from 2019 to 2024. It will be under continual yearly review during the period of the plan as a dynamic document. Success will be measured against the management activities with site surveys, ecological monitoring and a review of the completion of the work plan.

The plan sets out how the Earth Trust will manage Wallingford Castle Meadows, on behalf of SODC, for the benefit of wildlife, archaeology and people as well as actively farming the site. 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. It is the responsibility of the Earth Trust warden to ensure the plan is used throughout the year and reviewed annually as a dynamic document reflecting any required changes, following approval by SODC and the Earth Trust.

1.1. Executive Summary

Reserve Name: **Wallingford Castle Meadows**

OS Grid Reference: SU 608 898

District: South Oxfordshire

County: Oxfordshire

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

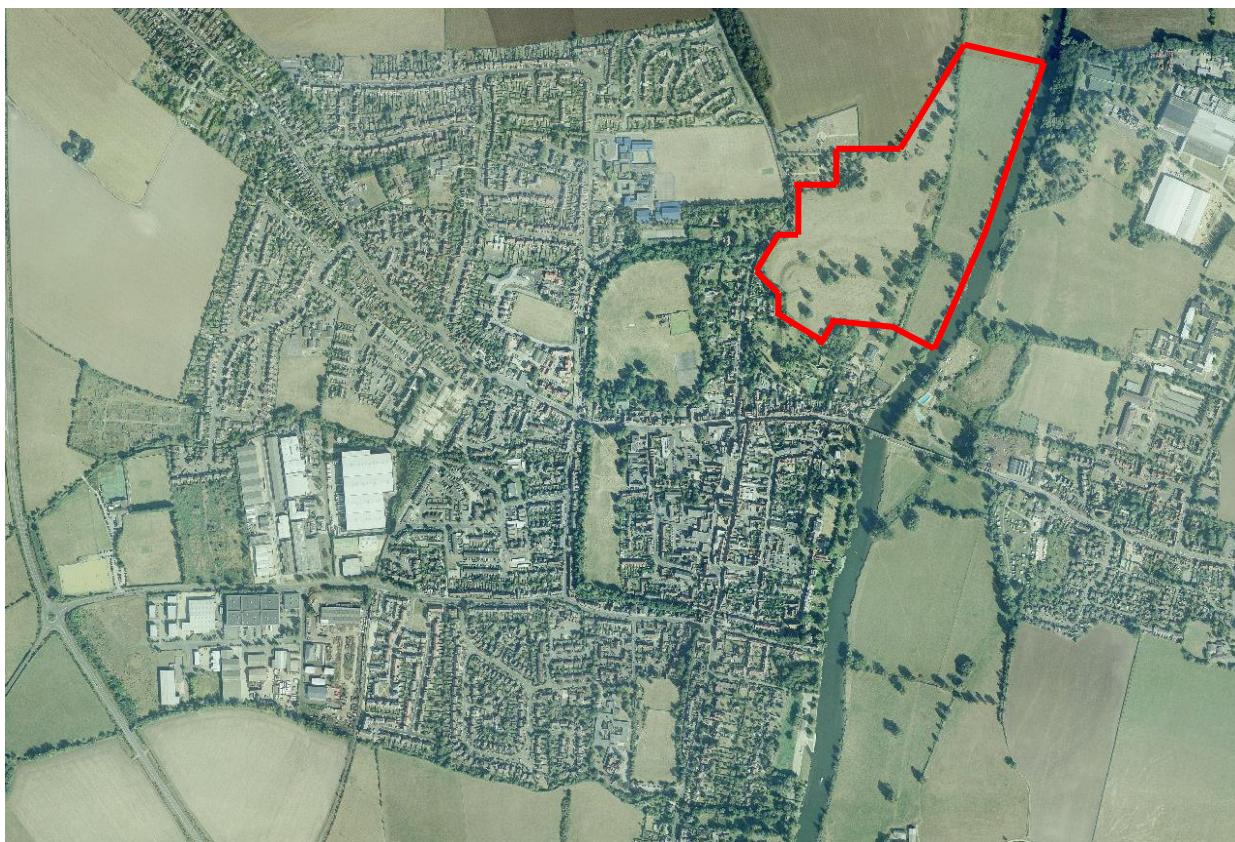
Natural England Contact Team: Oxfordshire and Buckinghamshire Team

Local Planning Authority: South Oxfordshire District Council (SODC)

Owner: SODC

Total area: 16.6 hectares (c. 41 acres)

Map 1. Wallingford Castle Meadows in its landscape context



Current status:

Site contains a Scheduled Ancient Monument (SAM) and two sections of walls that are Grade I listed buildings. The whole site lies within a Conservation Area. There are no biological designations.

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

Type of holding:

Freehold

Date of purchase:

31st March 1999

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.

Works/vehicle access

Through corral, off Castle Street SU 608 899

Site context

Wallingford Castle Meadows is mainly open, scrub free grassland, with formal tree plantings dating back to the past Victorian land owners and three small spinney's of trees, one around the Victorian pond, another just to the north of the main gate between the upper and lower meadows, and a third copse of predominantly hazel, with other species, is located at the northern end of the upper meadows. Two principal drainage ditches adjoin and bisect the lower fields. The castle earthworks and two remaining pieces of masonry add greatly to the habitat diversity of the upper meadows and form the central attraction within the reserve. Mown footpaths lead visitors around the upper meadows to the pond and through to the lower meadows. The meadows are managed to ensure that they are a valuable habitat for wildlife and provide a space for quiet recreation for the people who visit the site.

The whole site is within the Wallingford Conservation Area and the meadows also contain the majority of what was the area of Wallingford Castle, which has a long and complex history. All that remains of the castle are two sections of wall which are Grade 1 listed and the bank and ditch earthworks which form part of the Scheduled Ancient Monument. Areas U1, U2 and U4, as shown on Map 3 are within the Scheduled Ancient Monument. The site is afforded legal protection and there are a variety of activities which cannot be carried out, without prior Scheduled Monument Consent (granted by the Department for Media, Culture and Sport following recommendations from Historic England).

Wallingford Castle Meadows is currently under a Higher Level Stewardship Agreement, which runs until the 31st March 2021. Following a site visit in 2020 the Natural England advisor for the site recommended to the Rural Payments Agency (RPA) that the site is eligible for a HLS extension. The extension will run annually until the new Environmental Land Management Scheme (ELMS) becomes available. Although there is some uncertainty as to exactly when this will be at the time of writing this plan, Natural England indicated this could possibly be in 2023/24. Our current agreement promotes positive management of the site and restricts certain activities. More information is given under section 4.2 Meadows and section 4.8 on the Legal Responsibilities and Obligations. Natural England must be consulted in relation to any operations or activities that are not described in this management plan, for which consent may be required. This plan will be updated if necessary to reflect any changes once we move into the HLS extension period after March 2021.

2. General Description

2.1. Location & Site Boundaries

Wallingford Castle Meadows is located 1 mile from the centre of Wallingford, towards the North of the town (SU 608 898).

2.2. Tenure

South Oxfordshire District Council acquired Wallingford Castle Meadows in 1999 for the benefit of the people of South Oxfordshire and its local wildlife.

2.3. Management/Organisational Infrastructure

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

SODC employ the Earth Trust to manage Wallingford Castle Meadows as well as two other sites in its ownership (Riverside 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 Council's Contract Procedure Rules.

The Earth Trust employ a Community Reserves Warden within its Land Management Team who has responsibility for the management of WCM including undertaking all aspects of site management contained in this plan.

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 1999.

Revenue expenditure:

There is an annual revenue budget, which in 2017-18 totalled approximately £9,600. This budget pays for the contractual agreement with the Earth Trust for the day-to-day management of the site and any materials.

2.5. Associated Groups

Meadows Advisory Group

The Meadows Advisory Group was set up in 2000 to help the council in its management of the site. The group has members from all the principal bodies with an interest in the site. As less and less capital works are required at Wallingford Castle Meadows 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. Green Flag and Green Heritage Awards

The Green Flag Award scheme is the national standard for parks and green spaces across England and Wales. The Award is managed under license from the UK Government Ministry of Housing, Communities and Local Government by Keep Britain Tidy who also administers the scheme in England. Applicants are required to submit a management plan and will be subject to a judging visit.

Parks are assessed against the following 8 criteria:

- 1. A Welcoming Place
- 2. Healthy, Safe and Secure
- 3. Well Maintained and Clean
- 4. Environmental Management
- 5. Biodiversity, Landscape and Heritage
- 6. Community Involvement
- 7. Marketing and Communication
- 8. Management

In 2017, Wallingford Castle Meadow was awarded its tenth consecutive Green Flag, and Green Heritage site accreditation for the fourth year in a row, after meeting the scheme's requirements in all 8 areas.

2.7. Environmental information

Soils

There is no record of a systematic survey. The 1:25,000 Soil Survey of England and Wales (1983) records the area as within the Sutton 2 series, river terrace gravels, with well-drained fine and coarse loamy soils usually over gravel with a calcareous matrix. Very preliminary sampling in September 1999 indicated the soils of the upper fields are silty loams and sandy silty loams with a pH of between 7.0 and 7.7. The lower fields are silty clay loams and slightly more alkaline, with a pH of between 7.5 and 8.0.

Hydrology

No detailed hydrological survey of the site has been undertaken. Detailed topographic surveys of the two lower compartments were undertaken by the Babtie Group in September 1999 and printed at 10cm contours. Parts and sometimes the entire lower fields flood in winter and these flood instances have been mapped.

Information from Mr Edward Ryall, the previous land manager, indicates that two pipes drain compartment L2 (King's Meadow) into the ditch between L2 and U3, but the pipe at the north of L2 is blocked and non-functional. A functional pipe put in by Mr Ryall drains the centre section and joins the ditch some short distance north of the southern bridge. There is some drainage on the top fields, but the plans have been lost.

Climate

Wallingford Castle Meadows reserve is located in the Upper 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.

Flora

The first detailed botanical survey was undertaken in early July 1999. Since this time several 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 moat area in the inner bailey in compartment U1. Patches of more diverse grassland have been established on the sites of trenches associated with the four years of archaeological investigations during the Burh to Borough Project. The ditches and pond have a more diverse flora most notably including two small clumps of Loddon Lily (*Leucojum aestivum*) along the banks of the ditch in Queen's Arbour (L1) and a small population of Snake's-head fritillary in compartment U5.

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. There is also a local dominance of wall barley (*Hordeum murinum*) in U3, which affects the quality of grazing.

Fauna

Reptiles and amphibians

Casual observations have been made over the last 15 years and the pond in compartment U5 has been surveyed on several occasions by bottle trapping, torch survey and egg searching. Fish fry, possibly minnows (*Phoxinus phoxinus*), are numerous in this pond. Common frog (*Rana temporaria*) and common toad (*Bufo bufo*) have been recorded in both ponds and the ditches. Newts have not been positively recorded.

Grass snakes (*Natrix natrix*) have been recorded from a variety of locations around the site. Grass snakes are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981).

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 included in Appendix 1. Six Schwegler bird boxes were installed in May 2005 to provide additional breeding sites for birds.

Mammals

There is a large population of rabbits (*Oryctolagus cuniculus*). Management to control the population has been carried out over the last 15 years when required, this aimed to prevent erosion to the earthworks and to reduce the considerable grazing pressure on the grassland. To date these efforts have been partially successful in controlling rabbit numbers, however this aspect of site management has proved controversial and unpopular with the public.

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. Ten Schwegler bat boxes were erected in autumn 2008.

Only a few mammalian species have been recorded including Muntjac Deer (*Muntiacus reevesi*), Common mole (*Talpa europaea*) and Fox (*Vulpes vulpes*). Badgers (*Meles meles*) are known to use the site; although there are no setts on site there is one immediately adjacent.

A small population of water voles (*Arvicola amphibius*) previously inhabited the drainage ditch between the upper and lower meadows. Signs of activity, including feeding remains, burrows and latrines, were found up until 2006 but no positive signs have been recorded since. The population was small and very fragile, which would have limited its long term viability. Over the past ten years management has focused on increasing the amount of suitable water vole habitat by selective scrub clearance along the ditch sides, increasing the mean water level in the ditches to encourage the growth of marginal vegetation and fencing the ditches to create a buffer from the meadows and grazing animals.

Invertebrates

Casual observations, mainly of butterflies and dragonflies, were made during the initial site survey (Appendix 1). Net samples were taken from the eastern pond (U5). The white-legged damselfly (*Platycnemis pennipes*) is a Nationally Notable species. Adults were seen foraging across the site but the larvae will inhabit the river. Since then a butterfly transect has been walked across the site weekly from April to September, and feeds into the National butterfly Monitoring (BMS) scheme run by Butterfly Conservation. There is a small colony of marbled white butterfly (*Melanargia galathea*) associated with the more botanically diverse grassland. No aquatic invertebrates of note were recorded. Stag beetles (*Lucanus cervus*) have been recorded from across the site; they are Nationally Notable and a UK BAP priority species. A hornet robber fly (*Asilus crabroniformis*) was recorded during a survey in 2008 and a small blue butterfly (*Cupido minimus*) was noted during the 2011 butterfly survey.

2.8. Map coverage

The reserve is covered by OS Land ranger (1:50 000) no. 164 and OS Explorer no. 151.

2.9. Photographic coverage

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

2.10. Compartments

Wallingford Castle Meadows has been divided into 8 management compartments: U1, U2, U3, U4, U5, U6 (all on higher ground), L1 (Queen's Arbour) and L2 (King's Meadow) as shown in map 2.

Map 2. Site and Management Compartments



3. People, Stakeholders and Local Communities

3.1. Local communities and Stakeholders

The reserve is commonly visited by local and regional residents and has particular interest for archaeologists, due to castle remains and ramparts.

Local schools and other educational parties use the reserve.

3.2. Access and Tourism

Since October 2001 the site has been open to the public, only being closed during emergencies or at times when it would be unsafe for the public to enter. The site is well used by residents of Wallingford and many visitors to the town. The primary recreational uses of the reserve are for walking, which does not generally conflict with the interests of the reserve management. However, due to the nature and limited size of the site, it is possible that a combination of this recreational use with visits by archaeological enthusiasts may cause increased erosion and trampling of both archaeological and biological features. Although no public rights of way exist across the site the preferred paths and the route of the self-guided trail are mown during the summer months. Map 2 shows the access points and the footpaths which the route of the self-guided trail follows. All access points are controlled by wheelchair friendly kissing gates. A fourth access point from Castle Gardens was opened in spring 2008. SODC has previously considered an additional pedestrian access gate next to the livestock corral, which is currently used informally by people climbing over the rails into the meadows. SODC considered this location in consultation with Thames Valley Police, however a pedestrian access in that location was assessed to be unsafe.

There are no recreational facilities at the site. Dogs are currently allowed on the reserve if kept under control/on a lead.

Public rights of way exist around the exterior of most of the site. To the east, the Thames Path lies between the river and the lower meadows. This strip is owned and administered by Oxfordshire County Council. To the north, the Cemetery Lane track becomes a footpath linking to the river. To the west is Castle Street, and part of the southern boundary adjoins Castle Lane, beyond which are the Castle Gardens owned and opened to the public by Wallingford Town Council. The nearest appropriate car parking is within Riverside Park on the other bank of the Thames.

In designing the access points to the site all reasonable steps have been taken to ensure there are no physical barriers to prevent disabled people from accessing the site (see Appendix 2). For further information please see section 4.7.

3.3. Interpretation Provision

Interpretation panels have been placed at each of the entrances to the site and in strategic locations (7 in total). These give information on the site, about its current management, history and ecology. There is currently a need to update these boards at the reserve to provide additional interpretation relating to the history and the management of the site.

A guided walk leaflet is also available via leaflet dispensers at the entrances, at Wallingford Museum, the Town Information Centre and online via the Earth Trust and SODC's website. For more information relating to interpretation please see section 4.6 Visitor enjoyment and public access.

3.4. Educational Use

Since its acquisition the reserve has been used on a regular basis for education purposes, including pond dipping. Parties of students, ecology and archaeology from various universities occasionally undertake field visits to the reserve. Other groups also use the reserve including girl guides, beavers and scouts.

Earth Trust launched its new Strategy covering 2018-2023 and as part of this process the Trust is currently reviewing and rewriting the Engagement Strategy as part of an education overhaul in line with the new Gateway Project, which includes outdoor education on the community reserves, including Wallingford Castle 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

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; semi-natural, semi-improved and improved grassland (upper and lower meadows)
3. Ditches
4. Ponds
5. Wooded spinneys and Victorian Parkland
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

At Wallingford Castle Meadows much of the site (Areas U1, U2 and U4, as shown on Map 3) is designated as a Scheduled Ancient Monument. In cultural terms, Wallingford Castle was once one of the largest castles in England, and its remains, although largely reduced to earthworks, are very large and coherent.

Two unpublished excavations in the 1960's and 70's found substantial sub-surface archaeology, in good condition. A third documented excavation on Queen's Arbour conducted in 2003 revealed further buried archaeology. The Burh to Borough project ran between 2008 and 2011 and has

conducted five excavations within Castle Meadows. A full report on the Burh to Borough Project was published in 2011.

4.1.2. Past land use

Below is brief overview of the sites' history, provided for context from research carried out by Wallingford Museum and The Wallingford Historical and Archaeological Society (TWHAS), but by no means covering the detail of all that is now known about the site's past. For a more detailed account of the history for the Castle Meadows please see Appendix 3.

There is a long history of settlement and use, with Wallingford itself at a strategic position by an important ford. There is evidence for prehistoric and Romano-British activity in the immediate area; the present town of Wallingford was founded as a fortified town or burh in the late ninth century. In 1071 the phase of castle construction was finished and incorporated a section of the Anglo-Saxon rampart and ditch in its fortifications. The castle remained in royal hands throughout the 12th Century and was extended in the early 13th Century by the addition of a second wall and moat on the north and west surrounding a new bailey. The castle was further extended in the second half of the 13th Century when a third defensive rampart was added to the north and west. The castle was at its most formidable in the 13th and 14th Centuries.

By the 16th Century Wallingford, like many other castles, was effectively redundant in a less feudal society and fell into disrepair. The castle was re-fortified during the Civil War of the 17th Century, and was an important defensive outpost of the King's headquarters at Oxford. On 18th November 1652 Cromwell's Council of State ordered the systematic destruction of Wallingford Castle: the stone was removed and sold, and the site left derelict with only a few fragments of wall remaining.

In the early 19th Century the Castle was sold by the crown, and after a short period in divided ownership, was bought by the Hedges family who built a substantial Gothic-style house on the southern part of the site in 1837, landscaped its immediate grounds and carried out extensive tree planting in the area to the north. The house built by the Hedges family was demolished in 1972 and after a proposal to develop this part of the site was rejected by a public inquiry in 1977, the southern part was given at a peppercorn rent to Wallingford Town Council. The Victorian Castle Gardens were restored for public access by the Town Council. Castle Farm was eventually sold and the built-up part of the farm to the south of the castle mound was developed by Berkeley Homes in the form of Thameside Mansions. The purchase of the remaining Castle Farm land by South Oxfordshire District Council in 1999 has brought virtually the entire site of Wallingford Castle into public ownership.

4.1.3. Current Status

The castle site is unusual in having so little standing fabric, 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.

The visible and buried archaeological remains provide some of the principal interest for local inhabitants and other visitors to the site, especially with their close integration into the landscape and local cultural history.

4.1.4. Factors and Constraints

- Positive factors
 - Grade I listing and Scheduled Ancient Monument status provides a measure of statutory protection
 - There is good survey information on current condition
 - Works were carried out during 2004 and 2013 to consolidate the standing remains
 - Previous excavations indicate substantial structures remain in a good state of preservation, i.e. No evidence of damage under present conditions
 - Possibility of organic evidence in waterlogged soils of compartment L1
 - Burh to Borough archaeological project now complete but there is the possibility of attracting future funding for well-conducted research to assist interpretation
- Constraints
 - Erosion by rabbits can cause problems with the earthworks; active rabbit control is keeping the population under control
 - Queen's Tower is leaning; as far as we are aware the movement has ceased but the advice we have is that there is no effective remedy that would not irrevocably damage the look and feel of the site
 - Vandalism could be a particular concern and has resulted in difficulties in the neighbouring Castle Gardens
 - 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 Objectives

The buried archaeology present at Wallingford Castle Meadows is preserved and existing profiles of earthworks are consolidated. The buried archaeology present, listed wall fragments and the Grade I listed structures and their setting, the Scheduled Ancient Monument, and other archaeological features are all kept in favourable condition, where:

- Listed wall fragments are preserved and existing profiles of earthworks are consolidated/preserved
- There is no further loss of fabric from the existing structures (except through unavoidable natural erosion)
- There is no further avoidable erosion of the earthworks
- The existing earthworks and fabric are researched and interpreted to visitors in an informed and interesting way
- The disposition of the structures within the various stages of the castle's evolution is better understood

4.1.6. Management Rational

In 2001 the standing remains were fenced off from the main site area to prevent cattle and people causing further erosion and for public safety. Advice on the works necessary to consolidate the standing remains was obtained from English Heritage and specialist surveys were undertaken by Oxford Archaeology to determine the extent of the works required. A specialist contractor was

employed in summer 2004 to carry out the consolidation works required (Nimbus Conservation) and a full record of the work has been kept and is held by SODC. A further survey and associated works were carried out in 2013 and the remains are now regularly monitored for any significant deterioration.

Monitoring of the standing remains is now essential to ensure their ongoing stability and to advise of any further works required. Queen's Tower is leaning towards the River Thames but this movement is not thought to be recent. Advice received by the Council is that there is little which can be done to make the tower any more stable over and above what has already taken place.

Erosion to the earthworks has been controlled by the regulation of grazing and of rabbits. In addition the preferred paths are regularly mown during the summer months to channel public use of the site and to limit the amount of erosion by walkers.

4.1.7. Management Activities

- Control grazing pressure to prevent damage to the earthworks
- Control rabbit population to prevent further damage to the earthworks
- Provide interpretation for site and individual features
- Mow preferred paths
- Maintain the volunteer warden network and reporting system
- Control vegetation inside fenced areas around standing remains to provide a managed “cared for” appearance
- Liaise with Archaeologists, English Heritage, SODC, Wallingford Museum and Defra over any excavations planned
- Discourage metal detecting through signage and interpretation
- Protect the archaeological/historic features (Wallingford Castle earthworks and ramparts, below ground historic features (e.g. mediaeval jetty under Queens Arbour)
 - Detrimental indicators e.g. burrows and erosion, cover less than 5% of the archaeological areas.

4.1.8. Monitoring Activities

- Monitor the levels of rabbit damage to earthworks and take action to reduce population when necessary
- Monitor the site for damage to earthworks caused by other factors such as human pressure and grazing animals
- Monitor the condition of the standing remains
- Conduct regular monitoring of the standing remains to determine the need for remedial works.

4.2. Meadows: semi-improved/semi-natural and improved grassland (upper and lower meadows)

4.2.1. Evaluation

Improved and semi-improved/semi-natural grasslands account for the majority 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. Alternatively, modifying or ‘improving’ unimproved

grasslands, by applying large quantities of fertilisers and selective herbicides, can create 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; may contain areas of emergent swamp communities but not extensive areas of tall fen species like reeds. Lowland wet grassland is generally neutral in character but normally not botanically species rich and any semi-improved/unimproved neutral grassland is considered as part of the lowland neutral grassland resource and not lowland wet grassland.

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 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 Biodiversity Action Plan (Stevenson and Liwicki 1999) and lowland meadows are now considered as a priority habitat in the UK Biodiversity Action Plans (UK Biodiversity Steering Group, 1999).

4.2.2. Current Status

Much of the site consists of very species-poor agriculturally improved grassland. The lower fields (L1 and L2) occupy a level tract of land bordering the river Thames, parts of which flood in winter. The sward was reseeded approximately 25 years ago, and is dominated by perennial rye grass (*Lolium perenne*) representing an MG7 Rye Grass ley.

A large amount of work has been undertaken to remove the weed problems (ragwort, docks and thistles) across the site, which has been successful. A strip of land adjacent to the river bank in compartment L2 seems to have been re-sown with a wild flower mix, with species such as yarrow (*Achillea millefolium*), oxeye daisy (*Leucanthemum vulgare*) and selfheal (*Prunella vulgaris*) occupying a distinct vegetation band (but sadly records of when and by whom have been lost). These fields are bordered by deep drainage ditches, which in places are overgrown and shaded by shrubs such as blackthorn (*Prunus spinosa*). The ditches also contain a few common wetland plants, such as water figwort (*Scrophularia auriculata*), water dropwort (*Oenanthe crocata*) and purple loosestrife (*Lythrum salicaria*).

The upper fields occupy higher ground above the flood plain. Again the sward is dominated by perennial rye grass, but other grasses including timothy (*Phleum pratense*) and cocksfoot (*Dactylis glomerata*) are more apparent. Locally wall barley (*Hordeum murinum*) is conspicuous, most notably in compartment U3. The flora is very impoverished but, locally, patches of more interesting plants such as cowslips (*Primula veris*), yarrow and selfheal can be found, especially on the earthworks of compartments U1 and U2.

Semi-improved grassland

There is a small pocket of relic grassland, which has escaped herbicide and fertiliser inputs, occupying the earthworks in the south-western corner of compartment U1 (adjacent to the Castle Gardens). A National Vegetation Classification (NVC) survey was undertaken in this area (see Appendix 1 for details of NVC methodology).

The slopes are occupied by mesotrophic grassland with a calcicolous element. The presence of species such as bird's-foot-trefoil (*Lotus corniculatus*) suggest affinities to an MG5 Knapweed-Crested Dogtail community – the typical vegetation found on traditionally managed grazed hay-meadows on circumneutral soils in lowland England (Rodwell 1992). Other species of interest include quaking grass (*Briza media*), field woodrush (*Luzula campestris*), hoary plantain (*Plantago media*), cowslip and burnet saxifrage (*Pimpinella saxifraga*). However, the high proportion of false oat-grass (*Arrhenatherum elatius*) in the sward indicates a transition towards an MG1 False Oat-grass community, which typically follows relaxation of grazing pressure. This vegetation type is not found anywhere else on the site.

Higher Level Stewardship

Currently (until March 2021) compartments U1 and U2 of the upper meadows are under the Natural England Higher Level Stewardship (HLS) option HK6 – Maintenance of species rich, semi natural grassland. Compartments U3 and L1 are in HLS option HK15 – Maintenance of grassland for target features.

4.2.3. Factors and Constraints

- Positive factors
 - Some semi-improved grassland has survived on the inner ramparts of the Castle. This can act as a source of colonisation.
 - Archaeological investigations by the Burh to Borough project, and subsequent restoration of the trenches, have resulted in opportunities for patches of wildflower re-seeding throughout the site.
 - The lower meadows still flood in some years, and this will (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 a subsequent period without management has left 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, followed by a period without management, has left

- the grassland species poor.
- Land is very prone to poaching.
- Very few desirable plant species are left 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. Upper and Lower Meadows Objectives

To maintain in a favourable condition the neutral grassland on the upper meadows and the flood plain meadow/semi-improved grassland habitat on the lower meadows, where:

- Bird's-foot-trefoil (*Lotus corniculatus*), lady's bedstraw (*Galium verum*), ox-eye daisy and knapweed (*Centaurea nigra*) are found across the area of the upper meadows.

Part of the upper meadows is species-rich grassland on the ramparts of Wallingford Castle, which are a small part of the upper meadows. The most diverse areas of grassland are located on the ramparts closest to the moat on the southern border of the site in compartment U1. These contain a variety of species of unimproved neutral grassland e.g. bird's-foot-trefoil, ladies bedstraw and will also support the widest range of nectar-feeding or plant-specific invertebrates. This area is important as a potential source of colonising species for other parts of the site.

- Marbled white butterflies feed across the whole upper meadow area
- The area of temporary water associated with the moat in the upper meadows is maintained
- Grassland covers 90% of the area of the lower meadow
- The species composition of the lower meadows includes appropriate grass and forb species for target communities MG5 or MG13, Black Knapweed (*Centaurea nigra*)
- Control undesirable species in the upper and lower meadows:
 - 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.

- Standing water remains on the lower meadows into March.
- Sward height between 5cm and 10cm 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.

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 meadows

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.

4.2.5. Management Rational

Wallingford Castle 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.

In order to maintain a sward height between 5cm - 15cm, cattle are used to graze both upper and lower meadows. 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 need to be regularly checked to ensure that they remain healthy, a water supply (there are two troughs in the upper meadows and one in each of the lower meadows), and a stock proof fence. All fences around the meadows were replaced in 2001/02. Since then some of the fencing, especially in the lower meadows where conditions are often wet, is now in need of replacement. Since 2017 a section of fence is being replaced each year, starting with those lengths most in need of replacement. A programme of annual fencing will continue in order to maintain the external and internal stock proof fences and spread the cost of the works over a number of years.

The meadows are grazed for at least 6 weeks between April and November. The lower meadows are cut for hay in years when this is possible. In years when a hay cut is possible cattle graze the aftermath between August and October/November depending on the weather. Grazing is carefully controlled to ensure that poaching does not occur in wet weather.

The site is used by many dog walkers, so it is necessary to alert visitors to the presence of cattle (especially if/when a bull is on site) 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 Wallingford Castle Meadows is limited to isolated plants within the grassland. Therefore control is limited to the removal of occasional scrub seedlings. All cutting of scrub must be done between 1st October and 28th 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 Wallingford Castle Meadows. This has meant an annual programme of ragwort and thistle control which has seen populations of these undesirable weeds reduced to small scattered patches. Continued action, primarily spot spraying and hand pulling, will continue to be used to keep weed species under control.

Sward diversification

Various attempts have been made to diversify the sward in the lower meadows with limited success. It is likely that past intensive use of the site as a dairy 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 limited introductions of more competition tolerant wildflower species when funding allows.

Traditionally the lower meadows would have been wetter for more of the year. In 2003 three scrapes were created with the aim of increasing the extent and duration of standing water on the meadows, which should provide suitable habitat for wet grassland species, such as ragged robin and cuckoo flower and birds such as yellow wagtail. To date the scrapes have been successful in holding water throughout the spring but no snipe or yellow wagtail have yet been recorded (this is likely to be due to disturbance by dogs).

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 castle ramparts. 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).
- Control weeds by spot spraying and hand pulling.
- 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.
- Use electric fencing to prevent cattle poaching the wetland area in the moat.

4.2.7. Monitoring activities

- Bird populations
- Vegetation survey of the grasslands.
- Extent and duration of flooding.
- Undesirable weeds.
- Annual Butterfly Conservation BMS butterfly survey (weekly April – September).

4.3. Ditches

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.

4.3.2. Current Status

The ditches at Wallingford Castle Meadows provide habitat for a range of locally appropriate marginal and aquatic vegetation species including:

- The common frog, which is a species of conservation concern in the UK Biodiversity Action Plan, due to the speed with which it is declining nationally (The UK Biodiversity Steering Group, 1995);
- Two small clumps of Loddon lily (*Leucojum aestivum L.*), which can be found along the ditch in Queen's Arbour. Loddon lily is listed by the JNCC as a nationally scarce species (JNCC 2005). This species has a restricted distribution mainly in Oxfordshire (between Abingdon and Henley) and Berkshire especially along the River Loddon; and;
- Potential re-colonisation by Water Voles. Although the ditches are small in area they are away from the main river, where the worst effects of flood and rapid drainage can be avoided, may be vital to the survival of this species.

Currently (until March 2021) the ditch-line that run between the upper and lower meadows (excluding the portion of ditch between L1 and L2 and the final portion at the northern end between U3 and L2 and) are under Natural England HLS option HB14 – Management of ditches of very high environmental value.

4.3.3. Factors and Constraints

- Positive factors
 - Ability to control water levels

- Stock proof fencing already present
- Remedial action to increase the amount of marginal vegetation is relatively straight forward
- Constraints
 - 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 Objectives

Restored drainage ditches with abundant marginal vegetation including the Loddon lily on both banks, aquatic vegetation and water levels maintained throughout spring/summer, where:

- Aquatic and marginal vegetation continues to grow on all the ditches

The aquatic and 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 egg lay for dragonflies to somewhere to hide from predators for many aquatic beetles. Diversity as well as abundance is important.

- Frogs can breed throughout the ditches
- Ditches permanently hold water
- No more than 25% of the ditch length under HLS option HB14 has heavy shade (i.e. 75% of scrub growing of the ditch banks is removed)
- Scrub is allowed to develop along the Queen's Arbour side of the ditch between Queen's Arbour and King's Meadow, to provide laying-up habitat for otters

An artificial log pile Otter Holt was constructed in this area in 2008 by Wallingford Green Gym and scrub has been planted surrounding it.

- There is no access for grazing animals or the public (3m buffer min)
- The population of Loddon Lily is maintained

The ditches provide habitat two small clumps of the Loddon Lily (*Leucojum aestivum L.*) which is listed by the JNCC as a nationally scarce species (JNCC 2005). This species has a restricted distribution mainly in Oxfordshire and Berkshire especially along the River Thames and River Loddon. Reduction of shading by trees and scrub on the higher bank of the ditch between the upper and lower meadows should help to let in more light and encourage the growth of marginal and aquatic plant species.

- Suitable habitat is preserved for potential re-colonisation by Water Voles

Water voles were positively identified on site up until 2006 but subsequent surveys have found no evidence of them. It is therefore likely that this small and isolated population has become extinct. Management for the foreseeable future should therefore focus on maintaining suitable habitat in the ditches for future colonisation; some steep ditch banks with uncut vegetation and tall herbs on the bank tops.

- 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 dragonfly e.g. southern hawker and the brown hawker lay their eggs in dead wood. Some aquatic beetle larvae feed on decaying wood, whilst others eat fungi and algae on the wood surface. Caddis larvae use leaves and tree bark to build their cases. It also adds structural diversity above and below the water, thus providing an important refuge for invertebrates to hide from predators such as the sticklebacks.

4.3.5. Management Rational

Wallingford Castle Meadow ditches are managed by:

- Removing scrub
- Undesirable weeds and non-native species control
- Controlling water level

Removing scrub

If the vegetation inside and alongside the ditches (i.e. inside the fenced areas) is left unmanaged it will scrub up leading to over-shading and loss of soft vegetation (emergent, aquatic and marginal vegetation). Willow and other trees are to be pollarded where possible, and blackthorn and other scrub on the ditch banks is to be coppiced on a three year rotation, so that at any one time at least 75% of the length of the ditch is not in heavy shade. This is to ensure the marginal and aquatic vegetation has the best chance to flourish in the absence of shade.

Undesirable weeds and non-native species control

If areas inside the fence 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.

Controlling water level

A pipe culvert - a twin-wall polypropylene plastic pipe, laid in an excavated trench that has been backfilled - allows water to move between the river and the ditches but providing the ability to control the water levels of the ditches to a certain extent. The culvert is half way along the section of ditch between L1 and L2. The pipe is longer on the western side of the ditch and can be raised and lowered to provide a means of controlling the water level. If the pipe is left down water can freely drain out of the ditches back into the river, good during summer flooding events; if the pipe is pulled up (and above the water level) then water is unable to drain out of the ditches. This helps to maintain higher water levels in spring/summer and benefits species such as common frog (and maintains suitable habitat for potential re-use by water voles).

4.3.6. Management Activities

- Maintain un-shaded areas along ditch banks by rotational coppicing and stump treatment (where suitable)
- Maintain integrity of stock fencing along ditches
- Maintain function of culvert
 - o Control water levels in the ditches throughout the year to maintain consistently high water levels
- Remove invasive species, such as orange monkey flower, from ditches

4.3.7. Monitoring Activities

- Carry out annual Loddon lily survey

- Water level monitoring and control if required
- Survey otter holt for use (with suitably licensed otter worker present)
- Maintain functioning of ditch – monitor for blockages
- Carry out Freshwater Habitat's Trust National Frogspawn Survey

4.4. Ponds

4.4.1. Evaluation

Two thirds of all Britain's freshwater plants and animals can be found in ponds including many rare and threatened species such as great crested newts (*Triturus cristatus*), natterjack toads (*Epidalea calamita*), pillwort (*Pilularia globulifera*), starfruit (*Damasonium alisma*) and medicinal leech (*Hirudo medicinalis*). Some species have come to depend on ponds as a last refuge; for example the native crayfish has been lost from most rivers as a result of the signal crayfish plague, but isolated ponds provide one of the last strongholds for this species. Ponds can also provide resources for other species with wider ecological requirements, for example otters and reed buntings will both use ponds as part of the larger habitat they occupy.

Because individual ponds vary significantly in their species compositions, overall they often contribute more to regional biodiversity than rivers or other habitats. As well as aquatic species, ponds are also wonderful for our terrestrial wildlife. They provide drinking water during dry weather, a supply of insect and plant-based food, and shelter among the emergent and surrounding plants and trees. This is especially important in environments which are otherwise lacking in places for wildlife; a rich tapestry of ponds across an intensive agricultural landscape provides a much needed refuge for birds, mammals, amphibians (which will cross even large fields to get to a pond), reptiles, and flying insects. We now know that nationally, about two thirds of all Britain's freshwater plants and animals can be found somewhere in permanent and temporary ponds.

For these reasons, farmland ponds are especially important in the UK and across much of Europe, where a substantial proportion of land is given over to food production. However, ponds are a threatened habitat; the number in the UK is estimated to have declined by over a third from the 1940s to the 1980s.

4.4.2. Current Status

There are two ponds present on the site. The western pond in the southern corner of compartment U1 represents the remains of the principal castle moat. It holds water only seasonally, but remains damp throughout a dry summer. The central area has become dominated by floating sweet-grass (*Glyceria fluitans*). The damp marginal areas support a distinctive flora dominated by brooklime and creeping jenny, with other species of interest including cuckoo flower (*Cardamine pratensis*) and pink water speedwell (*Veronica catenata*). This vegetation type is not found elsewhere on the site.

The eastern pond, in compartment U5, was created in Victorian times and planted with a number of trees and herbaceous species to form an attractive landscape feature. In more recent times the pond became heavily shaded by trees, mainly self-sown horse chestnut (*Aesculus hippocastanum*) and sycamore (*Acer pseudoplatanus*).

In 2001 many of the trees on the south and south-eastern side were removed to allow more light in. Since this time the number of emergent plants found in the pond has increased. A small colony of Snake's-head fritillary (*Fritillaria meleagris*) was discovered in 2005 (36 plants counted in 2011 rising to 102 plants counted in 2017). The small colony was likely to have been planted as part of the original landscaping and only became obvious with the removal of the trees. There are large colonies of snow drop and daffodil in the area which presumably are also remnants of the original landscape design.

In 2005 work began to uncover and provide public access to the Victorian pond area, which it was felt following a consultation process would contribute to the overall 'romantic landscape' character and benefit the biodiversity of the site. Since access to this area was opened up to the public in spring 2006, there has been a strong desire to retain this as a landscaped feature. Access is gained through via two self-closing pedestrian gates, a path surfaced with grass/wood chip, and a viewing/pond dipping platform overlooking the pond. A recycled plastic viewing platform was installed over the pond in the summer of 2011.

The area around the path and on the western edge of the pond is kept open, as there is a small population of Snake's-head fritillary, snow drops and bluebells in the spring. The pond area has been identified in surveys as being a popular breeding site for the common frog (*Rana temporaria*) and common toad (*Bufo bufo*), feeding site for bats, particularly the common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*P. pygmaeus*). Therefore, the remainder of the pond periphery will be left unmanaged as a habitat for amphibians, bats and the insects upon which they are feeding. In addition some log piles have been made on the pond periphery and a number of bat boxes have been put up to provide additional roosting sites.

There is an area of wetland associated with the moat adjacent to Castle Lane which forms a seasonal pond and two scrapes in the lower meadows on in each L1 and L2; these ponds support species which are traditionally associated with ponds and wet meadows including breeding frogs, brooklime (*Veronica beccabunga*), creeping jenny (*Lysimachia nummularia*), cuckoo flower (*Cardamine pratensis*) and pink water speedwell (*Veronica catenata*).

4.4.3. Factors and Constraints

- Positive factors
 - The Victorian pond already sustains populations of common frogs and toads, invertebrates and is good feeding ground for some bat spp.
 - There is a small population of Snake's-head fritillary
 - Some ornamentals remain, e.g. Wellingtonia, Wilson's honeysuckle, Spanish bluebells
 - Pond and banks lie outside the Scheduled Ancient Monument and restoration works do not require consent
 - The seasonal ponds attract common frogs for spawning
- Constraints
 - Pond steps and platform are likely to be inaccessible during floods
 - Signage is in place on gates and interpretation panel to warn public of the dangers
 - In some years the seasonal ponds have dried out too soon for tadpole to survive

4.4.4. Ponds Objectives

The Victorian pond is able to sustain a balanced aquatic community whilst retaining its planned landscaped quality, and the seasonal ponds (moat and scrapes in the lower meadows) are maintained in a favourable condition:

- The landscaped setting of the Victorian pond is maintained
- Aquatic and marginal plants continue to grow around/in the pond
- Frogs and toads continue to breed in the Victorian pond every year
- The surroundings are safely accessible to the public
- Population of Snake's-head fritillaries continues to thrive (i.e. numbers do not decrease)
- Seasonal ponds continue to be so and act as additional habitat for associated species, e.g. common frogs
- Deadwood is present in the pond for invertebrates and structural diversity

4.4.5. Management Rational

Wallingford Castle Meadow's Victorian pond and seasonal ponds are managed by:

- Maintaining the Victorian pond and seasonally wet areas
 - Cutting emergent and marginal vegetation, where appropriate
 - Removing scrub
 - Undesirable weeds and non-native species control

Cutting emergent and marginal vegetation

If the vegetation around the Victorian pond is left unmanaged it will become rank and smother some of the less competitive species and scrub will eventually develop. In order to prevent the vegetation becoming too rank one third of the pond periphery should be cut once (or twice a year depending on need) to provide a more formal area consistent with the original Victorian planting but still leaving areas to remain 'wilder'.

Removing scrub

A large number of self-seeded sycamores and patches of bramble have been removed from the area in order to reduce the level of shading and allow marginal and aquatic vegetation to establish. These continue to re-grow and should be coppiced (and for the sycamore stump treated when possible) as required in the autumn months. This is to ensure the marginal and aquatic vegetation has the best chance to flourish in the absence of shade.

To the south and west of the pond the Wilsons honeysuckle hedge needs to be cut annually so that it doesn't encroach onto the area colonised by the Snake's-head fritillaries, but also provides a more formal area consistent with the original Victorian planting.

Undesirable weeds and non-native species control

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

4.4.6. Management Activities

- Cut and rake one third of the pond periphery (the western side) at least annually
- Cut and loosely shape the honeysuckle hedging annually

- Maintain viewing points from the main path to the west of the pond enclosure to ensure that those with limited mobility, who are unable to traverse the pond steps, still have a clear view of the pond and its environs
- Regularly check the viewing platform and steps in pond area for safety and undertake repairs as necessary
- Remove invasive species from ponds as required
- Erect temporary electric fence to block cattle access to the moat when seasonally wet and frogspawn present

4.4.7. Monitoring Activities

- Undertake annual survey/count of Snake's-head fritillary
- Erect additional temporary signs warning when paths underwater
- Carry out Freshwater Habitat's Trust National 'Spawn Survey' (Victorian pond, moat and two scrapes in the lower meadows)
- Monitor use of bat boxes in Victorian ponds area annually (suitably licensed bat worker present) and ensure fixings are secure, replace as necessary

4.5. Wooded Spinneys and Victorian Parkland

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.

Parkland and wooded spinneys/copse 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.

4.5.2. Current status

There is no true woodland on the site. However, there are a number of mature specimen trees some supporting exceptional growths of ivy (*Hedera helix*) widely scattered across the site. There are some fine 'parkland' oaks (*Quercus robur*) and beech (*Fagus sylvatica*) and a clone of pollarded mature grey poplars (*Populus canescens*) in compartment L1. There are also three areas of wooded spinneys/copse and a large number of mature native and exotic trees that clearly formed defining features of a planned parkland landscape (including Wellingtonias and Evergreen Oak). The Wellingtonias set the earliest possible date as 1853 when the first seeds arrived in Scotland (Mitchell

1996), and it is likely the trees were established within ten years of this date, when the species was very popular.

The Hedges family bought the castle site from the crown in 1817 and it was almost certainly John Allnatt Hedges and his son, John Kirby Hedges, who were responsible for the majority of the landscape planting of the site, the considerable extent of which can be seen on the 1876 Ordnance Survey 25" map of the area.

It seems likely that the pines and some Wellingtonias marked key points on the demesne boundary, with specimen plantings of single trees and groups (e.g. the beech clump in U3). A line of parkland oaks in U3 may be intended to draw the eye and/or have been allowed to grow out of a vanished hedgerow. The holm oaks appear to have been evergreen roadside screening.

Maintenance and gradual replacement of the planting scheme is fundamental to conserving the landscape character of Wallingford Castle Meadows, to replace damaged or lost specimens. Replacement trees when required are selected to favour mainly native species (e.g. beech and oak) in the open landscape, approximate to the original planting scheme. Where species failure is experienced, substitute species may need to be considered, providing an opportunity to support BAPs for unusual native species, such as black poplar (*Populus nigra* var. *betulifolia*), which in 2002 four were planted on the lower meadows for just this reason.

A number of dead trees have been removed for safety reasons and the logs left on site as deadwood habitat. Over the last 18 years replacement planting for the lost parkland trees has been carried out and a number of new parkland features added.

4.5.3. Factors and Constraints

- Positive factors
 - Some of the trees, both Victorian plantings and older 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
 - Considerable detail of the plantings is visible on the 1876 Ordnance Survey 25 inch map
 - 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
 - No detailed estate maps of the original full planting scheme appear to exist
 - Lying deadwood provides material for unauthorised fires on site

4.5.4. Wooded Spinneys and Victorian parkland Objectives

To maintain the characteristics of the landscape planting by replacing trees in a planned way, over the long term. To retain as much dead wood (standing and lying) as possible and extend the life of over-mature trees. To maintain the small woodland area and parkland landscape and historic landscape planting 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 parkland trees approximates to the original planting scheme
- The pattern of landscape planting is maintained
- There is no deterioration in the visual quality or 'romantic' landscape feel of the site
- 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

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

4.5.5. Management Rational

Wallingford Castle Meadows spinneys and parkland is managed by:

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

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.

A lightning conductor was installed on the largest of the Wellingtonias (by the Victorian pond) to protect it from lightning strike as many of the other specimens have been degraded by lightning in the past.

Tree planting

A tree planting scheme for the site was produced in 2007. Re-planting has been targeted towards reproducing the Victorian landscape planting scheme, in order to perpetuate the survival of the landscape planting, and to ensure a varied age structure. Where necessary young trees have been protected with tree guards/tree corrals (with permission from English Heritage where the work is within the SAM) to prevent damage from grazing livestock.

Retaining deadwood

Several trees that have been felled for safety reasons have been strapped to live trees to compensate for the standing deadwood habitats that were lost. The majority of the other logs are left on site to provide other deadwood habitat. Where possible dead branches have been left on trees as they unlikely to affect the health of the tree.

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 and manage parkland trees to prevent them being blown down.
- Retain all standing and falling dead wood unless it presents a genuine safety hazard.
- Tree growth in the small triangle at northern end of U3 and in the mixed deciduous spinney in U6 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.

4.5.7. Monitoring Activities

- Monitor standing deadwood by checking straps 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 boxes annually (suitably licensed bat worker present) and ensure fixings are secure, replace as necessary
- Monitor use of Barn Owl box and ensure fixings are secure, replace as necessary

4.6. Visitor Enjoyment and Public Access

4.6.1. Visitor Enjoyment Objectives

All visitors to the site should have a positive experience, with no barriers to access to the site for people with disabilities. Directions to the site will be clear. The guided walk will be clearly marked and focus on the best parts of the site, both historical and ecologically. All visitor furniture including benches etc. will also be maintained at the standard that makes visitors feel welcomed to the site. 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 information 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.
- The site is seen as one of the principal attractions of the local area.

4.6.2. Current Status

Interpretation

Six A1 interpretation panels have been installed, four at the entrances, one adjacent to Queen's Tower and one in Queen's Arbour visible from the Thames Path. Three of the panels are general and provide information on history and ecology as well as the code of conduct. The other three panels provide information primarily on the history of the castle. An additional A3 panel has been installed in the Victorian Pond area which provides ecological information about this area.

A self-guided walk leaflet and oak way-marker posts have been produced (with the Wallingford Museum), which allow visitors to learn about the history and ecology of the site following a pre-determined route.

As well as the *in situ* interpretation there are notice boards at all site entrances to allow for information on site management to be displayed and for advertising of events.

In addition Wallingford Museum, which includes special displays on the history and importance of the castle, is situated within 500m of the site. The Wallingford Historical and Archaeological Society has published a short guide to Wallingford Castle (TWHAS 1984), and the site is well documented in specialist archaeological and historical literature.

Visitor access

Since October 2001 the site has been open to the public, only being closed during emergencies or at times when it would be unsafe for the public to enter. Although no public rights of way exist across the site the preferred paths and the route of the self-guided trail are mown during the summer months (April to September). Map 2 shows the access points and the footpaths which the route of the self-guided trail follows. All access points are controlled by wheelchair friendly kissing gates. There are four entrance points to Wallingford Castle Meadows – Cemetery Lane, Castle Gardens and two from the Thames path and. There is also one access point used by dog walkers climbing over the post and rail fence at the livestock corral off Castle Street into the upper meadows.

Public rights of way exist around most of the site. To the east, the Thames Path lies between the river and the lower meadows. This strip is owned and administered by Oxfordshire County Council. To the north, the cemetery lane track becomes a footpath linking to the river. To the west is Castle Street, and part of the southern boundary adjoins Castle Lane, beyond which are the Castle Gardens owned and opened to the public by Wallingford Town Council. The nearest appropriate car parking is within Riverside Park on the other bank of the Thames.

From 2005 to 2014 a gate counter was installed at the Cemetery Lane entrance and a second installed at the Castle Gardens entrance from 2008 to 2014. These allowed a more accurate picture of the numbers of people using the site to be established. Visitor numbers were used during that time to measure of the success of the site and its importance to the local community; they were also an important tool in justifying the initial investment in the site. The gate counter technology became obsolete and was removed in 2014. Since then it has been felt that annual visitor numbers were reasonably consistent. However if visitor numbers/pressure appears anecdotally to have changed then the need for new people counters at the entrances into Wallingford Castle Meadows would be re-visited. Following some additional funding through the Earth Trust's Gateway Project, and the anecdotal impression that visitor pressure has increased on site, not in least due to the Covid-19 Pandemic during 2020, a new updated people counter is to be installed at the Cemetery Lane entranceway in February 2021. This will be monitored on a monthly basis and will provide valuable information on site use. As this new data is collected it will be available as an appendix to this management plan.

In designing the access points to the site all reasonable steps have been taken to ensure there are no physical barriers to prevent disabled people from accessing the site. All entrances have wheelchair friendly kissing gates and interpretation panels have been positioned to allow viewing by people in

wheelchairs. Inevitably with a site of this nature it is not possible to make the whole site completely accessible due to the topography and ground conditions. Nor would it be possible to make such adjustments due to the sensitive nature of the Scheduled Ancient Monument and the flooding which often occurs across much of the lower part of the site. We believe that we have made all reasonable adjustments to the site which would allow it to comply with the Disability Discrimination Act (DDA). A slightly amended and fully accessible alternative to the self-guided trail route is available to download from the Earth Trust website.

In order to further audit access provision and the wider provision of services on site the Disabled Ramblers were contracted to provide a report with recommendations for ways in which access to the site could be improved. A summary of the report and its recommendations can be found in Appendix 2. The findings of this report have been prioritised and the recommendations have now been implemented.

In October 2008 the Council completed an Equality Impact Assessment (EIA) of the Countryside Service. The EIA covered issues such as race, gender, sexual orientation, disability, age and religious belief and was particularly focused on the use of the council's countryside sites which include Wallingford Castle Meadows as the largest single site. The EIA found no significant issues that affected access to the site for any of the equality issues considered. A number of minor recommendations have been made and these have been implemented. A copy of the recommendations resulting from the EIA is available in Appendix 2.

Visitor surveys

The site is well used by residents of Wallingford and many are also visitors to the town. From 2002 to 2009 an annual visitor survey was carried out, and then from 2009 to 2014 a bi-annual survey was carried out. Since 2015 it was felt that visitor surveys were no longer needed as regularly as biannual and would be carried out every 5 years. The next visitor survey was due in 2020 but due to the Covid-19 Pandemic it was postponed until further notice. The visitor surveys are used to find out more about people using the site, where they travelled from and asking for their comments and suggestions on site management. The results of the past surveys helped us to make improvements to the 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.

Visitor composition

The site receives around 35,000 visits a year, the majority of visitors are locals from Wallingford, who walk to the site to either enjoy a stroll or specifically to walk their dogs; generally less than a quarter of visitors arrive by car. Most visit either daily or several times a week although, as the survey was undertaken in the summer, it does include people visiting the site for the first time (presumably tourists). Visitors are usually dog walkers, whilst families or groups of young people make up a smaller proportion of visitor numbers.

General attractiveness

Regular litter picks are carried out at Wallingford Castle Meadows. All interpretation panels are checked and cleaned regularly. A dog bin is provided for people convenience at the Cemetery Lane entrance into the site. Permissive footpaths are mown between April and September.

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. bridge and Anglo-Saxon “burh” ramparts).
 - Two impressive remaining pieces of masonry (plus more within Castle Gardens).
 - Potential for a good range of quality habitats on the site.
- Constraints
 - Lack of survey information on parts of the site outside the SAM. Lack of original maps of phases of the castle’s use.
 - Very limited visible remains of the castle.
 - Some forms of interpretation could be visually intrusive and conflict with the landscape and setting.
 - Vandalism to expensive interpretation panels, etc.

4.6.4. Management Activities

Visitor enjoyment at Wallingford Castle Meadows is managed by:

- **Provide information for visitors**

Interpretation boards

SODC and Earth Trust recognise that visitors require some key information when they arrive at a site, and that they appreciate learning about the reserve, its history and its wildlife during their visit. Interpretation boards provide an accessible means to provide both information and interpretation, which is available to visitors whenever they visit.

Information gathered during research into the history and archaeology of the Wallingford Castle Meadows site is only valuable if it is used to inform both the management of the site and the visiting public. Therefore, there should 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 Wallingford Castle Meadows, the majority of visitors will:

- Be able to navigate around the site using orientation devices
- Know that one of the largest, strongest, royal castles in Britain once stood here
- Understand that the site has over 1,000 years of history of people using it
- Understand that the site and its habitats (meadows, pond, ditches, etc.) are managed for wildlife, the scheduled ancient monument and the public in a fine balance

- Know that Wallingford Castle Meadows is owned by SODC and managed by the Earth Trust following a management plan (which is available on request)
- Understand that Wallingford Castle Meadows is a part of the castle site, and ties in with Castle Gardens and the rest of Wallingford Town
- 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 climb on the standing remains, dig holes, bicycle, set fires, litter, allow their dogs to foul on the site
- Want to visit the site again

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. Vegetative growth will be regularly cut back so that access to the signs is not impeded. Signs should be regularly wiped with a cloth (and detergent if necessary) in order to keep them in good order.

Self-guided walk leaflet

Where appropriate, SODC/Earth Trust will provide self-guided walk leaflets with navigational and interpretive information. Maps will have all access points clearly marked. As with the interpretation panels there should 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 self-guided walk leaflet of the site organised in conjunction with partners such as the Wallingford Museum.

The leaflet should be visually attractive, lively and engaging. Leaflets will be available on site in unlocked dispensers, as well as via the Wildlife Information Service. When leaflet stocks are low, the relevance and usefulness of the leaflet will be reviewed.

Maintain the network of volunteer wardens

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.

– Providing facilities for visitors

Maintain Access Points

This covers all access points to the site, both internal and external, including all gates, stiles, and dipping platforms.

Access to Wallingford Castle Meadows should all be implemented according to the BT Countryside for All Accessibility Standards. This information is summarised in the "Guidelines for Access" document. This document provides standard specification for types of access used and the correct dimensions. Current access points may not achieve the required standards, however if, and when, they are to be replaced, upgrading should be considered if it is appropriate.

Vehicle access points should be large enough to accommodate vehicles, trailers or machinery that may require access in the future and take into account how the vehicle may have to turn on entering or exiting the reserve.

Access points are checked and maintained. For example:

- gates are adjusted if they drop
- overhanging vegetation is cleared back
- any unsafe trees are removed
- replacing damaged or rotten visitor furniture, e.g. gates etc.

Maintain Visitor Furniture

SODC and Earth Trust recognise that the provision of furniture can greatly enhance the visitor experience. To this end we will endeavour to provide benches at vantage points and where it does not conflict with conservation aims or aesthetic enjoyment. Furniture will be selected to be in keeping with the look and feel of the site and the Wallingford Conservation Area so that it complements the visitor experience there. The area around such furniture will be kept clear of overhanging vegetation, and the furniture itself will be regularly checked for soundness. Unsound furniture will be removed, and replaced as resources allow.

Maintain Open Permissive Paths

Wallingford Castle Meadows has a series of mown permissive paths. A permissive path is not a legal right of way but a path which the landowner is permitting the public to use. Therefore it is generally not subject to rights of way law. However SODC and Earth Trust aim to maintain them to the same standards, where appropriate given the scheduled ancient monument and rural character of the site.

Site risk assessment

Site risk assessments should be completed on a regular basis, at a minimum of every six months and included an audit of the sites infrastructure (please also see section 5. Legal responsibilities and Obligations). The audit is also used to make recommendations to improve the experience of all visitors; regardless of their age or ability; for example by suggesting changing stiles to gates, highlighting problems visitor furniture and checking interpretation boards are still up to date.

4.7. Community Engagement

4.7.1. Strategy status

Wallingford Castle Meadows is considered to be "natural" by most of the visiting public. However, the landscape of the Castle Meadows has been shaped over hundreds of years as a result of human intervention and management. The site is managed for informal recreation consistent with the proper preservation and interpretation of Wallingford Castle Scheduled Ancient Monument and other historical landscape features, and the conservation and enhancement of wildlife.

The main objectives of management are to:

- Preserve the historic remains and buried archaeology of Wallingford Castle
- Promote nature conservation
- Provide informal public access and enjoyment

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

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

In addition, it indirectly contributes to the Council's strategic objective to maintain and improve the economy by helping to boost the local tourist industry.

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 WCM fits with SODC's and Earth Trust's strategic objectives it is crucial the site is used to engage with the visiting communities. There are a variety of ways that Earth Trust can engage with the community and our nature reserves (particularly Community Nature Reserves) play an important role. In order to understand and appreciate the natural green spaces, people need access to it (physical, emotional and intellectual) and clearly nature reserves can provide such a function. If a positive experience is had whilst visiting nature reserves (whether informal or through events, school visits, arts projects), people will be more likely to return to the site, may take action for wildlife, become members and change their ideology. In turn, this will impact on lifestyle choices resulting in greater protection of the natural world.

Wallingford Castle Meadows is within a centre of population (Wallingford) with easy access from neighbouring houses and the Thames footpath to the site. Vehicles can be parked on a nearby street (Cemetery Lane). There are schools nearby. Although some of the site is on a hill and therefore inaccessible to some users, part of the site is flat and paths are mown to make them more accessible. It is a site which is regularly used by dog walkers and families. There is a need for practical work to maintain the wooded areas, pond/scrapes, ditches and paths. The site is able to cope with public pressure, providing access by the public for quiet enjoyment, without detriment to the site's biological and historical value or risk to the visitors.

Wallingford Castle Meadows has an active community group, Wallingford Green Gym who understand the importance of the site archaeologically 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

Wallingford Castle 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, a small amount of litter being dropped and dog fouling.

Barriers to Engagement

There are a number of barriers which may stop people engaging with a place or group of people. Common barriers to visiting the outdoors include: a lack of convenient and accessible public transport, difficulties finding/getting around the place, lack of accessible toilets, lack of seating or rest places, a lack of accessible information. Such issues are addressed under the Visitor Enjoyment Feature.

However, barriers to engagement are not restricted to such physical or intellectual barriers. As mentioned elsewhere, 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/group as being relevant to them.

Community work at Wallingford Castle Meadows aims to identify, understand and reduce such barriers. We will work to develop an inclusive culture providing opportunities for people to get involved.

Most of our Community Nature Reserves are surrounded by housing. At the very least there is a centre of population near to the site. Community Nature Reserves provide a focus for a variety of community engagement activities, through which we can communicate our messages about the importance of the natural world and encourage 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 events at Wallingford Castle 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.

The site will continue to provide a quality educational resource for local schools:

- Enormous opportunities offered by the site for national and local history studies.
- Excellent potential for use in geography and science sectors of National Curriculum.

- Four schools within walking distance many more within easy reach.

Over the first management plan periods the site has been used for educational purposes on an infrequent basis by local historians and Wallingford School but the potential for this type of use has not been fully explored. Further efforts are being made to increase the site's educational uses and an Engagement Strategy review is currently underway. A copy of this strategy will be available in an appendix once it has been approved by the Trustee's and adopted by the Trust.

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, so that:

- The existing earthworks and fabric are researched and interpreted to visitors in an informed and interesting way
- The disposition of the structures within the various stages of the castle's evolution is better understood
- Any structures remaining on the lower floodplain meadows are identified, appropriately managed and interpreted

Carry out a programme of events

It is important that after an event people leave feeling inspired about what they have seen or done and with a favourable impression of Earth Trust, so they have a desire to engage with the organisation further or visit a site again. In order to achieve this, an event needs to connect with a visitors heart, head and hands. There should have an emotional experience (heart), learn something new (head) and be given an opportunity to do something about what they have just learnt (hands). This is a concept taken from Earth Education.

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 wonders of the site. 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 and find out about what makes the place special. The activities should be spread around the nature reserve, to encourage people to move around the site and feel confident doing so on a subsequent visit. 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 Wallingford Castle Meadow's include guided walks (staff or volunteer led) 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 Museum or both together. Other recent community events have included:

- bug hunting and bug hotel building arranged for the cubs and brownies

- pond dipping arranged for the cubs and brownies
- Night Safari's arranged for families (includes checking small mammal traps, using bat detectors, and checking moth traps)

Wildlife Wednesday's, Night Safari's and history guided walks are being held at least twice each annually at the site.

Establish/maintain good relationships with neighbours

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

Regular updates for the Meadows Advisory Group

See section 3.5: Associated Groups, for further details.

5. Legal Responsibilities and Obligations

5.1. The legal responsibilities and obligations at Wallingford Castle Meadows

Ancient Monuments and Archaeological Areas Act 1979

Much of the site (Areas U1, U2 and U4, as shown on Map 3) is designated as a Scheduled Ancient Monument. Scheduled Monument Consent (granted by the Department for Media, Culture and Sport following recommendations from Historic England) is needed for any works that would affect the archaeological deposits on the site. The standing fragments of castle wall at SU 6102 8971 and SU 6096 8978 are also listed as Grade I buildings. Scheduled Monument Consent takes precedence over Listed Building Consent and therefore it is the former that would be required for any works (including repair) to their fabric.

Certain procedures also exist for 'emergency' works (e.g. to protect public safety). There is an obligation to address the repair needs of the masonry fragments and consequently to seek guidance from Historic England at an early stage. It should be noted that any repair works (particularly of an extensive nature) would need to be preceded by a programme of archaeological recording.

Listed Buildings

In addition to the masonry fragments referred to above, the walls, gates, lodge and chapels of Wallingford Cemetery (not within the Wallingford Castle Meadows, but abutting compartment U3) are Grade II listed buildings. It may be necessary to carry out repairs to the cemetery walls. Any such repairs should be carried out in accordance with their listed status. Work/development affecting the 'setting' of any of the listed buildings would need to ensure the preservation of their 'setting' [Planning (Listed Buildings and Conservation Areas) Act 1990].

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 WCM:

- | | |
|---------------|---------|
| – water vole | – bats |
| – common frog | – otter |
| – common toad | |

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 Land Registry Transfer document dated 31st March 1999 imposes certain restrictive covenants on the land acquired by South Oxfordshire District Council. Most of these are of minor significance given the use of the site.

Castle Park (Wallingford) Company Limited¹ reserve the right of access to their retained land and Thameside Mansions with or without vehicles in case of emergency or if access via Castle Lane is impassable, along the track from the end of Cemetery Lane, shown "A" - "B" on Map 3, or along such other route agreed between both parties. Except in cases of emergency, 48hrs notice is required before entry, and all damage occasioned by the exercise of the right of access will be made good. The track referred to, is mainly within compartment U3, and to the south, forms the division between U2/U1 and U5/U4.

The District Council assumes responsibility for all boundaries of the site.

A local land charge or planning obligation dated 26th November 1996¹, originally between Edward Ryall and SODC, is in force, prohibiting '*any building structure, erection or hardstanding of any kind whether temporary or permanent . . . to be constructed placed or erected on the land.*' This

obligation is now of no effect, as the Council as Local Planning Authority cannot take action against itself as landowner.

¹ FPD Savills, Black Horse House, 5 Wallbrook Court, North Hinksey Lane, Botley, Oxford, OX2 0QS (managing agent).

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 current

The Wallingford Castle 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 4. 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. In extreme circumstances the site can be closed until the problem is rectified. 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 Wallingford Castle 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 Wallingford Castle Meadows are Hereford 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

Wallingford Castle Meadows 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
- HB14 – Management of ditches of very high environmental value.
- HK6 – Maintenance of species rich, semi natural grassland.
- HK15 – Maintenance of grassland for target features.

Details of the management requirements for these 4 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 has also been agreed and are likely to be added to over the course of the plan, 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 (UK Habitats Regulations 2017)

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

Wallingford Castle 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. As a membership organization, a good public profile for Earth Trust is important, especially in the local communities where our sites are situated. Our neighbours may have a positive role in advocating the Trust amongst their friends and peer groups if they have a good experience of our activities, and this will only happen if they are aware of our actions and the motivations behind them. Good communication of our objectives may also help to protect nature reserves, 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 and Historic England

Earth Trust must liaise with Natural England (NE) to gain consent for any other operations on HLS registered compartments at Wallingford Castle 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 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 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.

Earth Trust must also liaise with Historic England (HE) for works or activities that may impact of the Scheduled Ancient Monument areas at Wallingford Castle Meadows. Provisions of the Ancient Monuments and Archaeological Areas Act 1979 (as amended) ('the 1979 Act'), which is the legal framework for the protection of scheduled monuments. This outlines any works that will affect a scheduled monument, whether above or below ground level, where we must apply to the Secretary of State for prior written permission. This is known as Scheduled Monument Consent (SMC). 'Works' are defined by section 2(2) of the 1979 Act as:

- Any works resulting in the demolition or destruction of or any damage to a scheduled monument;
- Any works for the purpose of removing or repairing a scheduled monument or any part of it or of making any alterations or additions thereto; and
- Any flooding or tipping operations on land in, on or under which there is a scheduled monument.

The relevant contact at HE must be contacted in order to gain consent. In certain circumstances it will not be possible to consent these operations, because they would damage the features of interest. Where possible, HE will suggest alternative ways in which you may proceed, which would enable consent to be issued. To proceed without an SMC may constitute an offence.

The Historic England contact for Wallingford Castle Meadows Pit is based in the South East Team.

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 Wallingford Castle 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 Sustainable 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 and areas around the standing remains. 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 2500 trees and hedgerow plants over the last 18 years will help to offset remaining impacts.

6.4 Waste Management

No litter bins are provided on site. This is a deliberate stance to encourage site users to act responsibly and take their litter home to recycle it. Experience over the last 18 years suggests that this policy works very well as the level of littering is 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 Cemetery 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 King's Meadow and Queen's Arbour are licensable where they are within a certain distance of the banks.

The site has suffered from infestations of certain weeds (mainly ragwort and 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 it has been accepted that the only effective way to control the infestations involves limited/targeted application of herbicides together with continued manual control. Derogations have been granted 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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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
U1	Upper meadows	Use temporary electric fencing to prevent cattle from poaching the wetland area in the moat	A	As required in wet weather. Cattle one site from April to November. Normally moat only hold water during Jan-April.				✓	✓	✓	✓	✓	✓	✓	✓	
U1 – U3	Upper meadows	Reduce/remove bramble patches (near Castle Gardens & by Cemetery Wall)	A	Cut using brushcutter/hand tools and remove brash or burn on burn platform.	✓	✓								✓	✓	✓
U1 - U4	Upper meadows	HLS HK6 & HK15: Hand pull ragwort & thistles	HLS					✓	✓	✓	✓	✓				
U1 - U4	Upper meadows	HLS HK6: Graze between May and November	HLS	Aiming for sward height 5cm - 10cm in Nov - external grazier Andrew Townsend				✓	✓	✓	✓	✓	✓	✓	✓	
U2, U3, L2	Entrances	Erect cattle grazing signs as required when cattle on site		If Bull on site – Bull specific sign must be used.				✓	✓	✓	✓	✓	✓	✓	✓	
U1 & U4	SAM	<i>Control vegetation inside fenced areas around standing remains to provide a managed "cared for" appearance.</i>	<i>SODC</i>	<i>Once a month. Use same contractor for mowing paths</i>				✓	✓	✓	✓	✓	✓			
U1 – U6	Upper meadows	Replace waymarkers as/when required	O	Oak markers number 1 – 7 for self-guided walk	As necessary											

U1 – U6	Upper meadows	HLS HK6 & HK15: Cull rabbits and moles as required.	HLS	Periodically as required to prevent development of burrows. Control carried out over winter	✓	✓									✓	✓	✓
U3	Cemetery Lane	Hedge management	A	Trim/cut hedgerow to facilitate pedestrian access	✓	✓									✓	✓	✓
<i>U3</i>	<i>Upper meadow</i>	<i>Empty dog bin – Cemetery Lane</i>	<i>SODC</i>	<i>SODC sub-contractor; every Tuesday</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
U5	Pond	Cut 1/3 vegetation pond periphery x2/yr to maintain formal area.	A	Strimming twice a year (the western side) to provide a more formal area consistent with the original Victorian planting.		✓							✓				
U5	Pond	Cut and loosely shape honeysuckle hedge in pond area	A	To provide a more formal area consistent with the original Victorian planting.	✓	✓								✓	✓	✓	
U5	Pond	Maintain footpath, steps and pond dipping platform in pond area	A	Hard-core/woodchip for surface of footpath; wood/recycled plastic for steps													
U5	Pond	Remove invasive species from pond as required	A	As required – currently none present.				✓	✓	✓	✓	✓	✓				
U5	Pond	Erect additional temporary signs warning if/when paths underwater.	A	As required	As required												
U6	BMS transect route	Cut vegetation in transect section 8.	A	As required during Butterfly transect season				✓	✓	✓	✓	✓	✓				
U3 & U6	Wooded spinneys	Tree growth is monitored and when the planted trees are large enough the tree guards will be removed and recycled, and some rotational thinning		In the small triangle at northern end of U3 and in the mixed deciduous spinney in U6	✓	✓									✓	✓	✓
	Ditches	HLS HB14: Cut soft vegetation in ditch banks. Cut emergent and aquatic vegetation also.	HLS	Three year rotation. Only one bank in any year. Remove cuttings from edge of ditch. Emergent/aquatic veg - retain a fringe on both sides	✓	✓									✓	✓	✓

	Ditches	HLS HB14: Maintain un-shaded areas along ditch banks by rotational coppicing of scrub on ditch banks.	HLS	Three year rotation. Only one bank in any year. Remove cuttings from edge of ditch, stump treatment (where suitable).	✓	✓										✓	✓	✓
	Ditch	Maintain function of culvert by adjusting sluice pipe in ditch between QA & KM		Allowing water to remain in ditches for as long as possible during summer, but then allowing water to drain quickly if needed especially during summer flooding events	As necessary													
	Ditches	HLS HB14: Remove invasive species	HLS	As necessary e.g. yellow/orange monkey flower. Himalayan Balsam					✓	✓	✓	✓	✓	✓				
L1	Queen's Arbour	HLS HK15: Graze and/or hay cut between May and November	HLS	Sward height 5cm - 10cm in Nov - external grazier Andrew Townsend. Hay cut end of June/July.				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L1	Queen's Arbour	HLS HK15: Cull rabbits and moles as required.	HLS	Periodically as required to prevent development of burrows. Control carried out over winter	✓	✓										✓	✓	✓
L2	Kings meadow	Graze and/or cut between May and November	A	Sward height 5cm - 10cm in Nov - external grazier Andrew Townsend				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
L2	Kings meadow	Hay cut during summer, at least 2 out of every 3 years		Carried out by grazier – Andrew Townsend. End of June/July					✓	✓								
L1-L2	Lower meadows	Weed control	A	E.g. Thistles, ragwort, docks. Hand pull				✓	✓	✓	✓	✓	✓	✓				
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; approx. 2 fence lines a yr. Started with worst fences (Kings Meadow)	As necessary										
All cpts.	Whole site	Replace as necessary 7 interpretation panels; all 4 entrances, by Queens Apartments, Queen's Arbour and pond area.	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	Maintain and replace visitor furniture	C	Replacing damaged or rotten visitor furniture, e.g. benches.	As necessary										
		Check water meter - outside corral by Upper Meadows	C	Every quarter – email to SODC.	✓			✓			✓		✓		✓
All cpts.	Whole site	<i>Mow preferred paths</i>	<i>SODC</i>	<i>SODC sub-contractor</i>				✓	✓	✓	✓	✓	✓	✓	
All cpts.	Whole site	<i>Retain and manage parkland trees - Tree safety assessment</i>	<i>SODC</i>	<i>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.</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Whole site	<i>Monitor and maintain existing planting scheme</i>	<i>SODC</i>	<i>Although responsibility of SODC ET warden to liaise with SODC Tree Officer with any safety concerns.</i>	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		✓	✓			✓							✓	
	Scrapes, ditches, pond	Frogspawn survey	A				✓	✓									
U5	Pond area	Loddon lily survey	A				✓	✓									
	Ditches	Water vole survey	BBOWT	As part of the Water Vole Project	Next due 2020												
L1 & L2	Lower meadows	Survey otter holt for use	A	With suitably licensed otter worker present – winter is better.	✓	✓									✓	✓	✓
U5	Pond area	Snake's-head Fritillary count	A				✓	✓									
	SAM	Commission structure inspection	SODC	Organised through SODC - ET warden to notify of any safety concerns	Due every 5 yrs												
All cpts.	Whole site	Monitor standing deadwood by checking straps and stability of trunks	ET Warden & SODC	Although responsibility of SODC ET warden to liaise with SODC Tree Officer with any safety concerns.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

All cpts.	Whole site	Monitor health of new plantings, particularly in dry conditions	SODC	Although responsibility of SODC ET warden to liaise with SODC Tree Officer with concerns.						✓	✓	✓	✓	✓		
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											Due 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
	Online	Application for Green Flag & Heritage Nov-Jan.	A	Applications open in November and will close on the 31st January	✓										✓	✓
All cpts.	Whole site	Every other year formal judging— meet with judges for guided tour around site. Other year is a mystery shop year.		Formal judging ~ May/June last formal judging 2019. Receive notification for Green Flag and Green Heritage and put up new flag & posters etc. ~July					✓	✓	✓					
All cpts.	Whole site	Revise site management plan (5 yearly revision)			Next revision 2024											
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 Andy Townsend</i>	<i>SODC</i>	<i>Through SODC lawyers</i>		✓	✓									
All cpts.	Whole site	Monitor external events	C	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		✓		✓		✓	✓		✓			
U1, U2 & L1		Liaise with archaeologists and English Heritage/Natural England over any excavations planned	SAM	Buried Archaeology	As necessary											
	Whole site	Write 6 monthly reports for SODC and the Meadows Advisory Group (MAG)		January and July for SODC; March and September for MAG	✓		✓					✓		✓		