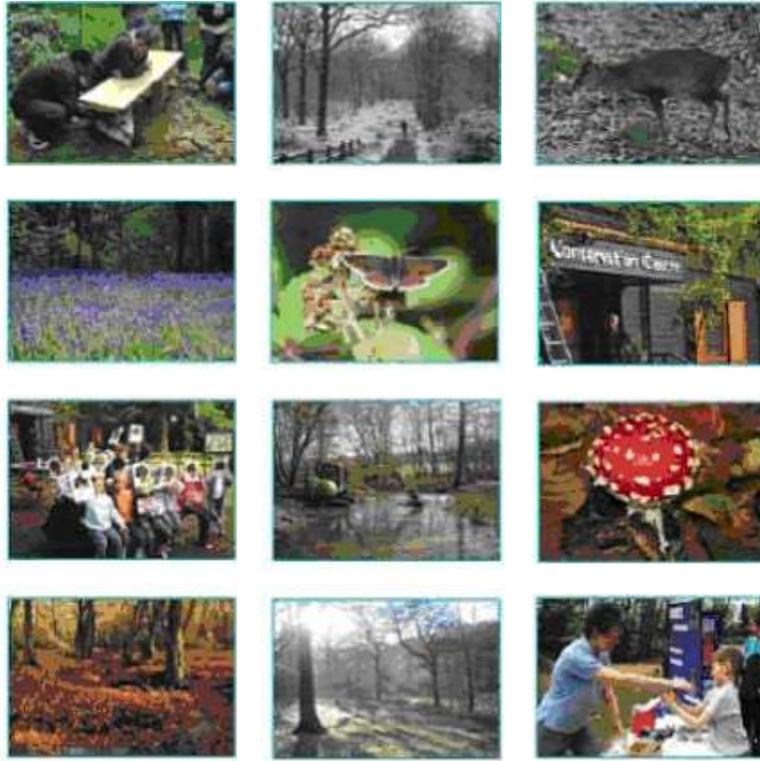


Appendix E

Parndon Wood Nature Reserve



Management & Maintenance Plan
2020-21



Contents Page

1 Parndon Wood Nature Reserve

1.1 Summary

1.2 Opening Hours

2.1 Introduction

2.2 Corporate Plan & Service Plans and Key Documents

2.3 Parndon Wood Management Plan

2.4 Parndon Wood Nature Reserve Management - Organisational Structure

3 A Welcoming Place

3.1 Welcome

3.2 Good and Safe Access

3.2.1 Vehicular Access

3.2.2 Public Transport

3.2.2.1 By Bus

3.2.2.2 By Train

3.2.3 Private Transport

3.2.3.1 By Cycle

3.2.3.2 By Road

3.3 Signage

3.4 Equal Access for All

4 Healthy, Safe and Secure

4.1 Appropriate Provision of Quality Facilities and Activities

4.1.1 Events and Activities

4.1.2 Parndon Wood Café

4.1.3 Volunteering

4.1.4 First Aid Provisions

4.1.5 Toilets

4.2 Safe Equipment and Facilities

4.3 Personal Security

4.3.1 CCTV

4.3.2 Police Liaison and Anti-Social Behaviour Tasking Groups

4.3.3 Safer Harlow Partnership

4.3.4 Neighbourhood Watch

4.3.5 Sight Lines and Feeling Safe in the Reserve

4.3.6 Uniformed Presence In and Around the Reserve

4.4 Control of Dogs/Dog Fouling

5 Well Maintained and Clean

5.1 Litter and Waste Management

5.1.1 Green Waste & Recycling

5.1.2 Recycled Materials

5.1.3 Recycling of Waste Paper, Cardboard, Plastics, Bottles and Cans

5.1.4 Litter Picking

5.2 Horticultural Maintenance

5.2.1 Tree Nursery and Seed Collection

5.3 Arboricultural Maintenance

5.3.1 HTS Tree Maintenance

5.3.2 Specialist Tree Services

5.3.3 Biosecurity

5.3.4 Coppicing

5.3.5 Tree Stock Replacement and Natural Regeneration

5.3.6 Deadwood

5.4 Building and Infrastructure Maintenance

5.4.1 Conservation Centre

5.4.2 Workshop Outbuildings & Bat Flight Cage

5.4.3 Hides on the Nature Trail

5.4.4 Tracks, Trails, Boardwalks & Bridges

6 Environmental Management

6.1 Managing Environmental Impact

6.1.1 Water Conservation

6.1.2 Petrol Use and Measures

6.1.3 Noise Pollution

6.2 Waste Minimisation

6.2.1 Firewood Production

6.2.2 Charcoal Production

6.2.3 Oak Timber

6.3 Chemical Use

6.4 Peat Use

6.5 Climate Change Adaption Strategies

6.5.1 Carbon Reduction

6.5.2 Tree Planting

6.5.3 Single-Use-Plastics

6.5.4 Timber, Firewood and Charcoal

7 Biodiversity, Landscape and Heritage

7.1 Management of Natural Features, Wild Fauna and Flora

7.1.1 Natural Features

7.1.2 Species Recording

7.1.3 Local Biodiversity Action Plan

7.1.4 Habitat Management

7.1.5 Woodland Management

7.1.6 Leaky Dams Scheme

7.1.7 Badger Project & Harlow Badger Group

7.1.8 Bat Flight Cage Project

7.1.9 ECCO Bee Hives Initiative at Parndon Wood Nature Reserve

7.2 Conservation of Landscape Features

7.2.1 Wider Landscape Features

7.2.2 Local Landscape Features

7.2.3 Heritage of Parndon Wood

7.3 Conservation of Buildings and Structures

8 Community Involvement

8.1 Community Involvement in Management and Development

8.1.1 Public Consultation

8.1.2 Harlow Biodiversity Partnership

8.1.3 Volunteering

8.1.4 Corporate Businesses

8.2 Appropriate Provision for Community

8.2.1 Forest Funtasia Project

8.2.2 School Visits

8.2.3 Events and Activities

8.2.4 Birthday Parties

9 Marketing and Communication

9.1 Marketing and Promotion

9.2 Appropriate Information Channels

9.2.1 Websites

9.2.2 Social Media

9.2.3 Newsletters and Articles

9.2.4 Staff

9.2.5 Signage

9.3 Appropriate Educational and Interpretational Information

9.3.1 School visits

9.3.2 Nature Themed Walks, Talks and Events

9.3.3 Healthy Activities

10 Implementation of Management Plan

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 1 Parndon Wood Trail and Features Map

Appendix 2 Coppice Plan for Parndon Wood 2013/14 to 2028/29

Appendix 3 Action Plans 2018 to 2025

Appendix 4 Ripple Tank Diagram for Saw Housing

Appendix 5 Retort Charcoal Kiln RTS1000 Specification

Appendix 6 Species Records

Appendix 7 Parndon Wood 1946 Map

Appendix 8 Tools Inventory

Additional information available electronically prior to judging or made available on the day of judging upon prior request include:

SSSI Management Plan 2014 to 2019

User Manuals for Site Machinery

Vehicle Log Book

Risk Assessments and Hand Arm Vibration (HAVS) Records

ECCO and Harlow Council Partnership and Biodiversity Partnership Minutes of Meetings

1 Parndon Wood Nature Reserve

1.1 Summary

Parndon Wood Nature Reserve – a place for nature and people

Parndon Wood is a very special place to the people of Harlow who greatly value its importance in their community. It is a Site of Special Scientific Interest (as part of Harlow Woods SSSI which also includes Hospital & Risden Wood) and was declared a Local Nature Reserve in recognition of its biodiversity value and its importance as a centre of excellence for education, recreation and awareness raising of the value of the natural environment in Harlow.



Harlow Council recognizes the importance of Biodiversity and a Clean, Safe and Sustainable Environment is one of its key corporate priorities. Parndon Wood reflects these core values, is well managed and strives to be innovative, providing a value for money, enabling it to meet its management plan objectives.

The Nature Reserve has created a sense of place that is accessible, healthy, safe and secure for its visitors and volunteers. It provides a good range of facilities that creates the perfect natural environment by finding a balance between nature and people, biodiversity and recreation.

Parndon Wood promotes environmental sustainability and seeks to make use of its natural resources. This is reflected in its sustainable management practices and use of its wood products in greenspace improvements throughout Harlow.



Photos showing a variety of greenspace improvements across Harlow made possible with sustainably sourced oak from Parndon Wood Nature Reserve

In managing the SSSI we recognize the importance of its conservation value and link traditional woodland management practices with its future management objectives. Harlow prides itself on its community spirit and public involvement. This is reflected in its user forums, range of volunteer groups and activities that take place at Parndon Wood.



Photo showing Greenteam Volunteers taking a break during a work party

Parndon Wood is close to the edge of Harlow's built up area with its population of 85,500 and fairly high density urban housing development. It is greatly valued by the community for informal visits, by schools which use it to support national curriculum studies, and for the special events which are held throughout the year, for example to demonstrate woodland crafts, painting and woodcarving weekends. We also offer discussion meetings about local wildlife issues, and volunteer conservation work parties.

Set on the southern outskirts of Harlow, Parndon Wood has been recorded as woodland for at least 900 years and therefore can be termed as "ancient woodland". The site was bought by Harlow Council in 1968 to be turned into a Local Nature Reserve and in 1996, the reserve was also designated a Special Site for Scientific Interest (SSSI) because of the specific biological features; due to its woodland composition of a canopy of oak tree standards with hornbeam coppice growing beneath and its value as an educational resource.

Traditionally a coppice with standards woodland, with hornbeam being coppiced on a minimum 15 year cycle for the charcoal and firewood industry and oak being thinned and felled to make use of the timber. This practice is still carried out, though now with the primary objective to keep a diversity of habitats within the woodland and increase the number of species of flora and fauna to be found. This will ensure the health and diversity of the woodland and for the enjoyment of many generations to come.



Photos of coppice stool regeneration, showing dormant buds springing into life in the spring following cutting and subsequent regrowth in year 2 and 30 years growth

The reserve is a haven for flora, fungi, birds, invertebrates, small and large mammals. It is a beautiful and peaceful place to wander whether on your own, with family, friends and visitors are more than welcome! You can follow a guided trail with points of interest and things to look out for or just enjoy the surroundings. There are observation hides to sit quietly and watch for wildlife throughout the nature reserve.



The Fazackerley Hide overlooks the main pond

The trail is a wide, well-marked path with gentle inclines, though some may struggle during months when the ground is soft. A fully accessible boardwalk and hide overlooks our pond and dipping platform, a short distance from the conservation centre with toilets, meeting room, exhibition room, displays and a reference library for those who wish to know more. See Appendix 1 Parndon Wood Trail and Features Map.

1.2 Opening Hours:

Parndon Wood opening hours are as follows:

Winter – October to April:

Monday – Closed

Tuesday – Closed

Wednesday – 11-4

Thursday – 12-7

Friday – 11-4

Saturday – 9-4

Sunday – 11-4

(Bank Holidays 11am – 4pm)

Summer – April to October:

Monday – Closed

Tuesday – Closed

Wednesday – 11-4

Thursday – 2-9

Friday – 11-4

Saturday – 9-4

Sunday – 11-4

(Bank Holidays 11am – 4pm)

Other times can be arranged by appointment for community groups, school visits and private events.

For further information on Parndon Wood opening hours, events and activities, visitors can call Parndon Wood Nature Reserve on 01279 430005 or view the ECCO website:

<https://ecco.org.uk/home/parndon-wood/>

Harlow Council website:

<https://www.harlow.gov.uk/> and search for Parndon Wood.

2 Introduction

2.1 Introduction

The main aim of this management plan is to provide a framework with which to guide the continuing development of Parndon Wood Nature Reserve, fulfilling its role in supporting access to the natural environment for residents and visitors.

It seeks to portray the development of the nature reserve and the strategies employed to ensure the wants and needs of all users are addressed. All aspects of the nature reserve are covered within this working document.

Situated on the southwest edge of Harlow bordering Epping, Parndon Wood Nature Reserve is accessed at the end of Parndon Wood Road 100 metres past the entrance to the Parndon Wood Crematorium. See location plan in section 3.2.

Parndon Wood Nature Reserve covers 22ha and is part of the wider Harlow Woods SSSI which was designated in 1996. In October 2010 its designation was revised from Unfavourable Recovering to Favourable Condition. The designation links the adjacent Hospital & Risdon Wood. The combined woodland area covers 54.1ha. The wood is designated because of its status as ancient woodland and is managed as hornbeam coppice with oak standards.

Parndon Wood Nature Reserve also forms part of the wider Parndon Woods and Common Local Nature Reserve that was declared a Local Nature Reserve in July 2004. The wider nature reserve designation includes Parndon Common, a neutral grassland which links the two woodlands together.

2.1.2 Harlow's Population Demographic Profile

Harlow is currently estimated to have a population of 85,500. In population terms the scale of planned dwelling growth delivers around a 50% increase in population to 120,000 by 2033 from 2011 levels, and by approximately 66% by completion. Total population will be in the order of 135,000 persons. This will transform Harlow to a place of similar scale to Ipswich or Norwich at the current time, larger than places such as Cambridge, Gloucester or Exeter.

Harlow is a multi-cultural community with black and ethnic minorities estimated to account for 12% of the population. 2.5% of the total population are classified as "White: Other White", which includes European and East European ethnic groups, and 1,100 persons are classified as "White Irish". Non-white ethnic groups make up around 8% of the Harlow population, with the largest non-white ethnic minority groups being "Asian", or "Asian British Indian", and "Black" or "Black British African".

2.2 Corporate Plan & Service Plans and Key Documents

The Harlow Council Corporate Plan sets out its vision for a Clean, Safe & Sustainable Environment. The Corporate Plan is supported by the Service Plan for Regulation Services under which Parndon Wood Nature Reserve is managed.

Core policy documents are set out in the Corporate Green Spaces Strategy and the Corporate Sustainability Strategy. A precursor to these strategies is the Council's policy for "Biodiversity in Harlow" which was set out in a Committee Report in January 2003.

Key supporting documents to the Parndon Wood Management & Maintenance Plan are: Harlow Woods SSSI Management & Maintenance Plan 2014-2019 (available electronically prior to judging or made available on the day of judging upon prior request) and the Parndon Wood Work Action Plans 2018-2025 - see Appendix 3.

2.3 Parndon Wood Management Plan

In the Harlow Council Green Spaces Strategy the aim is to maintain, develop and promote the Parks and Open Spaces in their care for the maximum benefit of residents and visitors of Harlow.

It also aims to realise the maximum environmental and recreational potential of its nature reserves and open spaces. An individual set of management plans is necessary for Parndon Wood Nature Reserve firstly to meet its statutory obligations as a Site of Special Scientific Interest but also to support its wider aims of education and creating awareness of biodiversity for the following reasons:

- To balance the wants and needs of all reserve users
- To continue the biodiversity excellence exhibited within the reserve
- To continue with the development of environmental and wildlife areas within reserve
- To ensure the conservation of heritage and nature within the reserve
- The location of the reserve and its popularity already present issues between different user groups

This document provides a framework for continued development and regeneration of the nature reserve to maximize its potential for the future. This Management Plan aims to provide a safe environment for our users, by taking positive steps with the local community to ensure a safe place and one that provides a variety of interesting facilities, access and utilities. It further aims to discourage vandalism and anti-social behaviour, to identify the reasons behind vandalism in the nature reserve and identify particular needs and projects that could deter vandalism.

Throughout the plan recommendations are made on ways to develop the nature reserve in keeping with the Management Plan for Harlow Woods SSSI 2014-2019.

The Management Plan for Harlow Woods SSSI is a separate document purposely written to meet the statutory requirements of Natural England to improve the legal designation of the SSSI to Unfavourable Recovering as part of the longer term aim to reach a favourable condition for the SSSI. This was achieved in 2010.

2.4 Parndon Wood Nature Reserve Management - Organisational Structure

Parndon Wood Nature Reserve is managed by the Senior Biodiversity Officer in conjunction with ECCO, who manage the Conservation Centre and events.

To coordinate the day to day management of the nature reserve the Senior Biodiversity Officer leads the Biodiversity Team, which includes the Wildlife Sites Assistant. The previous post of Landscape and Biodiversity Officer was reviewed in 2018 following the sad passing of the Landscape and Biodiversity Manager, to focus on the biodiversity and landscape remits separately. A new post of Senior Landscape Officer has been created to reflect this. The Landscape Officer focuses on Environment Service Improvement Team and Landscape issues in Harlow, separated from the management of Parndon Wood Nature Reserve and other areas of biodiversity importance.

From 1st April 2012 the Conservation Centre Events and Activities was outsourced to an external partnership with ECCO. The previous Council post of nature reserve Warden and Project Officer was replaced by the post of Conservation Centre Manager (ECCO).

Additional grounds maintenance services are provided by HTS, a service partner of Harlow Council. This involves tree safety surveying and emergency tree safety operations at Parndon Wood Nature Reserve only. Additional external services are provided by Initial Plc and ADT Security who are contracted by ECCO.

The lead officers are:

Michael Pitt – Environment & Licensing Manager HDC

Patrick Bailly – Senior Biodiversity Officer HDC

Lenny Collins - Wildlife Sites Assistant HDC

Sean Folan – Chief Executive Officer ECCO

Ezra Folan – Conservation Centre Manager ECCO

Councillor Danny Purton is now the Portfolio holder for Environment in the Executive Cabinet.



Ezra Folan



Patrick Bailly



Lenny Collins

3 A Welcoming Place

3.1 Welcome

Parndon Wood Nature Reserve has a wide and varied user base, with people from all sections of the community using the reserve. The reserve is visited and used by visitors outside of Harlow. However, by far the greatest users of the facilities are Harlow residents. The primary objective is to ensure Parndon Wood Nature Reserve is a welcoming place for all and encourages the widest possible range of users to learn and enjoy.

In September 2016, a new trail was opened and named the Travell Trail after the Conservation Centre Manager, Josey Travell when she left her role to go travelling with her partner. The new trail features a footbridge and two benches built sustainably using oak milled from within the reserve.



3.2 Good and Safe Access

3.2.1 Vehicular Access

When Harlow was being planned car ownership was included within the design with provision made for cars. Few could have foreseen the increase in car ownership that would accompany the growing standard of living. The good reputation that Parndon Wood Nature Reserve has acquired as a venue for public recreation over the years has given rise to ever increasing numbers of visitors. This, in itself, is a measure of the success of the reserve as a public amenity, therefore resulting in a dramatic rise in the number of cars bringing visitors. Parking facilities are provided outside of the reserve entrance on Parndon Wood Road with a disabled parking space provided.

3.2.2 Public Transport

3.2.2.1 By Bus

Parndon Wood Nature Reserve is located 3 miles from Harlow Town Centre. There are bus routes currently operated by Arriva and First Bus that visitors can use to gain access within walking distance of the reserve. Services operating along Paringdon Road are the bus number 2, 3 and 7. All services operate regularly throughout the week allowing easy access to the reserve for those wishing to use public transport.

www.arrivabus.co.uk www.firstgroup.com

3.2.2.2 By Train

Parndon Wood Nature Reserve is 4 miles from Harlow Town station. Harlow Town is on the London Liverpool Street to Cambridge & Stansted lines. Buses from the station link to Harlow Town Centre by Terminus Street Station from where bus services can be taken to Paringdon Road.

<https://www.greateranglia.co.uk>

3.2.3 Private Transport

3.2.3.1 By Cycle

Harlow is well served by a network of cycleways including the Sustrans Route 1 national cycle route. Parndon Wood Nature Reserve is connected to Harlow's extensive cycle ways making it easily accessible for bike users. Inside the entrance gate a cycle rack has been sited to enable cyclists to secure their bikes whilst using the reserve.



<https://www.harlow.gov.uk/sites/default/files/documents/Harlow%20cycle%20track%20map.pdf>

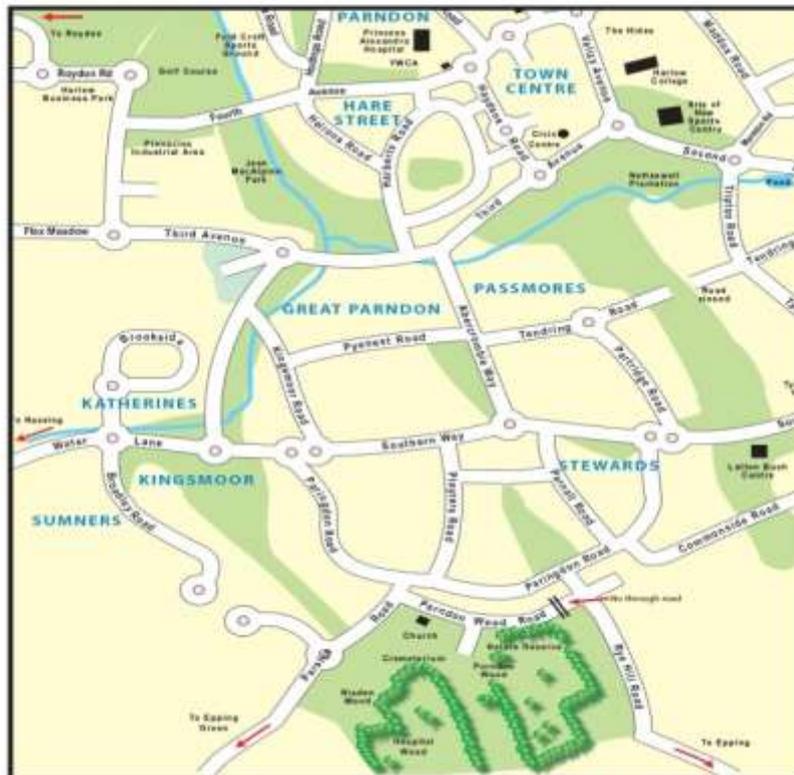
3.2.3.2 By Road

Parndon Wood Nature Reserve is easily accessible by road, with car parking available outside the entrance in the layby on Parndon Wood Road. This provides over 30 car parking spaces and there is now one space specifically designated provision for disabled visitors.

How to get to Parndon Wood

To get to Parndon Wood Nature Reserve follow signs for the Crematorium. Continue straight past the Crematorium entrance and use parking on the right.

The entrance to the reserve is through the green gates on the right.



Parndon Wood Location Plan

3.3 Signage

Being an enclosed site, there is one public entrance to the reserve through the main gates offering nice open views encouraging visitors to come inside. Signage inside the entrance gate draws in visitors to read about the many events and activities taking place.

Opening times are clearly displayed on the main entrance gate alongside contact information, dog policy and no smoking policy.

Outside the Conservation Centre a second notice board provides further information for visitors as with displays from partner organisation inside the lobby area.

Signage is being reviewed and is to be placed further down the road leading to the entrance. This will reassure the new visitor that they are indeed coming to the right place. This will be further reinforced with an additional welcome sign and horticultural woodland garden at the entrance.

ECCO are currently reviewing all signage used across the reserve to enhance their corporate image.



3.4 Equal Access for All

All people with specific needs should be able to enjoy the reserve to its full potential in a safe environment. In 2010 a bid was submitted for funding to install one disabled parking bay close to the entrance which was completed with path access improvements in 2012. Other adaptations and improvements in the Conservation Centre were completed in 2013 including widening door entrances and fitting a disabled users alarm in the toilets.

Many reserve visitors are parents with young children. Children below a certain age are limited in their capabilities and we carefully consider this in the provision when planning activities to meet their needs. It is considered essential for the long-term benefit of the reserve to foster a sense of pride and affection for the site in the very young, as they are the citizens of tomorrow. The Forest Funtasia Project, April 2008- April 2011, has improved safe opportunities for free play in the natural environment for children up to 18 years old as part of Harlow's wider Play Strategy. The reserve is also host to the Forest Schools Initiative.

Older people are an important user group of the reserve, visiting for exercise and relaxation. Events, such as Social Strollers run by Harlow Council, which tailor for the older visitor are run throughout the summer months at the reserve.

There are currently seven benches located along the trails providing rest points in strategic locations, such as halfway up and at the top of a steep incline including areas offering views across open glade areas and down stream valleys. This doesn't include the storey telling area which provides seating for up to 100 people at a time.

Additional seating areas are being reviewed with proposals being discussed for an additional 2 benches along the eastern section of the woodland trail.



Staff and Volunteers Installing Parndon Wood Oak Benches

4 Healthy, Safe and Secure

Harlow Council has a full suite of Health & Safety Policies which are overseen by the Council's Safety Officer and implemented across all Council services.

Jackie Davies is Harlow Council's Health and Safety Officer. She is responsible for ensuring effective implementation of health & safety and fire safety standards within Harlow Council. Working closely with Council Services and the Safety Committee she undertakes many functions including:

- Preparation and review of health & safety policies
- Development of health & safety and fire safety plans
- Co-ordination of health & safety related training and health surveillance
- Development of stress management standards
- Testing of portable electrical equipment
- Monitoring of accidents and aggressive incidents

Jackie Davies is the normal point of contact for health and safety issues and for fire safety issues. A Fire Safety Plan review was undertaken in November 2011 with recommendations made and addressed. A review is currently planned for 2020.

The Council's Health & Safety Policies are available electronically prior to judging or made available on the day of judging upon prior request.

The Senior Biodiversity Officer is responsible for writing risk assessments for individual activities and volunteer tasks. Copies are available electronically prior to judging or made available on the day of judging upon prior request.

The Wildlife Sites Assistant in the absence of the Senior Biodiversity Officer is responsible for overseeing activities and tasks run by the council.

ECCO are responsible for writing risk assessments and overseeing activities run by themselves. Copies of ECCO risk assessments are also available electronically prior to judging or made available on the day of judging upon prior request.

4.1 Appropriate Provision of Quality Facilities and Activities

4.1.1 Events and Activities

Parndon Wood offers a fantastic opportunity for schools to experience the wonders of the great outdoors in a safe environment. With access to our indoor classroom (which can accommodate up to 30 pupils), extensive woodland areas and a number of bird hides, there is a fantastic opportunity to learn about local wildlife here at the reserve (see section 8.2.3).

In summer 2019 the story telling area was upgraded to triple its seating capacity to up to 100. This can now be used as an outdoor classroom and has provided opportunities to host summer evening amplified live acoustic music events. The Sunset Sessions is a licenced ticketed event run by ECCO in the summer months over a number of weekends. It has proven to be very successful, with every performance selling out since its introduction in 2019. For more information see the Sunset Session Instagram page: @_sunsetsessions

An extensive list of up to date events and activities can be found here: <https://ecco.org.uk/home/parndon-wood/>

- Parndon Wood Instagram Page - @parndonwoodnaturereserve
- Parndon Wood Facebook Page - @Parndon.Wood.Harlow

best foot forward

walking for health

Want to get more active? Then we're here to help!

Walking is a great way to get fit, explore what's on your doorstep and make new friends.

Join one of our free and friendly short walks today.

Find us at:
 Harlow Town Park (School Lane Car Park): 10am every other Friday
 Parndon Wood Nature Reserve: 11.30am every Sunday

Walks are fun, free and social with a 30 minute or 60 minute option available. A full list of walks is available at www.harlow.gov.uk.

For something different try Nordic Walking. More information at: www.facebook.com/naturallyattuned.

Visit our website to find out more about your local health walks: walkingforhealth.org.uk

WE ARE PANGLOSS! Great for foot. ramblers. Supporting you to get active and stay active.

Example of Events and Activities run at Parndon Wood Nature Reserve

4.1.2 Parndon Wood Café

Parndon Wood café is run by ECCO. Wonderfully different; the courtyard vista is a pristine woodland where you can sit in peace with a drink & slice of cake or sandwich. Hide from the weather inside and watch birds around the pond. Arts and crafts are available in the conservation centre all year round so the kids can get creative while you enjoy the view. The menu is currently being reviewed with more emphasis on healthy eating options.

4.1.3 Volunteering

Weekly volunteering activities take place at Parndon Wood Nature Reserve:

Each Monday volunteers are invited to the reserve to assist staff with the day to day operations.

Parndon Woods Wildspace volunteers are exclusively based at Parndon Wood Nature Reserve and meet every Tuesday from 10am-1pm throughout the year. They are mainly involved in keeping the reserve's trails, trees and ponds in a healthy state.

Greenteam volunteers are based across the town on a number of wildlife sites and nature reserves every Wednesday from 10 am to 3pm. Tasks are varied depending on the site and the time of year. This can vary from winter coppicing work at Parndon Wood Nature Reserve to pond clearance to fencing work to footpath maintenance and more.

Details of tasks are communicated via weekly updates emailed every Thursday. Training on the safe use of tools is given on all tasks and PPE such as gloves, hard hats and eye protection are provided along with tea, coffee and biscuits. Logo clothing is also provided.

Harlow Conservation Volunteers (HCV) is an independent volunteer group. They work out of Parndon Wood Nature Reserve and have their own tool shed. They undertakes a wide range of planned activities both at Parndon Wood and on other Nature Reserves and wildlife sites in Harlow. The group meets once a fortnight on a Sunday.

HCV website: <http://www.harlowwildlife.org.uk/hcv/hcvindex.htm>

Volunteering at Parndon Wood 2017:
<https://www.youtube.com/watch?v=QPIZxRw9jF0>

Green Flag Award for Parndon Wood 2018/19:
<https://www.facebook.com/harlowcouncil/videos/2240930502586998/>

Volunteering at Parndon Wood, coppicing 2019:
<https://www.facebook.com/harlowcouncil/videos/3072318966327449/>

4.1.4 First Aid Provisions

First Aid is provided for staff and volunteers with all staff trained and a number of key volunteers. In early 2020 Parndon Wood took delivery of a defibrillator which is installed in the ECCO office alongside first aid kits.

4.1.5 Toilets

The Conservation Centre has three sets for Ladies, Gentleman and Disabled access. Improvements were made in 2001 to make the Conservation Centre compliant with the Disability Discrimination Act requirements. Sanitary boxes were installed in February 2009 and are serviced by Initial plc who also replenish the towel hand rolls on a weekly basis. Baby changing facilities were installed in March 2009. The toilets are cleaned and maintained by ECCO and the onsite Conservation Centre Manager monitors the provision daily for cleanliness.

4.2 Safe Equipment and Facilities

The safety of Reserve users is seen as a high priority. To help ensure a safe visit, regular inspections are undertaken of reserve facilities such as nature trails and hides.

The inspection of facilities and ensuring the safety of Reserve users is seen as a key role of the Biodiversity Team, with the nature trail, hides, dipping platform and conservation centre being inspected daily when open to the public.

4.3 Personal Security

The safety of reserve users is of utmost importance and community safety is not an area that can or should be addressed in isolation. It is important that, where possible, the Council works with and supports other agencies in promoting safety. Community Rangers police the reserve out of hours and make frequent weekly visits. A number of volunteers also provide monitoring support and report any disturbances.

The contact numbers for Contact Harlow on 01279 446655 and the out of hours emergency line 01279 446666 are displayed on the external notice-boards. During opening hours the Conservation Centre Manager is present on site and any antisocial behaviour is reported.

4.3.1 CCTV

In Spring 2019 a town-wide biodiversity security capital budget was used to fund the installation of a CCTV system at the reserve at a cost of £13,250. This involved the installation of a mast supporting three HD cameras monitoring the car park, Longwood no through road and main gate. There are a further four HD cameras located on the building covering the tool sheds, wood store and seating area up to the main gate. There is a monitor in the HDC staff office which records on a 28 day loop. Although not reflected in the number of fly tipping incidents recorded in years 2018 and 2019 (being equal at 4 incidents reported through Contact Harlow), staff has seen a remarkable difference in the volume of low level littering in the car park from vehicles parked up in the evenings and discarding takeaways. Reserve staff also feels a greater sense of personal safety due to the deterrent effect of this visible measure.

In June 2019 CCTV was used to identify an individual fly-tipping outside the reserve. The following is an extract from a press release concerning the incident. It is hoped that such convictions and publicity will further deter those whom have failed to notice the CCTV and signage:

Successful action taken by Harlow Council has led to one man being fined for dumping rubbish, while another has been successfully prosecuted in court.

-

The second case concerns the area outside Parndon Wood Nature Reserve, which has become a hot spot for dumped rubbish and fly-tipping. In response to the ongoing issues, the council has installed CCTV which has already led to the first fine being issued.

This CCTV enabled the council's Community Safety team to identify Adam Burchell dumping bags of soil and plant pots in the area on Monday 17 June. The cameras picked up his vehicle and registration number which was used to trace his address and Mr Burchell was issued with an £80 FPN which he paid in full.

Councillor Eugenie Harvey, Portfolio Holder for Community Wellbeing, said: "Once again we have been successful in bringing more people looking to dump rubbish to justice.

"We know that most of Harlow's residents are responsible with their rubbish and dispose of it in the right way; I do hope however that these cases send the right message out to those who choose not to play by the rules.

-

4.3.2 Police Liaison and Anti-Social Behaviour Tasking Groups

The Police and Police Community Support Officers meet with representatives from all relevant Harlow Council departments including the Anti-Social Behaviour Team, Leisure, Community Engagement, Community Rangers, Parks Client Service Team and Grounds Maintenance Managers, providing a valuable opportunity to allow safety and anti-social behaviour issues to be discussed, and ways found of addressing the problems.

At Parndon Wood Nature Reserve there is a close link with the local beat officers and PCSO's who regularly visit the reserve to check all is well. In addition, Harlow Council provides an out of hours Community Ranger service which undertakes frequent checks of the reserve during the week and at weekends.

4.3.3 Safer Harlow Partnership

The Safer Harlow Partnership established in April 2005, is a multi-agency group made up of representatives from the Harlow Police, Council Officers and the Fire Service. Funded by the Harlow Crime and Disorder Reduction Partnership (HDRP) the group takes a lead role in tackling anti-social behaviour and related nuisance within the town.

4.3.4 Neighbourhood Watch

During 2007 links were made with the Harlow Neighbourhood Watch, and as a result the District's Neighbourhood Watch coordinator has been approached with a view to developing a Neighbourhood Watch Group involving local residents and users. A small group of local people keep an eye on the reserve and report instances of vandalism both directly to the warden and officers and also to the Council's dedicated emergency line to alert the Community Rangers.

4.3.5 Sight Lines and Feeling Safe in the Reserve

Reported incidents of crimes against individuals within the Reserve are very low, but people can feel at risk or unsafe if areas are overgrown with poor sight lines. Over recent years work has been undertaken where appropriate, to increase visibility around the nature trails by widening rides and providing an on-site warden during opening hours. The comments from reserve users on this work have been very positive.

4.3.6 Uniformed Presence In and Around the Reserve

The Biodiversity Team are provided with Harlow Council clothing and identity badges to make them easily identifiable in the reserve. In addition to HTS Maintenance staff who visit the Reserve it is a requirement for the Grounds Maintenance Contractor to provide a uniform for all staff working within the Reserve so that users can easily identify them and approach them for assistance if required. Harlow Council's Community Rangers are also recognizable by their uniform.

<https://www.facebook.com/harlowcouncil/photos/a.959922410687820/3105932816086758/?type=3&theater>

4.4 Control of Dogs/Dog Fouling

The control of dogs and dog fouling within the reserve is important. Dogs are not permitted within the Nature Reserve for animal welfare reasons due to the presence of deer, ground nesting birds, presence of badger setts, foxes and small mammals in the reserve. This policy also allows visitors to enjoy the reserve without the fear of a large dog bounding up to them.

In 2019, partnership working with ECCO recognised the opportunities missed for reaching visitors whom would have otherwise walked on past the entrance gates and for raising revenue from café sales. It was therefore agreed to trial relaxing the no dogs policy to allowing access to the seating area only for well-behaved dogs on leads. This is managed at the discretion of the Centre Manager and café staff.

As an alternative to using Parndon Wood dog walkers are encouraged to exercise their dogs in a responsible manner on Parndon Common and in Hospital & Risdon Woods. This flexible approach is appreciated by dog walkers who abide by our local policy.

Harlow is a compulsory dog fouling clean up area, with people caught failing to clear up being subject to consideration for prosecution under the byelaw. As a compulsory clear up area Harlow Council installed a number of poop scoop bins. Two of which are located near to the nature reserve on Parndon Wood Road and on Parndon Common. The dog bins are serviced twice a week as part of the JVCO arrangement with HTS.

5 Well Maintained and Clean

5.1 Litter and Waste Management

Litter within the reserve is removed as required, with litterbins being emptied a minimum of three times a week. All litter collected is disposed of via a licensed contractor after recyclables have been extracted. There is a 'don't walk by' policy, whereby litter is picked as it is noticed by all members of staff and volunteers.

5.1.1 Green Waste & Recycling

Green waste arising from the horticultural or woodland maintenance within the Nature Reserve is retained on site or if necessary can be transported just over 1 mile away to a specialist licensed green waste recycling facility, where it is shredded, composted and screened; upon completion the resulting material is a valuable organic product capable of being used as a mulch or soil conditioner.

5.1.2 Recycled Materials

Where practicable the use of recycled materials is seen as important when undertaking projects within the Nature Reserve. No wood waste is removed from site, it is either sold, reused in projects or left as habitat piles for invertebrates, reptiles and birds.

By-products from coppicing work is used to make firewood and charcoal (see section 6.2) with a percentage used to enhance deadwood habitats (see section 5.3.6).

Surplus wood is converted to charcoal and as firewood with members of the public readily waiting to collect and load wood available from the reserve. This supports a network of people who have wood burners to reduce energy consumption, and for the British summer barbeque season, helping to offset the use of unsustainably sourced tropical charcoal.

5.1.3 Recycling of Waste Paper, Cardboard, Plastics, Bottles and Cans

Dry recyclables such as waste paper, cardboard, plastic, bottles, glass bottles and cans are separated out using the recycling bins in the Kitchen area. They are collected and taken to the local recycling centre for recycling on a weekly basis. This includes waste litter picked both inside and outside of the reserve and deposited in the waste bins.

5.1.4 Litter Picking

Litter picking is undertaken twice a week both inside and outside of the Nature Reserve as part of the duties of the Wildlife Assistant and ECCO, supplemented by volunteers.

5.2 Horticultural Maintenance

5.2.1 Tree Nursery and Seed Collection

Being a Nature Reserve there are no formal areas for horticulture. There is a tree nursery managed by volunteers as part of the ongoing management replacement tree planting and to aid the natural regeneration of tree cover: Acorns are collected as part of the seed collection scheme and planted and grown on in the tree nursery. Oaks are then planted each year in the reserve. In 2015 volunteers expanded the tree nursery in order to take hardwood cuttings and lifting seedlings (where they are growing in inappropriate areas, such as on footpaths or in glade areas) from a range of tree species to add to the diversity of the trees and shrubs found across the SSSI. This is proving to be very successful and there was a good range of under-story species for planting in early 2018. This practice continues with varying success. Volunteers also collect seeds from various wildflowers growing within the reserve such as foxgloves, betony and tansy. This practice ensures local provenance of species is maintained and helps to avoid the introduction of tree pests and diseases.

5.3 Arboricultural Maintenance

As part of the woodland management the coppicing and tree management is an integral part of the SSSI management plan. The wood is designated a SSSI because of its status as ancient woodland and is managed as hornbeam coppice with oak standards.

5.3.1 HTS Tree Maintenance

As part of the HTS Services Group, HTS provide the specialist tree services for Harlow Council which includes tree safety surveys at Parndon Wood. These provisions are enshrined within the JVCO contract for which performance is measured. HTS undertake the tree surveying trees for dead wood and defects including AOD (Acute Oak Decline) which is present in the reserve. A six monthly tree inspection is programmed in for the Nature Reserve. Annual targets are set. This is confined to trees along footpaths, around our three hides, the conservation centre including surrounding staff and volunteer areas. Staff regularly walk the trails and pay particular attention to trees following high winds.

5.3.2 Specialist Tree Services

Additional services are brought in when required. These services include undertaking work to veteran trees. A local specialist contractor, James Curry, is used.

5.3.3 Biosecurity

AOD has been identified on a number of oaks in Parndon Wood. To prevent the spread of this, a biosecurity kit using Cleankill Sanitiser (as recommended by the Forestry Commission) is used to clean all chainsaws that have been used on oak trees in Parndon Wood. This forms part of the forestry kit which comes out with us whenever we are working with chainsaws.

5.3.4 Coppicing

Coppicing at Parndon Wood is carried out each winter as agreed with Natural England. Traditionally with hornbeam being coppiced on a 15 year cycle for the charcoal and firewood industry and oak being thinned and felled to make use of the timber. This practice is still carried out, though now with the primary objective to keep a diversity of habitats within the woodland and to increase the number of species of flora and fauna to be found. This will ensure the health and diversity of the woodland and for the enjoyment of many generations to come.

We are now undertaking a restoration of lapsed hornbeam coppice of around 70 years (see Appendix 2 for a coppice plan). This part of the reserve lies to the south and was previously (and informally) known as the minimum intervention area. The large, overgrown mature nature of the coppice led to management of this area being avoided due to the complications involved in taking on such management.

In May 2016 it was agreed following site visits involving Natural England, The Forestry Commission and The Deer Initiative to focus coppice management on the lapsed coppice areas as a matter of urgency, to intervene and halt the decline in the condition of these areas. This would only be undertaken should these areas be effectively managed, without risking the success of regeneration. The lofty nature of the over mature stools requires a coup of an adequate area for the sunlight to reach the stools the season following coppicing to ensure the dormant buds are stimulated to produce new growth. This area is to be no less than 0.5Ha so that the treetops of neighbouring coups do not restrict sunlight onto the cut stools and for the regeneration of the herb layer.

The overgrown lapsed hornbeam coppice are prone to wind damage as shown in the photo below, heavy tall stems break out of the stool which will promote decay of the

stool. There is also competition for light between stools reducing the number of stools per ha. This is also true for the oak standards which are under so much competition from the, in many cases taller understorey that they are either be dead-standing or with a very small crown (if this isn't the case then there is a need to consider thinning the standards). Under stress through competition the oaks are also predisposed to diseases such as Acute Oak Decline.



Oak Standards with Poor Form Due to Lapsed Coppice Competition



Lapsed Hornbeam Coppice with Wind-thrown Stem

There is up to 20% failure of stools following cutting despite best efforts. What is essential is protection from browsing and light limitation. Should a coup be too small and/or over-shaded by overstocked standards there will be potentially a much higher failure percentage of stools. The occasional maiden hornbeam is left to provide a source of seed for natural regeneration, this helps to guarantee in case of coppice failure. We also never cut adjacent to a coup until it is at least 4 years since cutting and is showing good regeneration; for it is harder for woodland regeneration the larger the area cleared of seed bearing trees (see Appendix 2 for a coppice plan).

The height of the coppice should be cut as low as possible. New coppice shoots develop from two types of bud. They originate from dormant buds that grow from the base of the stump and from adventitious buds which develop from the callus tissue formed between the bark and the wood at the cut surfaces. Although the latter may produce a higher number of coppice shoots, they are often short-lived. Shoots which originate from below the ground are more stable than those developing high on the stump and may develop their own root system. Cutting should be achieved ideally no more than 15 cm above the ground, sloping south and or away from the centre of the stools without splits or tears. This is to ensure that water drains away from the centre of the stool (south facing to dry more quickly) to aid the prevention of decay.



Freshly cut lapsed coppice with individual stems in excess of 400 mm diameter

5.3.5 Tree Stock Replacement and Natural Regeneration

As described in section 5.2.1, a tree nursery is managed to add to the tree stock replacement. Diversity of age structure is an issue due to the felling of all mature oak trees during the First World War. Subsequent replanting in 1918 created an even age structure of standards. The young tree stock has been added to in the last few years including planting oak trees from acorns gathered in the wood.

Oaks will rarely regenerate successfully through natural regeneration in woodlands unless they are given a head start. Being a light demanding species, young seedlings are soon outcompeted by surrounding vegetation and regenerating coppice stools with strong and well-established root systems. It is for this reason that the young oaks are grown on in the tree nursery for a number of years prior to being planted. The oaks are planted in groups of around a dozen at 1m spacing, clear of coppice stools and standard trees to maximise their light conditions. As they compete with one another for light, they grow tall and clear of the coppice regrowth. Inevitably there will be losses in the initial establishment phase of growth, but by the time the coppice cycle returns the young oak trees in each group will be ready to be thinned, eventually to one oak per group. The groups may be further thinned in decades to come with additional planting ultimately restoring the age structure.



Young oaks planted in groups.

Natural regeneration is only possible through seed dispersal from seed bearing trees left standing in the coppice areas and from adjacent compartments. The season following cutting light floods the forest floor promoting the germination of seed (also true for wildflower seed in the seedbank). To maximise the potential for natural regeneration bare ground need to be exposed and clear of timber and brash. A large proportion of the brash is burnt on site during coppice operations (the fire site limited to one area centrally located and clear of stools and standards). Additional brash is used to promote deadwood habitats and to provide protection against browsing pressures. Up to 90 % of timber felled is taken off site and used to make firewood and charcoal products (see section 6.2 firewood and charcoal). The remaining minimum 10 % is left for deadwood habitat.

Protection from browsing is vital. A large herd of fallow deer move through the area and could stop to feed at a regenerating coppice area. A large herd could devastate the natural regeneration, regrowth of coppice and wildflowers in a single morning. Temporary fencing is used to protect coppice areas, it is quick and easy to install and can be reused elsewhere following four years of protection (when regrowth is clear of the potential for browsing damage).



Browsing Protection



Natural Regeneration of Hornbeam

5.3.6 Deadwood

This can range from whole or wind-snapped standing trees, fallen wood and stumps, through to decaying wood habitats on living trees; rot holes, dead limbs, decay columns in trunks and limbs and below ground in roots. A wide range of plant and animal species depend on dead or dying wood for habitat or as a food source. In the UK up to a fifth of woodland species depend on dead or dying wood for all or part of

their life cycle. Generally speaking, the greater the volume of deadwood the greater the value of the woodland for biodiversity.

Standing and fallen deadwood is left where it doesn't conflict with safety. Timber from coppicing which isn't processed for firewood or charcoal, including a proportion of brash is concentrated in areas of high ecological value. That is, it is added to existing deadwood habitats where the wood decay fungi and deadwood invertebrates have already colonised. The addition of dead-hedges using stumps and brash along fence lines also helps to improve linkages between deadwood habitats. We aim to retain around 10 m² of deadwood per coppice area.



Deadwood is not just important on land, it also has considerable ecological value within watercourses, where it creates and improves physical habitat structure for a range of different species groups.

Where safety concerns override deadwood needs every effort is made to mimic natural processes, coronet cutting (unconventional cuts to leave a stub and ragged finish) is applied creating opportunities for wildlife, retaining limbs around the base of trees. All operations are assessed with protected species in mind; trails may need to be closed to the public until an assessment can be in terms of wildlife legislation.

5.4 Building and Infrastructure Maintenance

5.4.1 Conservation Centre

The Conservation Centre was built in 1973 and is owned by Harlow Council, it is situated near to the entrance of the Nature Reserve on Parndon Wood Road. The Conservation Centre provides office space for the Biodiversity Team, a foyer area, exhibition room, a kitchen/library/classroom, disabled access toilet, gentleman's toilet and ladies toilet.

The Conservation Centre is managed by ECCO who ensure that the building and toilets are fit for use in a safe condition and free from graffiti. Cleaning is carried out during the day to ensure that acceptable standards are maintained throughout the opening hours of the reserve. Litter bins are emptied when required to avoid bins overflowing and attracting vermin.

In addition to the regular inspection of reserve facilities and remedial repair work, a number of contracts are in place to ensure the safety of parks users. These include electrical safety tests and water tanks/hot water system chlorination and temperature testing. HTS are responsible for the maintenance of the building and its facilities and are called upon to undertake repairs as necessary. The HTS Repairs Centre coordinates any reports we submit requesting repairs or maintenance and schedules programmed inspections and visits.

5.4.2 Workshop Outbuildings & Bat Flight Cage

There are three workshops attached to the rear of the Conservation Centre that provide a storage area for volunteers' tools and equipment. Workshop 1 is used by the Council volunteer groups and is fitted with a work bench. Workshop 2 is used by the Harlow Conservation Volunteers. Another storage/workshop building was built in 2010 from Parndon oak frame and pine cladding. This provides additional storage space for hand tools, charcoal etc.

A Bat Flight Cage was built from April to June 2009 to the rear of the Conservation Centre as part of a project with the Essex Bat Group to prepare bats for re-release.

In 2016 & 2017 an external work bench and timber store was constructed from Parndon Wood Oak. It is frequently used for tool maintenance and woodworking projects.

In summer 2018 a purpose built wood store was built using leftover chestnut post from the Leaky Dams Project (see section 7.1.6) and oak sourced from the reserve. This enables firewood to be processed and stored before sale.



5.4.3 Hides on the Nature Trail

There are three hides on the Nature Trail:

The Crater Hide is used for looking out over the Deer Pond in the minimal intervention area. The hide was relocated in 2003 and is well maintained. Improvements to the Crater Hide were completed in 2011 following recommendations made in 2010.

The Main Hide, now known as the Fazackerley Hide, overlooks the Main Pond and bird feeding station. The hide is well maintained; in 2018 the hide was refurbished inside and out including repairs to the roof. This project was funded by friends and colleagues of the late Darren Fazackerley former Landscape & Biodiversity Manager and renamed in his memory. A new interpretation board was also installed showing a list of birds likely to be seen from the Fazackerley Hide.

The third hide, known as the Lincoln Hide was built in 2003, and is located opposite the Conservation Centre. The hide is combined with a disabled access boardwalk and dipping platform. The facility is in good order with external painting completed in 2018.

5.4.4 Tracks, Trails, Boardwalks & Bridges

Regular inspections are undertaken of reserve facilities which include the reserves footpaths, boardwalks and bridges. Appendix 1 shows the location of the reserves boardwalks and bridges (numbered 1 to 9) and other features. The frequency of repair works to the boardwalks has increased significantly over the past two years. This has prompted a replacement programme of all boardwalks over 5 years starting from 2021 (see Action Plan in Appendix 3). Repairs will continue as and when identified through frequent inspections.

The access track from the main gates to the Conservation Centre was resurfaced with an additional surfaced footpath to workshop 1 in 2016. Further surfacing works are being considered for staff and volunteer areas to the rear of the Conservation Centre due to wet winter ground conditions.

5.4.5 Fencing

Perimeter fencing is regularly inspected and repairs carried out as and when required. Deer fencing is also inspected regularly. Inspections also take place following strong winds, fallen trees may damage sections allowing deer to enter recently coppiced areas to browse unchecked.

5.5 Equipment Maintenance

Tools and equipment on site are maintained by the Biodiversity staff and volunteers. Powered equipment is routinely maintained by Biodiversity staff and serviced by local equipment suppliers or by HTS workshop fitters on request and as indicated in their respective user manuals. A vehicle log book with user checklist is completed. User manuals and log books can be made available electronically prior to judging or made available on the day of judging upon prior request.

6 Environmental Management

6.1 Managing Environmental Impact

6.1.1 Water Conservation

A system is in place to capture rainwater from off the roof of the Conservation Centre and this is used to feed in to the series of ponds surrounding the Centre. This ensures that the ponds are kept topped up. In 2009 the pipe system was cleared out to ensure flow of rainwater is not interrupted and in 2010 the middle pond (Kings pond) was relined. Rainwater is also captured in a series of water butts for use on the tree nursery.

6.1.2 Petrol Use and Measures

Spillage kits are part of the forestry kit which comes out with all chainsaw use. Refuelling points are strictly adhered to with non-drip spouts fitted to all refuelling systems. The use of biodegradable chainsaw lubricant oil is also observed.

The use of new battery powered handheld outdoor machinery has been considered when the need to buy more equipment has arisen. Battery powered alternatives reduce health risks associated with operator's exposure to the inhalation of particulate matter emissions from two-stroke machinery. There is also reduced operator hand arm vibration exposure and reduced noise pollution. However, working in publically accessible areas, the noise helps to 'warn' unsuspecting public of such activities. We also do not hold enough battery powered handheld outdoor machinery stock to justify the stock of expensive batteries required to power such tools over the long periods coppicing work entails.

6.1.3 Noise Pollution

In 2018 a bench saw was purchased for the firewood processing and located in the purpose built wood store. The saw was used over the months of September to November 2018, despite taking readings of 65Db to the rear of the store, it was felt that measures needed to be taken to reduce the noise pollution emitted. Actions were taken to build a wooden sound barrier to the rear of the store prior to the onset of works in September 2019 and a log of usage dates and times kept.

The wooden sound barrier was ineffective as this did not affect the frequency of the sound emitted from the saw, which is fundamentally the problem, as this is in the 2,000 to 5,000 Hz range. It is not the loudness (decibels) of the machine but the frequency (Hz) of the noise which needed to be further addressed. This can be treated using acoustic materials.

We are now exploring options to maximise the sound proofing of the saw by providing a new housing some distance further away from the current location. Sonic pyramid tiles need to be used to line the internal structure including roofing. The new structure will angled away from the reserve perimeter (a ripple tank diagram has been draw to identify the best angle and can be seen in Appendix 4) and saw placed on an anti-vibration matt.

The adjacent crematorium holds burial services close to the reserve. We liaise with crematorium staff to ensure we are not operating power tools in areas likely to be audible while services are in place.

6.2 Waste Minimisation

Parndon Wood promotes environmental sustainability and seeks to make use of its natural resources. This is reflected in its sustainable management practices and use of its wood products in greenspace improvements throughout Harlow.

The habitats shaped by coppicing over many centuries are a result of the historic primary objective of supplying wood products for a thriving woodland industry. The need for wood products has largely been replaced by the industrial revolutions reliance on fossil fuels and modern materials such as plastics. Woodlands have fallen into decline and habitats marginalised and lost with devastating effects on the species that rely on them.

The objective of undertaking coppicing at Parndon Wood Nature Reserve since the adoption by Harlow Council in 1968 is to keep a diversity of habitats within the woodland, and increase the number of species of flora and fauna to be found. This will ensure the health and diversity of the woodland and for the enjoyment of many generations to come.

Various wood products as a result of the current primary objective are processed to promote environmental sustainability as a by-product of coppicing. The revenue raised from this supports the work we do.

6.2.1 Firewood Production

In 2018 equipment was purchased to make better use of our natural resources. Prior to this round-wood was sold to timber merchants off the ground for approximately £10 per tonne. This wasn't practical for many of our coppice areas due to restrictions on vehicle use. Many tonnes of timber have been left as deadwood habitat piles – far more than necessary for maintaining such habitats, also inhibiting natural regeneration of trees and wildflowers from the excessive ground coverage.

With the lapsed coppice areas being taken on, it was clear that far more timber had to be removed from the coppice areas. With the additional benefit of raising vital funds this was a crucial step up.



Logs are cut into 1 m lengths, split into billets and stacked on site with a waterproof covering. Airflow through the stacks over the subsequent summer period brings moisture content down to between 15% and 18%.



By September, ground conditions are suitable to bring a flatbed tipper van into the coppice areas to extract the dry billets back to the wood store where a specialist bench saw is used to cut the billets into 10” woodstove ready firewood.



Firewood is sold through ECCO in netted bags and also in bulk through firewood distributors, providing a valuable source of revenue.

6.2.2 Charcoal Production

From the successes of the firewood a bid was successfully granted by Harlow Council for the purchase and installation of a Retort Charcoal Kiln. This was received in Summer 2019 in a complex logistical operation.



The retort system offers high productivity and an efficient way of scaling up production than operating a larger number of small round kilns. The burn time is around 8 hours, which is a lot less than with round kilns which can go on for up to 18 hours. With a round kiln the wood is set alight and the air is restricted by banking up soil around the base of it, whilst in a retort the fire does not come into contact with the wood as it is sealed in a chamber so the air cannot come in contact with it.

On average the reduction of pollution with a retort is 75% less smoke than round kilns. This is possible as wood used to convert to charcoal is heated in a barrel, the gasses given off by the wood as it is converted into charcoal are used to heat the kiln. Emissions from the kiln are limited to the initial period from the firebox while the kiln heats up. A retort burns up to 95% of the smoke it produces therefore not releasing particulates.

The charcoal produced is of gourmet quality highly regarded by professional charcoal chefs. It burns hotter and for longer than imported alternatives and promotes sustainability: Much of the barbecue charcoal on sale in Britain is imported from the Far East. Such charcoal is often produced from non-sustainable resources. That is, it is produced by using wood from trees and mangrove swamps which have been grubbed out or have been cut down and will not re-grow. As with the firewood we produce, we also offset the road miles alternative products sold locally tot-up.

A full specification of the RTS1000 kiln can be seen in Appendix 5



Parndon Wood Gourmet Charcoal is 100% Hornbeam, Sold in 5kg Paper Bags

6.2.3 Oak Timber

As part of the SSSI Management Plan, a clear objective is to remove a number of standard oak trees. This enables the understorey coppice to develop good stool regrowth and provides space and light for neighbouring oak trees as they continue to grow. Oak trees are extracted and milled on site with the timber used for a wide range of improvement projects, both within the reserve and at other sites across Harlow.

The Timber Extraction Project was initiated in 2007 and in January 2011 a wood-miser contractor was engaged to undertake the milling. In 2016 an Alaskan timber mill was purchased and now all milling is done in-house. This has proven to be a very useful tool for the reserve, as milling can be carried out where the oak is felled, significantly reducing the damage caused by alternative extraction methods.



Alaskan Chainsaw Mill and the First Cut



Log Arch Extracting Cut Timber by Hand, Oak Shown Measures 5.2m x 500 mm x 75 mm

Extracted timber has been used to make bench seats, posts, way-marker posts, bearers for bridges, decking for boardwalks, wood sculptures, oak carvings and more. This has several benefits in that it makes use of a readily available resource that can be used to generate income or saves on the cost of buying in timber for projects.

It is our aim to use green oak where appropriate for projects within the reserve and in other parks and open spaces. The use of this material enables Harlow Council to reduce the cost of projects, provide work for local people, reduce the cost of transportation and carbon footprint associated with road miles and to use local materials.

6.3 Chemical Use

The policy of Harlow Council is that the use of pesticides and herbicides should be kept to a minimum, and only used if absolutely necessary. The use of glyphosate herbicide has in the past been used to suppress weeds in large shrub bed areas outside of the reserve. No herbicides are used within Parndon Wood, mechanical and other methods are used such as bracken rolling using horses and manual cutting and mechanical flailing of brambles etc.

6.4 Peat Use

No peat is used on site at Parndon Wood and nursery stock is purchased bare root if not grown from seed. Composted leaf mould from the reserve is used for cuttings, seeding and acorns etc.

6.5 Climate Change Adaption Strategies

Parndon Wood Nature Reserve continues to move forward with the continued management since its adoption by the council. The strategies adopted specifically at Parndon Wood Nature Reserve will be to provide a venue for education to inform individuals make those important changes to help combat climate change. Sound woodland management practiced and sound resource management will encourage others to become involved and provide a valuable educational tool.

6.5.1 Carbon Reduction

Harlow Council recognises the importance of reducing its carbon footprint and use of resources in both its own operations and across the district. Carbon management is about realising efficiency savings, transparency, accountability and leading by example. A Carbon Management Plan 2016 – 2021 was developed; Councillors and Officers recognise the role carbon reduction plays and are continually working towards reducing the Council's carbon footprint whilst encouraging residents and local businesses to do the same. This plan will be updated in 2020 taking into account motions declared in 2019 by Harlow Council.

<https://www.harlow.gov.uk/sites/default/files/documents/Carbon%20management%20plan%202016%20to%202021.pdf>

6.5.2 Tree Planting

In July 2019 the council passed a motion that declared a climate emergency. To that end it was pledged to work with residents to plant 1,000 trees in the urban environment of Harlow together with a number of other measures that this council will take to do our part to combat climate change and prevent environmental degradation. From December 2019 to January 2020 there were over 5,200 trees planted in Harlow.

<http://www.harlow.gov.uk/news/over-1000-trees-planted-just-one-day>

<http://www.harlow.gov.uk/news/hundreds-trees-planted-harlow-tackle-climate-change>

<http://www.harlow.gov.uk/news/annual-tree-planting-reaches-record-high>

6.5.3 Single-Use-Plastics

As part of the climate emergency declared last year, Harlow Council have committed to eliminating the use of single-use plastics across all public council buildings by January 2020, ahead of the national implementation date of April 2020.

<http://www.harlow.gov.uk/news/eliminating-single-use-plastic-across-public-council-buildings>

In December 2019 we trialled the use of non-plastic and fully biodegradable tree guards. 100 trees were planted and protected using standard plastic guards alongside 100 biodegradable alternatives in the 2018/19 coppice area of Parndon Wood. They stood up to the first test of usability and durability while planting with 0% breakages versus 2% breakages of their cheaper plastic alternatives. Tree growth and condition of the guards will be monitored over the coming 3 years while the young trees become established. Product information of the guards is available electronically prior to judging or made available on the day of judging upon prior request.



6.5.4 Timber, Firewood and Charcoal

Timber products, firewood and charcoal locally produced combats climate change. We have recently invested in a charcoal kiln which will further diversify the products we can use and market from our management. This will further our work and will add to the stamp of sustainability. See section 6.2 for more details.

7 Biodiversity, Landscape and Heritage

7.1 Management of Natural Features, Wild Fauna and Flora

7.1.1 Natural Features

- Status: LNR & SSSI/LNR declared: 1968 & July 2004
- SSSI declared 1996 Owned by: Harlow District Council
- Area: 52.3 Hectares (LNR) Local Plan Ref. No: 21/1 OS Grid Ref: TL 445 070
- BAP species: Pipistrelle Bat, Song Thrush BAP habitats: Ancient Woods, Urban

The wood has three soil types, resulting in three different vegetation communities. The northern 60% of the wood is developed on acidic London Clay Soils with a dominant tree cover of standard *Quercus robur* and understorey of *Carpinus betulus*. The ground cover is dominated by the acid mor soil type with a pH of 3 to 4 with a very sparse ground flora but in one small well drained section *Pteridium aquilinum* is found. The closest NVC class is W10 but the woodland is not a close fit to the classification, and the closest Peterken Stand Type is 9A.

The southern 35% of the wood crosses onto a more neutral/alkaline Chalky Boulder Clay with a pH of 6 to 7. The dominant tree cover reflects this with *Carpinus betulus*, *Quercus robur*, *Fraxinus excelsior*, *Acer campestre* and *Crataegus laevigata*. The ground flora is more diverse here with *Primula vulgaris*, *Orchis maculata*, *Moerhingia trinerva* and *Hyacinthoides non-scriptus*. The closest NVC class is the W8 community but with Hornbeam as a major component, and the closest Peterken Stand Type is 9Ab.

The remaining 5% is composed of a slumped, poorly drained soil eroded from the surrounding geology along the courses of the small streams which run through the wood. The dominant tree cover is represented by *Acer campestre*, *Fraxinus excelsior*, *Salix sp.*, *Crataegus laevigata*, and *Corylus avellana*. The ground flora is typified by *Oxalis acetosella*, *Primula vulgaris*, *Listera cordata*, and *Carex remota*.

There are some small artificial ponds at the north end of the wood close to the Conservation Centre building, principally created for educational purposes, and a larger created pond in the centre of the wood which is fed by 2 natural streams which run through the wood and also have two associated poorly draining flushed areas.

Another small pond has formed in the first V2 rocket crater made in the country, which is in the south of the wood.

7.1.2 Species Recording

A wide variety of species have been identified in the wood. The baseline survey for the Nature Reserve was undertaken in 1974 and 1975 when a comprehensive survey was undertaken. Extracts of the Management Plan Species Records for this Survey are included in Appendix 6. Since 2002 wildlife sightings at Parndon Wood have been recorded. In 2010 Harlow Council commissioned Essex Ecology Services Limited (EECOS) to undertake a County Wildlife Sites review across Harlow. In 2010 Invertebrate surveys were undertaken on five sites in Harlow including Parndon Wood. Harlow Woods SSSI has been found to support a good number of nationally rare and scarce beetles and solitary wasps. The most unusual find was an Arboreal ant (*Lasius brunneus*), which is nationally scarce, and the Small digger wasp (*Crosscerus congener*) was found in Essex for only the second time.

In 2009 links were made with Essex Field Club and specialist enthusiasts to undertake surveys. In May the Botany Group of Essex Field Club visited and recordings included Betony and Narrow Buckler Fern. Essex Bat Group undertook bat surveys throughout the summer of 2009 and sample moth surveys were undertaken in May and June. In October 2014 & 2015 Peter Coomber, a Mycologist, undertook a Fungi survey as part of a guided walk.

A species records board is located in the lobby for volunteers, staff and visitors. This is particularly useful for notable records which do not form part of a formal survey.

7.1.3 Local Biodiversity Action Plan

Harlow have adopted the Essex Biodiversity Action Plan. In consultation with the Harlow Biodiversity Partnership, Harlow Conservation Volunteers and contributions from other local wildlife groups and interested individuals, Harlow Council manages several local wildlife habitats and species within the Town including Parndon Woods, along with other sites as Harlow Marshes Local Nature Reserve, Hawkenbury Meadow Local Nature Reserve and designated County Wildlife Sites.

The Local Biodiversity Action Plan for Harlow contains individual action plans for 18 habitats and 14 species. There is also one habitat 'statement'. Within each individual action plan there are a number of major objectives and attached to these are a large number of 'actions'.

For any Action Plan to be successful those communities living side by side with the biodiversity must support it. We continue to work with local wildlife groups and individuals and other agencies committed to protecting wildlife in order to meet those objectives identified within Harlow's Local Biodiversity Action Plan.

7.1.4 Habitat Management

Harlow Council intends to maintain Parndon Wood as coppice-with-standards woodland showing the successional stages of coppice regrowth within a long rotational cycle. The wood should be a mosaic of open areas through to closed canopy with habitats provided by rides and glades. There should be a range of ages of trees from young saplings through to mature trees and dead wood. The streams, ditches and ponds should provide a range of niches, notably for aquatic/wetland invertebrates and plants.

In 2008 a comprehensive management plan was developed for the wood in agreement with Natural England and the Forestry Commission. This plan was put into operation between 2008 and 2013 and the plan for 2014 to 2019 covers the ongoing objectives:

- To review current coppice blocks and implement an approved coppice management plan to establish approximately 7.56ha of coppice in a 16-year rotation.
- To successfully maintain the deer fence through the site, and begin controlling browsing animal numbers.
- To maintain oak canopy dominance whilst encouraging a varied woodland structure.
- To maintain habitat diversity along rides and streams and enhance the glades, and ponds within the reserve.
- To create and maintain appropriate levels of standing and fallen deadwood and to appropriately manage veteran trees.
- To annually collect data and record as many taxonomic groups as possible.
- To introduce appropriate woodland management into the current minimum intervention area.
- To promote positive links with the local community and actively encourage educational and event based activities.
- In 2010 the SSSI status designation was revised from Unfavourable Recovering to Favourable Condition.

7.1.5 Woodland Management

Parndon Wood is managed as ancient woodland consisting of oak standard with hornbeam coppice. The principle aim of the Harlow Woods SSSI management plan is to reintroduce a continual cycle of coppice management.

Along with this the management plan aims to aid the natural regeneration of the woodland. In respect of this work, agreed biodiversity actions have been put in place in agreement with Natural England and the Forestry Commission.

The Harlow Woods SSSI Management Plan which encompasses Parndon Wood will be available for judging and can be sent electronically prior to judging if requested. Please also see section 5.3 for more details.

7.1.6 Leaky Dams Scheme

The Leaky Dams Flood Scheme in Harlow was an innovative project which involved the construction of eight leaky woody debris dams and the desilting of two previously heavily silted ponds.



Woody Debris Leaky Dam

Using local resources, the dams were constructed using timber from within tens of metres of their respective construction sites. The timber was moved into position using a local contractor using heavy horses to minimise damage to the sensitive woodland site and to minimise the carbon footprint of the project. This was for the purpose to slow flows for the human benefit of reducing flood risk, while providing the natural benefit of providing some useful deadwood habitat as a side effect, as well as crevices for amphibians etc. to shelter in.



Roy the Suffolk Punch Moving Log for the Leaky Dams Project.

The pond desilting works, although using heavy machinery was carefully considered and movements were limited to each pond via a 100 m linear track. The carbon footprint of the pond work was kept as small as possible by minimising the haulage of pond silt to a nearby location where the materials can be reused in future applications. The human benefits of reduced flood risk are being met by increased water storage and the natural benefits by bringing back online a former great crested newt breeding pond.

7.1.7 Badger Project & Harlow Badger Group

In the Autumn of 2009 links with Uttlesford Badger Group led to the construction of an artificial badger sett and the subsequent release of seven orphaned badgers at a secret location. At an inaugural meeting held on 26th January 2010 the Harlow

Badger Group was set up and as gone from strength to strength with over 50 members now meeting once every two months. The project lead is Derek Barry, a local badger enthusiast.



7.1.8 Bat Flight Cage Project

A new project for 2009 was to construct a Bat Flight cage working in partnership with the Harlow Bat Group and the Essex Bat Group. During the spring of 2009 volunteers constructed the Bat Flight Cage, partly funded by Essex Biodiversity Project and Harlow Council, in preparation for its use throughout the summer when over 50 flight operations were held leading to the release of over 30 bats back into the wild. The project leads were Jan Ragg and Chester Jones who are local volunteers. Jan sadly passed away in 2016 and the project leads are now local volunteers Steve & Frances Donovan.



Beginners bat care one day workshop at the bat hospital are held in the spring at Parndon Wood. These deal with all aspects of bat care including handling, housing, bat rescue and identification. The workshops are also useful in recruiting new volunteers on to the “ambulance” drivers list - these respond to calls passed on from the helpline by picking up of casualties, plus going on to the Parndon Wood flight cage rota.

7.1.9 ECCO Bee Hives Initiative at Parndon Wood Nature Reserve

In order to raise the profile of Beekeeping in Harlow it was decided that we would seek to have some hives at the reserve. Following formal consent being given by Natural England, for a total of four hives in the reserve to be installed, the Harlow Beekeepers Association was approached and a partnership agreement was reached with them to install and maintain the hives.



They have been used for educational purposes throughout the year and especially at our Buzzing Bee weekend, where live demonstrations from the hives were given by the Harlow Beekeepers. The hives have produced many hundreds of jars of honey which are sold to nature reserve volunteers and visitors. We regularly run out of honey due to its high demand.

7.2 Conservation of Landscape Features

7.2.1 Wider Landscape Features

The wood forms part of a larger wildlife corridor with the Lea Valley Regional Park to the west and across open countryside to Epping Forest in the south. Parndon Wood forms an important part of a much larger linear habitat connecting rural habitats.

The wood is an important landscape feature on the southern ridge which encloses Harlow, rising to 108 metres at the highest point. The site is mature hornbeam coppice with oak standards woodland, with a long history of management as coppice woodland. The first documentary evidence for the existence of the wood is in a charter of Edward the First granting a right of way from Potter Street to Nazeing past “The Gates to Parndon Woods”, which establishes it as Ancient Woodland. From 1886 the Kingsmoor estate, primarily for game interest, managed it. Harlow Council has managed it as a Nature Reserve since 1968.

These woods are close to the edge of Harlow’s built up area, and fairly high-density urban housing development. It is greatly valued by the community for informal and organised visits. Parndon Wood Crematorium & Parndon Common borders the wood to the west with agricultural farmland bordering the south and east of the wood.

7.2.2 Local Landscape Features

Parndon Wood SSSI LNR is managed woodland with a dynamic mosaic structure of coppice succession. This provides the opportunities for the many species of wildlife found here. The more permanent features are the ponds, streams, rides and glades discussed in section 7.1

7.2.3 Heritage of Parndon Wood

Parndon Wood has a long history dating back to the start of the first millennium and would have formed part of the wider Epping Forest. Known historical records are as follows:

- 1086 The woods are first recorded in the Domesday Book.
- 1230 Henry II Grants Permission to clear the woodland between Hospital and Parndon Wood.
- 1553 London’s St Thomas’ Hospital is now in possession of most of the woodland.
- 1687 First Map produced of the woods by Richard Browne.

- 1777 Chapman & Andre map shows that Parndon Wood is located just south of Parndon Common and west of Harlow Common, roughly the same shape it is today.
- 1798 William Smith of Little Parndon took ownership of 'some' of the woodland.
- 1845 John Ridsen of Kingsmoor Hall took ownership of another 'part' of the woodland.
- 1887 Joseph Hunter purchased Parndon Wood from St Thomas' Hospital London.
- 1914–18 During the First World War the government ordered that all large oaks should be felled for use in the war efforts.
- 1944 In the Second World War the first V2 Rocket to fall on Britain exploded in Parndon Wood.
- 1946 Ordnance Survey map shows that Parndon Wood is still located in a rural setting surrounded by fields and a few isolated hamlets and villages. There is a ride system clearly shown running both east to west and north to south; remnants of the north-south ride is still apparent today, especially adjacent to the Conservation Centre (see Appendix 7).
- 1874-1955: the woods were kept extensively for pheasant shooting purposes and were managed by a keeper living in a cottage on site in the northeast corner of the wood. Shrubs such as gooseberries and wild current were introduced to the wood during this period to provide the game birds with cover and food. Throughout this period Parndon Wood was coppiced at a rate of approximately 2.5 acres per year until 1955 when all coppicing ceased.
- 1954 Harlow Development Corporation acquires Kingsmoor Estate which includes the woodland.
- 1968 Harlow District Council Purchases Parndon Wood to establish a Nature Reserve.
- 1973 The Conservation Centre is built and a Warden is appointed.
- 1974 to 1976 Coppicing is reinstated, several small areas totalling no more than one fifth of an acre were coppiced using hand tools and volunteer labour.
- 1980's Only two small compartments were coppiced.
- 1991 to 2005 Coppicing returned on a regular cycle although compartment size was still relatively small at an average size of 0.30 acres.
- 1996 The woods gain Site of Special Scientific Interest (SSSI) status.
- 1998 Sponsorship and grants fund the construction of the Nortel Hide (now known as the Fazackerley Hide).
- 2002 The long serving Warden of 27 years, Vyvyan Veal retires.
- 2002 to 2006 Colin Lincoln is Warden.
- 2006 to 2012 A number of compartments or coupes were coppiced using professional tree surgeons and volunteers.
- 2007 The Lincoln Hide is built.

- 2008 Parndon Wood SSSI status moves from Unfavourable Declining to Unfavourable Recovering status.
- 2010 Parndon Wood SSSI status moves from Unfavourable Recovering to Favourable Condition status.
- 2012 Partnership with ECCO begins to help protect the long term future of the reserve.
- 2017 A 12 year coppicing plan is started in the southern section previously known as the minimum intervention area. There are 12 copse of approximately 0.5Ha (please see Appendix 2).

7.3 Conservation of Buildings and Structures

There are no iconic buildings or structures within the reserve. However, the entirety of the site is of great importance not only for wildlife, but as a relic of a past industry. The woods which fired and fuelled the bakers ovens in London and provided building materials for other local industries, such as the numerous maltings along the River Stort and for its reliance for the maritime industry and war efforts.



A Blast from the Past, Parndon Wood Oak used to restore Parndon Mill in 2010

8 Community Involvement

8.1 Community Involvement in Management and Development

8.1.1 Public Consultation

The views of Nature Reserve users and potential users are important so consultation with a variety of groups is vital. As part of this, Harlow Council holds periodic consultation exercises with the main groups and individuals using the Reserve. Every four months representatives from Harlow Council Biodiversity Team and HTS Operations Team meet with the Harlow Biodiversity Partnership. Additional meetings are also held with the Harlow Conservation Volunteers, who meet three times a year.

The purpose of these sessions is to communicate the actions being taken, to give progress updates on different projects, to identify any problems and to look for ways the service can be developed and improved in the future.

In addition to this, during 2008 as part of the BIG Lottery Fund, a number of Reserve users and local residents have been consulted on what they see as important with regard to certain key improvements within the Nature Reserve.

8.1.2 Harlow Biodiversity Partnership

During 1999 the Harlow Wildlife Forum was established. In 2002 this became the Harlow Biodiversity Partnership. As well as helping to develop a sense of ownership of the Nature Reserve the partners are involved with projects within Parndon Wood and on other Nature Reserves and wildlife sites in Harlow. This group is seen as an important way of obtaining the views of local residents about the Nature Reserve and its management and they are continually involved in the consultation process.

Members include:

- Harlow Bee Keepers
- Harlow Badger Group
- Harlow Bat Group
- Greenteam Volunteers
- Wildspace Volunteers
- Harlow Conservation Volunteers
- Harlow Wildlife Projects
- ECCO
- Harlow Council Biodiversity Team
- Harlow Trading Services (HTS) Parks & Landscapes Team

Members provide reports which form the annual Natural Harlow Review (copies can be made available on request).

8.1.3 Volunteering

At Parndon Wood Nature Reserve there are many opportunities to encourage volunteering. Through volunteers many of the management and maintenance tasks are delivered and as such it is a very important resource. Without access to a wide volunteering base many of the green space improvements that have taken place would not be possible. Volunteering opportunities are advertised with the Harlow Volunteer Centre Service <https://www.volunteeressex.org/> See section 4.1 for more information on volunteering at Parndon Wood Nature Reserve.

A Volunteer Warden has been appointed and received training in the use of power tools, such as brush-cutter, chainsaw and wood-chipper. They are also a registered key holder for the centre and provide important contributions and decision making of the day to management.

8.1.4 Corporate Businesses

As part of the Harlow Business Directory, Parndon Wood Nature Reserve promotes itself to local businesses and as extended networks to promote its volunteering opportunities. The Nature Reserve provides opportunities for Community Volunteering Schemes and Corporate Team Building Days. This has proved very successful. Businesses such as GlaxoSmithKline, E-on Energy, Domino's Pizza, BUPA, HL Displays, Pitney Bowes and First Bus have all had activities hosted at Parndon Wood. The benefit to the reserve is free labour and funding for improvement projects such as replacing boardwalks and bridges.



Corporate Team Building Day for Pitney Bowes, December 2019

8.2 Appropriate Provision for Community

Within the Conservation Centre there is a classroom facility and library plus additional space in the Exhibition Room which can be flexibly adapted for educational visits.

The classroom can be used for small events and workshops organised by ECCO staff. Within the building are leaflets and other information to give to the public and for them to take. Information boards and exhibits within the foyer and exhibition room provide a wide range of information and are regularly updated.

8.2.1 Forest Funtasia Project

The Forest Funtasia project, which started in April 2008 and ended in April 2011, was aimed at providing free play opportunities for young people in the natural environment. The project was funded for 3 years by the BIG Lottery as part of a wider Play Strategy in Harlow.

The project aimed to build on the existing Nature Reserve opening hours by providing extended opening during school holidays. Forest Funtasia provided a wide range of events and activities for young people to participate in including pond dipping, den building, bug hunting and craft activities.

These themes have been continued by ECCO who have help to sustain the long term viability of the project providing extended opening hours for school group and children based events and activities.



8.2.2 School Visits

Parndon Wood offers school visits to local primary and secondary schools to support in class learning in a safe and secure environment. School parties enjoy a tailored visit which can be aimed at any subject or age group. Activities undertaken include: nature walks, games, bug hunting, treasure hunts, nature crafts, den building, pond dipping and more. Parndon Wood also provides a venue to host local Forest Schools and ECCO is a member of the Forest Schools Association. Please contact ECCO for a full schools package currently offered.

8.2.3 Events and Activities (also covered in section 4.1)

Annually Parndon Wood hosts a number of events, now run by ECCO aimed at including people of all age ranges and abilities. During the autumn and winter a number of wildlife walks and conservation days are held including a fungal foray around the woods. Throughout the spring and summer events are focused on attracting people to come out and enjoy the longer evenings with a series of bat walks and moth nights. An events calendar can be viewed on the ECCO website and on their social media platforms.

<https://ecco.org.uk/home/parndon-wood/>

Parndon Wood Instagram Page - @parndonwoodnaturereserve

Parndon Wood Facebook Page - @Parndon.Wood.Harlow

8.2.4 Birthday Parties

ECCO offers a range of birthday packages at the reserve. You can simply hire the conservation room and put on your own party theme or we can give you access to the reserve and you can enjoy a host of out-door activities.

 **Melissa Littlestone** recommends **Parndon Wood Nature Reserve.** 27 November · 🌐

Thanks Ezra, for making our son's birthday a lovely experience for all. The children really loved the treasure hunt and were so excited. Many parents commented on what a lovely party it was and how much they and their child really enjoyed it. Even reluctant writers were keen to write down all the animals they found. A great value party experience. Highly recommend.

👍 Like 💬 Comment ➦ Share

 **Becky Jackson** recommends **Parndon Wood Nature Reserve.** 23 November · 🌐

Excellent day at the pardon wood nature reserve we had our 7 year old party there today and all the kids loved it!! All the parents were impressed too!! The staff were so kind and helpful really lovely warm welcome from all!! Nothing was too much or difficult. Ezra the manager really stood out he made my son feel so special on his day and all the kids listened to every word he said as he taught them about animals and plants they came across!! Can't recommend them enough!! Thank you again for an great day!!

 **Sharon Quinn** recommends **Parndon Wood Nature Reserve.** 10 Feb at 20:14 · 🌐

We had our sons birthday party at Parndon Wood Nature Reserve this Saturday, luckily the weather was great. Everyone who came had great time and I would highly recommend to others for children's party's as it's a bit different from a normal party and the kids love that they are allowed to play in the mud. The team running it were great, it was really well structured and organised.



9 Marketing and Communication

9.1 Marketing and Promotion

Harlow Council manages 584 hectares of parks and open spaces made up of three parks, eleven sports grounds, forty playgrounds and six Local Nature Reserves and forty Conservation Areas together with areas of amenity open space, woodland and ponds of which 36 are Local Wildlife Sites. Each of these important spaces provides different types of features and attractions for residents and visitors alike.

The Key objectives are to provide play space and facilities in parks and green spaces in Harlow for residents and visitors of all ages, abilities and wide range of interests and positively encourage maximum use of these areas.

Since April 2012 ECCO have been developing their own marketing strategy to provide for wider community use of the reserve and to maximize opportunities for improving income streams.

The Biodiversity Team and ECCO keeps local media informed and up-to-date about Parks' issues, awards, events taking place, etc. through the issue of regular media releases. The objective in 2015 was to issue 30 such releases some of which will relate specifically to Parndon Wood Nature Reserve. This was achieved by the Council's Communications department in conjunction with ECCO.

9.2 Appropriate Information Channels

9.2.1 Websites

ECCO launched their new website shortly after taking over Parndon Wood – this helped to develop own image and identity having taken over the Council service. The website can be at <https://ecco.org.uk/home/parndon-wood/> . The website provides a better and more navigable site for people wanting to gain information regarding ECCO and Parndon Wood. In the website Parndon Wood has its own page which also provides links to Harlow Council's website. Parndon Wood also advertises any activities and events within the ECCO shops which helps to bring people from the wider community into Parndon Wood.

Harlow Council has their own section on their website: <https://www.harlow.gov.uk/> and search for Parndon Wood.

9.2.2 Social Media

Social media has become the leading information stream for many organisations. It reaches a wide range of people where alternative information channels now fail. ECCO have developed a well-used Facebook page with over 3,200 likes and an Instagram page with 446 followers. ECCO use Facebook as a key component in their marketing strategy, through shared content and recommendations made through the page from happy customers (see section 8.2.4). ECCO pay Facebook for an advertising service for specific events, achieved by buying in to a number of 'hits' through targeted advertising.

Harlow Council's Facebook page has over 7,300 likes. ECCO will also request to promote public events as shared pages and as posts by Harlow Council. Harlow Council will also use their Facebook (including YouTube and Twitter) promote their work, achievements and awards.

Volunteering at Parndon Wood 2017:

<https://www.youtube.com/watch?v=QPIZxRw9jF0>

Green Flag Award for Parndon Wood 2018/19:

<https://www.facebook.com/harlowcouncil/videos/2240930502586998/>

Volunteering at Parndon Wood, coppicing 2019:

<https://www.facebook.com/harlowcouncil/videos/3072318966327449/>

9.2.3 Newsletters and Articles

Other outlets including Harlow's Weekly Information Sheet is distributed to all council staff and Harlow Times is distributed to every household in Harlow and is used to promote the Nature Reserve and increase awareness of biodiversity across Harlow. Special features also appear in a wide range of publications. We also use the Essex County Council Tourist Board and the Nature Reserve is promoted on their website and in their county wide publications.

https://issuu.com/harlowcouncil/docs/harlow_times_autumn_2018

9.2.4 Staff

ECCO staff are always on site while the reserve is open to the public. They are friendly and approachable. Harlow Council Staff and Volunteers are active at Parndon Wood Nature Reserve mostly when the site is closed to the public. Working in other areas, they are identifiable through logo clothing and equally approachable!

Contact Harlow staff are the front line for all council enquiries. They are able to relay queries and messages to the appropriate members of staff able help with the enquiry through their CAM (Customer Access Management) system.

9.2.5 Signage

Information is clearly displayed on our notice boards and in the lobby area. Event promotion is promptly replaced with upcoming events after events have taken place. (see section 3.3). Good clear signage is used to inform visitors, for example of particularly sensitive areas “please keep to the footpaths wildflowers grow here”.

9.3 Appropriate Educational and Interpretational Information

9.3.1 School visits

Parndon Wood offers a fantastic opportunity for schools to experience the wonders of the great outdoors in a safe environment. (see section 8.2.2) Parndon Wood also provides a venue to host local Forest Schools and ECCO is a member of the Forest Schools Association.

9.3.2 Nature Themed Walks, Talks and Events

Local natural historians help run a regular programme of walks talks and events. This can include an annual fugal foray, buzzing bees weekend and mammal themed open day hosted by Essex Badger Group and Harlow Bat Group. An open day is planned for summer 2020 which will include stalls and displays by members of our Harlow Biodiversity Partnership (see section 8.1.2) plus Hawthorn Heavy Horses undertaking bracken rolling and log extraction using Suffolk Punch horses.



Mammals Open Day Summer 2019

9.3.3 Healthy Activities

Parndon Wood Nature Reserve is host to a range of health walks hosted by Harlow Council in partnership with Livewell, Active Harlow and Naturally Attuned.

<https://www.livewellcampaign.co.uk/activities/walking-in-essex/>

<https://www.walkingforhealth.org.uk>

Dramatherapy workshops are run at Parndon Wood Nature Reserve by Chroma. A form of psychological therapy which uses drama, storytelling, play and movement to support people to understand themselves and make positive changes in their lives.

<https://wearechroma.com/drama-therapy/>

10 Implementation of Management Plan

The implementation of the Management Plan is scrutinised at many levels. Being a SSSI, the maintenance of features, such as coppicing and cutting of glades is monitored by Natural England through condition surveys and through rewriting of the SSSI Management Plans. Regular partnership meetings are held between Harlow Council and ECCO every 6 weeks and between member of the Harlow Biodiversity Partnership to discuss ongoing improvements to the site and the service provided (copies of minutes from meeting are available on request).

The judging process of the Green Flag Award provides the guidance required to ensure that an annual process of implementing the agreed plan is met to a high standard.



Harlow
Council
Working together for Harlow



ecco

Appendix 1

Parndon Wood Trail and Features Map

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 2

Coppice Plan for Parndon Wood 2013/14 to 2028/29

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 3

Action Plans 2018 to 2025

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 4

Ripple Tank Diagram for Saw Housing

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 5

Retort Charcoal Kiln RTS1000 Specification

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 6

Species Records

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 7

Parndon Wood 1946 Map

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Appendix 8

Appendix can be emailed as separate attachments due to formatting issues and loss of image quality, contact patrick.bailly@harlow.gov.uk for PDF attachments.

Tools Inventory:

- Vehicles:
- Van; Ford Connect
- Trailer 750 kg gross
- Power tools list:
- Stihl MS362 approximately 10 years old chainsaw
- Stihl MS362 approximately 4 years old chainsaw
- Stihl MS241 approximately 4 years old chainsaw
- Stihl MS241 approximately 2 years old chainsaw
- Stihl MS661 approximately 4 years old chainsaw
- Stihl BG 86 C-E 1 year old blower
- Stihl 82 RC approximately 4 years old hedge trimmer
- Stihl FS 360 approximately 4 years old clearing saw
- Skill saw
- Planer
- Sander
- Battery hand drill
- 3-phase Balfor SC 700 EM saw bench
- Balfor A160R1060 Log Splitter
- DR Trimmer 6.25
- DR Trimmer 7.25
- Forestry Specific Hand Tools and Equipment
- Winch 1.6 tonne + cable
- 50m rope & bag + accessories
- Snatch hook
- Selection of carabiners
- Hookaroons, lifting tongs etc.
- Throw line, weighted bags and Big Shot catapult set
- Logrite Buck Logging arch
- 36" Granberg Alaskan Chainsaw Mill + 18' first-cut rails
- Forestry First Aid kit
- Spillage Kit
- Biohazard Kit
- Tools general
- Spades x 7
- Shovels x 8
- Garden forks x 3
- Pickaxe x 2

- Azde x 2
- Post rammer x 2
- Manure forks x 3
- Pitch forks x 3
- Hay rakes x 5
- Metal rakes x 3
- Secateurs x 6
- Loppers x 24
- Bow saws x 26
- Pole saw x 1
- Panel saws x 4
- Billhooks x 9
- Axes x 4
- Slashers x 5
- Jungle knives x 3
- Lump hammers x 3
- Claw hammers x 5
- Post holers x 2
- Metal spikes x 2
- Monkey strainers x 1
- Waders x 2
- Ladder x 1
- Fencing pliers x 5
- Wire cutters x 4
- Tea facilities (Kelly kettles etc).

Further information available electronically prior to judging or made available on the day of judging upon prior request include:

SSSI Management Plan 2014 to 2019

User Manuals for Site Machinery

Vehicle Log Book

Risk Assessments and Hand Arm Vibration (HAVS) Records

ECCO and Harlow Council Partnership and Biodiversity

Partnership Minutes of Meetings

