

**Management Plan  
Weald Common Flood Meadows  
Local Nature Reserve  
North Weald Bassett  
  
2011-2015**



*Epping Forest District Council*  
[www.eppingforestdc.gov.uk](http://www.eppingforestdc.gov.uk)



**Produced by Epping Forest Countrycare 2002,  
Revised 2011**

## **Site Management Plan, Weald Common Flood Meadows LNR, North Weald Bassett**

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## Introduction

This plan was originally produced by Countrycare in 2002 and has been updated in 2011. It loosely follows the specifications laid down by Natural England for Site Management Plans. However, this plan is intended to be more of a "working document" and so some sections have been ignored and additional sections have been introduced.

It is intended that this plan should guide the management of Weald Common for the next five years from January 2011 to December 2015 and have sufficient information about past management of the meadow. By recording this information it is hoped that this plan regardless of any staffing changes will have the relevant information needed to guide future management of the site.

## 1.0 General Information

### 1.1 Location (See Appendix I, map 6.1)

<b>Name:</b>	Weald Common Flood Meadows	<b>Area:</b>	1.86 Hectares
<b>Grid Reference:</b>	Thornhill 2: TL 499 039 Thornhill 1: TL 502 042	<b>Warden:</b>	Environmental Services
<b>Local Planning Authority:</b>	Epping Forest District Council		
<b>County:</b>	Essex		
<b>District:</b>	Epping Forest	<b>Parish:</b>	North Weald Bassett
<b>Conservation Status:</b>	Local Nature Reserve declared 2002 , Local Wildlife Site declared 1992, reviewed 2009 Ep 124 (See appendix I, 6.7)		
<b>Nature of legal interest:</b>	Freehold, Epping Forest District Council		

### 1.2 Site Description

The flood meadows were created in 1996 as part of the North Weald Flood Alleviation Scheme, a major engineering and habitat creation project. They cover an area of 1.86 hectares. Both meadows are located in an area of partial redevelopment, mainly as parkland and a golf course for recreation.

The meadows are in two separate areas. Thornhill 2, which lies to the west, is 1.1 hectares in size. This triangular area is adjacent to the road south of houses in North Weald Bassett, close to the village hall. Thornhill 1 lies to the north east of the first area and is an elongated site, 0.75 of a hectare, running south east of the housing. A stream running into a drainage channel bisects Thornhill 2 and a drainage channel bisects Thornhill 1.

The meadows are managed primarily for flood alleviation. However, within this remit the meadows are also managed for nature conservation. The meadows were sown initially with three different wildflower seed mixes. The species in these mixes reflect those found in the district's remaining water meadows (see Appendix II, 7.1). A mixed hedge has been planted along all boundaries of Thornhill 2 (see 3.3 and Appendix I, map 6.5.1) and along north east and south west boundaries of Thornhill 1 (see Appendix I map 6.4.1). Both the wet areas and remaining meadowland are improving floristically and becoming increasingly species rich.

### **1.3 Owners**

The Environmental Services Department of Epping Forest District Council owns the land.

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Civic Offices  
High Street  
Epping  
Essex  
CM16 4BZ

### **1.4 Rights of Access (see Appendix I, maps 6.2.1 and 6.2.2)**

Public access is permitted across the whole of Thornhill 2, with the entrance being a kissing gate in the north western corner. There are also four 'squeeze gaps' located in the fence around this site. Public access to Thornhill 1 is prohibited as it is hoped to maintain this area specifically for the purpose of nature conservation.

Vehicular access to both sites may be made from the metalled road leading east from Epping Road (B181), which runs up to the site of the now derelict Ongar Radio Station. Direct access onto Thornhill 2 is made via a field gate in the western corner. Direct access for management onto Thornhill 1 is made via a field gate in the south western corner.

As part of the redevelopment for this whole area, it has been proposed to create a new public footpath along the eastern boundary of Thornhill 2 under section 25 of the Highways Act 1980. There are also plans to designate the existing metalled road as a bridleway. To date this is still only a plan and no action has been taken.

### **1.5 Boundaries (see Appendix I, maps 6.2.1 and 6.2.2)**

Thornhill 2 is bounded to the north by a metalled road. The rest of this meadow is surrounded by what was until recently arable land and is now developing parkland with a mixture of open grassland, hedgerows and trees. The whole meadow is

bounded by a new hedgerow, planted by Countrycare between 1996 and 2005 and, except for hedge 3, layed between 2006 and 2010, also post and wire fencing.

Thornhill 1 is bounded to the north west by housing and to the south west by a metalled road. To the south east is arable land. Post and wire fencing also surround the north west side of the meadow. Hedgerows along the south east and north west boundaries were planted by Countrycare volunteers 2003 and 2004.

The northern end boundary has been found to be approx 50 metres further to the north than previously realised and this has been planted with hedgerow plants in 2011.

## **1.6 Services (See Appendix I, map 6.6)**

Both meadows contain storage ponds. These are linked together by a drainage channel that runs east to west beside and underneath the metalled road.

## **1.7 Maps and Photographic Coverage (see Appendices I & III)**

**Maps:** Location & general scheme plan See Appendix I, map 6.1

**Aerial Photographs:** 2007 (EFDC) See Appendix III, 8.1

**Photographs:** See Appendix III, 8.2

**Slides:** There are a number of slides in the Countrycare archives of work carried out on these meadows.

## **2.0 Environmental Information**

### **2.1 Physical information**

#### **2.1.1 Topography**

North Weald Bassett is a low-lying area within the North Weald Brook catchment. Its highest point is 100m Above Ordnance Datum (AOD). Both meadows are concave, Thornhill 2 lying between 81 and 85.5 metres AOD and Thornhill 1 lying between 88 and 90 metres AOD.

#### **2.1.2 Climate**

The closest records available are of Greenwich (averages from 1971 to 2000), which is approximately 20km South of Weald Common.

**Greenwich 1971–2000 averages**

<b>Month</b>	<b>Max Temp</b> [°C]	<b>Min Temp</b> [°C]	<b>Days of Air Frost</b> [days]	<b>Sunshine</b> [hours]	<b>Rainfall</b> [mm]	<b>Days of Rainfall</b> [days] ≥ 1mm
<b>Jan</b>	7.9	2.4	7.4	45.9	51.9	10.9
<b>Feb</b>	8.2	2.2	7.4	66.1	34.0	8.1
<b>Mar</b>	10.9	3.8	2.9	103.2	42.0	9.8
<b>Apr</b>	13.3	5.2	1.1	147.0	45.2	9.3
<b>May</b>	17.2	8.0	0.1	185.4	47.2	8.5
<b>Jun</b>	20.2	11.1	0.0	180.6	53.0	8.4
<b>Jul</b>	22.8	13.6	0.0	190.3	38.3	7.0
<b>Aug</b>	22.6	13.3	0.0	194.4	47.3	7.2
<b>Sep</b>	19.3	10.9	0.0	139.2	56.9	8.7
<b>Oct</b>	15.2	8.0	0.3	109.7	61.5	9.3
<b>Nov</b>	10.9	4.8	3.0	60.6	52.3	9.3
<b>Dec</b>	8.8	3.3	6.9	37.8	54.0	10.1
<b>Year</b>	14.8	7.2	29.1	1461.0	583.6	106.5

Source: <http://www.metoffice.gov.uk/climate/uk/averages/19712000/sites/greenwich.html>

### 2.1.3 Geology and Soils

The surface geology consists of glacial boulder clay and head deposits, overlying London clay. Borehole and trial pits also revealed a variable layer of made ground covering the site.

### 2.1.4 Hydrology

The meadows lie within an area of clay based geology which very much influences the river network, with small and numerous tributaries feeding into the main river system. The meadows are situated within a sub catchment of the main North Weald Brook. Two watercourses drain the catchment, one flows at the rear of Thornhill, Emberson Way and Bassett Gardens, see appendix 6.7 for location of residential roads, and the other flows across scrubland from the railway. Both converge at the village hall before discharging into the North Weald Brook.

The whole reason for the development of the flood scheme has been to try to counteract the rapid response of the area to intense rainfall events. Historically, severe storms in the catchment area have resulted in rapid surface run-off and flooding problems were experienced in the village of North Weald in 1985, July 1987 and June 1993.

The combined water storage capacity of both flood meadows on Weald Common is 6300m<sup>3</sup>. This is the standard of protection against a major storm event with a 1:75 year return period.

## 2.2 Biological Information

### 2.2.1 Flora

Annette Ford undertook vegetation surveys in the summer of 1999 on the following dates: 28<sup>th</sup> July, 31<sup>st</sup> August, 2<sup>nd</sup> and 18<sup>th</sup> September. A list of species recorded may be seen in Appendix II, 7.2. A total of 115 species of plants were recorded within Thornhill 1 and 2 they support a variety of grasses and herbs. Thornhill 2 had the greatest floral diversity at the time of surveying.

Despite the increasing species diversity, both sites were still dominated by hardy perennials such as clover, thistles and ragwort, particularly on the drier areas. Thornhill 1 has quite a number of Cowslips (*Primula veris*) growing here during the spring.

The wetter areas were more diverse, as would be expected, with species such as Purple-loosestrife (*Lythrum salicaria*), Water-cress (*Rorippa nasturtium-aquaticum*) and Meadowsweet (*Filipendula ulmaria*). There are also a number of sedges and rushes present along the sides of the stream including soft and hard rush (*Juncus effuses* and *Juncus inflexus*), Hairy sedge (*Carex hirta*) and False fox sedge (*Carex otrubae*). New vegetative surveys for both sites need to be undertaken.

### 2.2.2 Fauna

There are no records of fauna for the site at present. Preliminary surveys of birds, butterflies, reptiles and amphibians should be carried out. There is some anecdotal evidence from sightings made during volunteer work parties on site. A Common lizard (*Lacerta agilis*) was found in December 1999 and spring 2010. Wasp spiders (*Argiope bruennichi*) were seen on two occasions during 2010. Frogs and grass snakes (*Natrix natrix*) are also present on the site.

### 2.2.3 Communities

The site contains a number of different plant communities. Communities pass through a whole range from those with plants associated with dry, open grassland through to those with plants associated with aquatic habitats. The largest community is that of grassland which may be sub-divided into wet and dry communities. It would be reasonable to assume that these communities are based on a neutral to basic substrate given the nature of the surface geology.

## 3.0 Cultural Information

### 3.1 Historical

Since the flood meadows are a relatively recent development there are no significant historical features associated with it. There are a number of old buildings to the east, some of which are grade one listed and form part of what was once Ongar Radio Station. The site is also just within the boundaries of the old deer park of Ongar Park Wood.

### 3.2 Land Use

The meadow's primary function is a floodwater storage area. However, since its conception it has always been intended to integrate this with public access and nature conservation. The meadow's secondary use is therefore for informal recreation such as dog walking and bird watching.

The management work taking place on the site is maintaining the wild flower areas and the drainage ditches. This is done by cutting on an annual basis and clearing the ditches every 4-5 years, or as required.

### 3.3 Past Management

Date	Site	Work Done
March 1996	Thornhill 1&2	Excavation and construction of the site was completed
Sept 1997	Thornhill 2	Hay cut on western half. Field gate and kissing gate installed.
Feb/March 1998	Thornhill 2	250 metres of mixed hedge (1000 trees) planted around Thornhill 2 with volunteers.
July/August 1998	Thornhill 2	Hay cut, appearance of flowers such as Ragged Robin ( <i>Lychnis flos-culi</i> ) and <i>P. veris</i>
Feb 1999	Thornhill 2	95 metres of hedge planted by Community Service group, volunteers and 20 Brownies from 3rd Theydon Bois group. Trees planted included 225 Hawthorn ( <i>Crataegus monogyna</i> ), 25 Field Maple ( <i>Acer campestre</i> ), 25 Hazel ( <i>Corylus avellana</i> ) and 25 Dogwood ( <i>Cornus Sanguineus</i> ).
August/Sep 1999	Thornhill 1	First cut of meadow 0.5 ha cut. Installation of field gate.
August/Sep 1999	Thornhill 2	Appearance of yellow rattle ( <i>Rhinanthus minor</i> ). 0.45 ha cut.
December 1999	Thornhill 2	75 metres of hedgerow planted alongside metalled road. Trees planted included 150 <i>C. monogyna</i> , 35 <i>A. campestre</i> , 35 <i>C. Sanguineus</i> and 35 <i>C. avellana</i>
August 2000	Thornhill 1&2	Hay cut on both meadows by Countrycare staff and contractor
August 2001	Thornhill 2	Hay cut
February 2002	Thornhill 1	120m of hedgerow planted on eastern side. Trees planted include 320 <i>C. monogyna</i> , 40 <i>C. avellana</i> , 20 <i>A. campestre</i> and 20 <i>C. sanguineus</i> .
February 2002	Thornhill 2	Squeeze gaps created at 3 locations and 5.4m bridge installed across ditch at south southern end. Some scrub cleared from eastern side of ditch.

July 2002	Thornhill 2	Cut meadow and baled up 111 bales of hay from 0.47ha, took off all tree guards
September 2002	Thornhill 1&2	Contractors cut Thornhill 1 and remainder of 2
February 2003	Thornhill 1	Tree planting 268 northern boundary next to road, 2 tasks
February 2003	Thornhill 2	Coppice blackthorn, hawthorn & willow from central ditch 25m completed one side. 2 tasks
March 2003	Thornhill 1	Planted 160 trees
March 2003	Thornhill 2	Coppiced ditch & willow around pond layed 15m of hedge.
January 2004	Thornhill 1	Replaced dead trees & 15m of hedgerow planted 300 trees
March 2005	Thornhill 2	Planted 20m of hedge on south eastern boundary (Hedge 3) 100 trees repaired fencing around southern meadow put new step in on bridge east side. Cleared blackthorn on northern side of ditch.
March 2005	Thornhill 1	Repaired fence on southern boundary planted 7 trees in 6m gap.
March 2006	Thornhill 1	Tree Planting
November 2006	Thornhill 1	Tree Planting
December 2006	Thornhill 2	20m of hedge 1 laid
June 2007	Thornhill 2	Main inlet cleared and willow coppiced
May 2008	Thornhill 2	Bridge and steps installed and sign board put in by kissing gate.
Sept 2008	Thornhill 2	Cut bank
December 2008	Thornhill 2	Hedge 2 laid
January 2009	Thornhill 2	Hedge 2 laid
January 2009	Thornhill 2	Steps installed
January 2009	Thornhill 2	Hedge 2 laid
February 2009	Thornhill 2	Ditch that runs into pond cleared
February 2009	Thornhill 2	Hedge 2 laid
July 2009	Thornhill 2	Hedge cut back and sign mended
October 2009	Thornhill 2	70m of hedge 4 laid
November 2009	Thornhill 2	Hedge 4 along road laid
February 2010	Thornhill 2	50m of hedge 4 laid
February 2010	Thornhill 1	Bramble cleared from fence to oak tree
March 2010	Thornhill 1	Cleared bramble at far end of site

March 2010	Thornhill 2	Trimmed hedge and burned brash
April 2010	Thornhill 1	Put in bollards as a boundary marker
May 2010	Thornhill 1	Continued with bollards
July 2010	Thornhill 1	Strimmed bramble behind houses and finished bollards. Removed boundary fence
October 2010	Thornhill 2	Strimmed common and around hedge
October 2010	Thornhill 2	Hedge 5 laid
November 2010	Thornhill 2	Hedge 5 laid
November 2010	Thornhill 2	Hedge 5 laid

(See appendix 1, 6.5.1 for detailed map of Thornhill 2 hedges).

## **4.0 Evaluation of Aims and Objectives**

### **4.1 Aims**

- 4.1.1 To retain flood waters, this would otherwise flood the village of North Weald.
- 4.1.2 Maintain and enhance the nature conservation value of the flood meadows.
- 4.1.3 Promote the use of the flood meadows for education and its role within the context of the Essex Biodiversity Action Plan.
- 4.1.4 Provide an area for informal recreation for the people of North Weald.

### **4.2 Objectives**

- 4.2.1 Maintain the site's function as a flood alleviation scheme.
- 4.2.2 Maintain and enhance wet grassland habitat.
- 4.2.3 Maintain and enhance the hedgerows.
- 4.2.4 Maintain and enhance wetland habitat.
- 4.2.5 Maintain and enhance populations of notable species.
- 4.2.6 Promote the site for educational use to the public.
- 4.2.7 Ensure all legal and health and safety requirements are met.

### **4.3 Management constraints.**

Within the plan management for flooding takes priority. Works will be timed to suit nature conservation wherever possible. Obviously, any protected species will be given the appropriate consideration.

### **4.4 Management proposals.**

#### 4.4.1 Flood Alleviation Scheme.

All management work on the site should be with the approval of Land Drainage to ensure the site integrity of the flood alleviation scheme.

Ideally the pond should be dredged every four years, or as required. The link stream and surface water drain should also be dredged every four to five years.

#### 4.4.2 Grassland management.

Ideally both meadows should be cut on an annual basis in late July or early August. In poor summers it may be too wet for machinery to gain access to the site without causing unacceptable damage. It is essential that the meadows are cut once a year, the timing of the cut can be flexible. The whole site has been sown with wildflower seed. In order to increase amount of wildflower species the cut should be made when these species have set seed. It is essential to cut the meadow and remove the cuttings to reduce nutrients in the soil and control the grass.

Regular surveys should be carried out during the flowering period so that accurate records of populations of notable species are held.

Weed species and their control is a major factor to consider in terms of grassland management. Control of ragwort and creeping thistle is a priority at the northern end of Thornhill 1. A check should be made to identify the site of Ragwort plants during the flowering period then establish a control area where the plants are left to set seed and die this can be fenced off to prevent rabbit browsing, and for the remainder of the site the ragwort should be pulled and taken away from the site. This can be monitored in future years to verify which method produces the best results.

#### 4.4.3 Hedgerow management.

The border hedgerows 1,2, 4 & 5 on Thornhill 2 have all been laid between 2006 & 2010, hedgerow 3 was not planted until 2005 and needs clearing before it can be laid. This may be in two stages as the hedge is divided by a squeeze gap. (See map appendix I, 6.5.1)

The hedgerows on Thornhill 1 can start to be laid during 2011 & 2012. There is a considerable amount of bramble on Thornhill 1 to be cleared from the hedgerows. One section along the north east side needs to have tree guards removed and bramble cleared to be ready for laying in 2011/12 season. Also some of the trees on the north western side have been damaged by cutting their tops off. They need to grow taller before they will be ready for laying.

Gaps in the field side hedge must also be planted up. The northern end will not be ready until at least 2015 or later, as the trees were only planted in 2009 and 2010. The extended boundary at the northern end of the site needs to have trees planted along the perimeter. The trees that marked the old boundary of the site need to be dug up and then be replanted along the new boundary line. The mixture of trees to be planted should be *C. monogyny*, *C. avellana*, *C. sanguinea* and *A. campestre*, to maintain continuity with other hedgerows in the area.

The boundary hedge around Thornhill 2 which has been laid needs to be trimmed every two to three years see appendix I, 6.5.1 for timetable. The old central hedge, running east to west on Thornhill 2 along the ditch line, requires cutting back and thinning out to prevent scrub encroaching onto the grassland particularly at the eastern end.

#### 4.4.4 Water habitat management.

Water habitats comprise the storage ponds, link stream and surface water ditch. The main areas of standing water are in the storage ponds. Shallower marginal waters surround these. The main objective is to maintain these areas of open water as much as possible since they are important aspects of the flood meadows from both an engineering and conservation point of view. The management of marginal vegetation, which has encroached in much of the shallower areas, is therefore a priority with species such as reed mace (*Typha latifolia*) becoming a problem. Willow growing around the ponds and streams should also be coppiced one third at a time on a three year rotation.

#### 4.4.5. Populations of notable species.

The site was last surveyed for flora in 1999 this needs to be updated to ensure an accurate record of what is present is held. Survey should be carried out during flowering period.

There are no records for fauna on the site at present. Regular surveys should be carried out to record Butterflies, Dragonflies, Birds and any reptiles and amphibians throughout the spring / summer period. This can be done either by staff on regular visits or volunteers on task days.

#### 4.4.6. Educational potential, site interpretation and promotion.

The site has great potential to be used as an educational resource. The site should also be used to promote the work of both the Land Drainage Section and Countrycare. This valuable working partnership has provided a site that has a dual function as a flood alleviation scheme and nature reserve.

Regular events should be organised at the site to promote management work being undertaken, and to encourage public ownership and participation. Organise over the next 2 years at least 1 educational events and a minimum of 2 practical conservation days each year.

Links should be maintained with St. Andrews Primary School, involving them in

educational events.

#### 4.4.7 Legal and Health and Safety requirements.

##### **The Wildlife and Countryside Act 1981.**

The Act protects all wild birds from nest destruction, killing (except in certain cases) and injuring. Schedule 1 listed birds are given special protection in these respects and additional protection in that such birds may not be disturbed whilst building a nest or whilst in, or near a nest, nor any dependant young be disturbed. A licence is also required from Natural England for photography of nesting birds.

The Act also makes it any offence to kill, injure, or take any bat etc. A number of other animals listed in section 5 of the Act are also given special protection and include the Great Crested Newt. Section 9 (4) refers to Water Vole and states it is an offence to intentionally or recklessly damage, destroy or obstruct access to the place where voles are sheltering. Schedule 8 refers to protection of plants.

##### **The Control of Weeds Act 1959.**

The Act requires the following plants are controlled:

Creeping Thistle (*Cirsium arvense*), Curled Dock (*Rumex crispus*), Ragwort (*Senecio jacobea*) and Spear Thistle (*Cirsium vulgare*).

##### **Occupiers Liability Act 1957.**

The Act requires that the occupier take all responsible measures to protect any persons visiting the site, including trespassers. In practice this will mean that parts of the site that are accessible are made reasonably safe, and that unsafe areas i.e. the deep water are made inaccessible or assigned as unsafe. Potentially dangerous man made features are considered to engender a greater duty of care than natural features.

## 5.0 Work Schedule

### 5.1 Work Programme: Five Year Period (See Appendix I, Maps)

Projects	2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	
<b>4.4.1 Flood alleviation scheme</b>																				
Manage link stream by dredging														L						
Manage storage ponds by dredging														L						
Manage storage ponds by removing vegetation														L						
Manage inlet/outlet by high pressure jetting														L						
<b>4.4.2 Grassland Management</b>																				
Manage grassland by mowing			c				c					c				c				c
Vascular plant survey			s				s					s				s				s
Monitor invasive species			s				s					s				s				s
Ragwort pulling experiment Thornhill 1 extension			s				s					s				s				s
<b>4.4.3 Hedgerow Management</b>																				
Gap up existing hedgerows	v				v				v											
Hedge Trimming Thornhill 2 (hedge no's shown)					4		2		1				4		5					
Plant new hedge around Thornhill 1 extension and fill in gaps east side.	v																			
Hedge laying Thornhill 1				v	v		v		v											
Hedge clearance Thornhill 2 hedge 3	v																			
Hedge laying Thornhill 2, Hedge 3				v			v													
<b>4.4.4 Water Habitat Management</b>																				
Manage link stream by removing vegetation														L						
Coppice willow 3 year rotation around pond and central ditch Thornhill 2								v												
Cut back scrub on central ditch in Thornhill 2								v												
<b>4.4.5. Populations of notable species</b>																				
Breeding bird survey		s					s					s				s				s
Butterfly & dragonfly survey (monthly)		s	s				s	s				s	s			s	s			s
Survey amphibians, reptiles			s				s					s				s				s
<b>4.4.6 Education, interpretation and promotion.</b>																				
Photograph site	s	s	s	s			s	s	s	s				s	s	s	s			s
Organise educational events																				s

Key				C = contractors
1	Jan, Feb, March	3	Jul, Aug, Sept	L = land drainage
2	Apr, May, Jun	4	Oct, Nov, Dec	S = staff
				V = volunteers

**Appendix I, 6.1**  
Weald Common flood meadow Location map



Thornhill 2

Thornhill 1

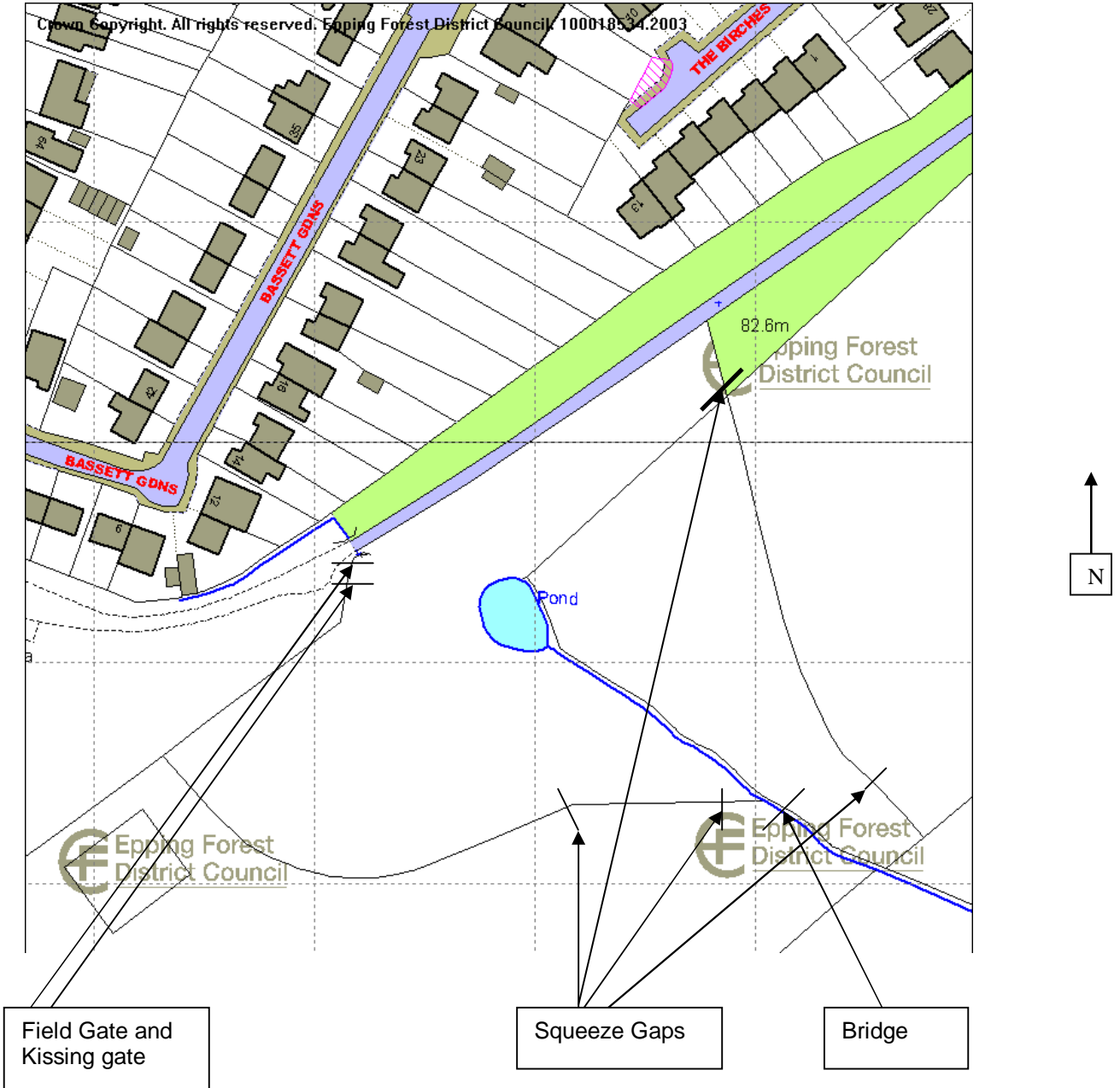
Source [www.ordnancesurvey.co.uk/getamap](http://www.ordnancesurvey.co.uk/getamap)

**Appendix I, 6.2.1**  
Weald Common Flood Meadow Local Nature Reserve  
Thornhill 1  
Site Access and boundaries



Field Gate                      Site boundary

**Appendix I, 6.2.2**  
Weald Common Flood Meadow Local Nature Reserve  
Thornhill 2  
Access and site boundaries



**Appendix I, 6.3.1**  
Weald Common Flood Meadow Local Nature Reserve  
Thornhill 1  
Habitat – existing state

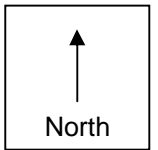


Drainage ditch

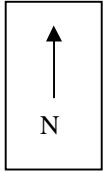
Culvert

Mixed hedge planted 2002

Wildflower meadow established 1996

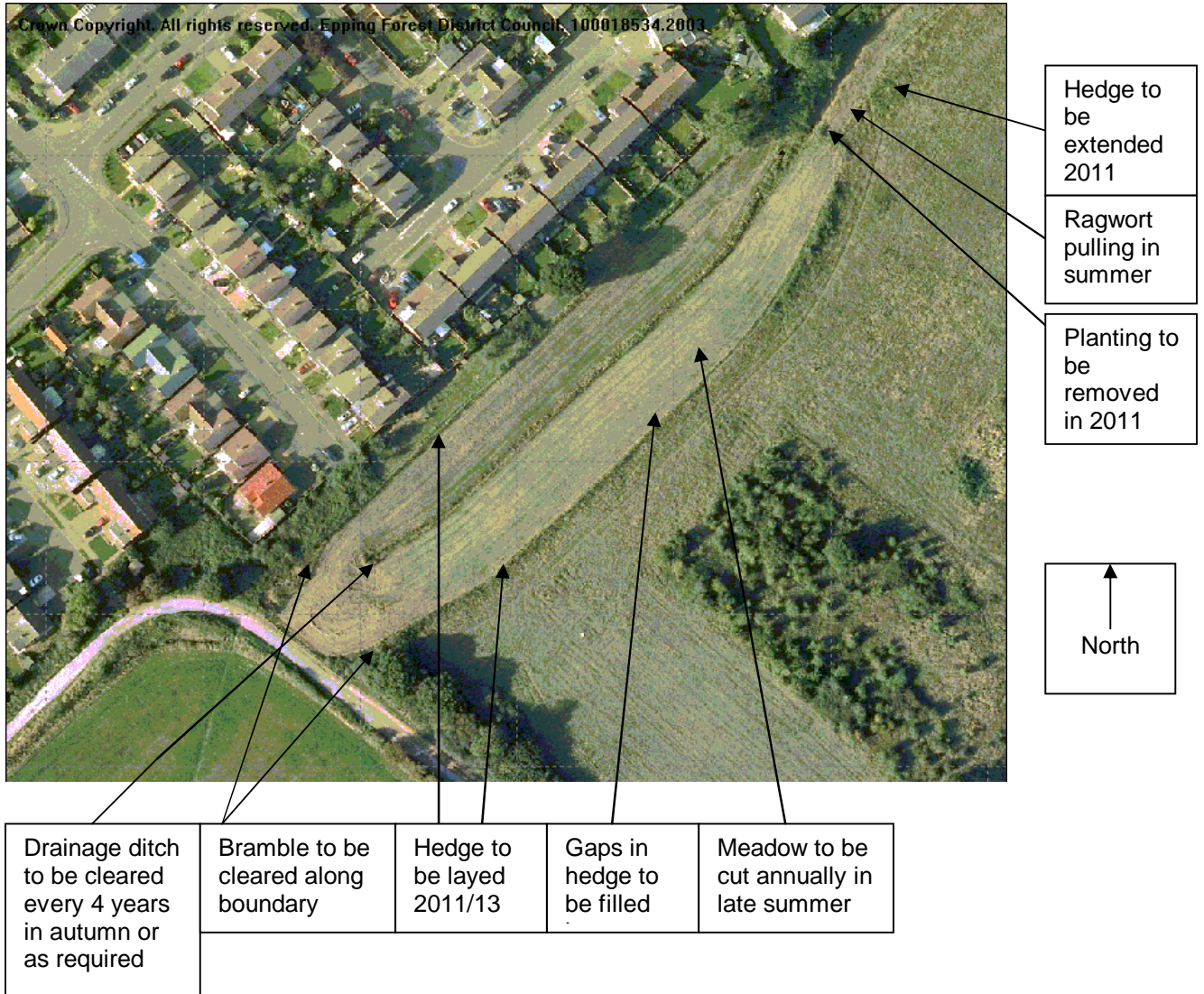


**Appendix I, 6.3.2.**  
Weald Common Flood Meadow Local Nature Reserve  
Thornhill 2  
Habitat – Existing state

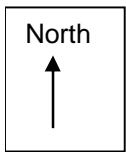


- Pond
- Wildflower Meadow
- Laid hedges
- Drainage Ditch

**Appendix I, 6.4.1**  
Weald Common Flood Meadow Local Nature Reserve  
Thornhill 1  
Management proposals

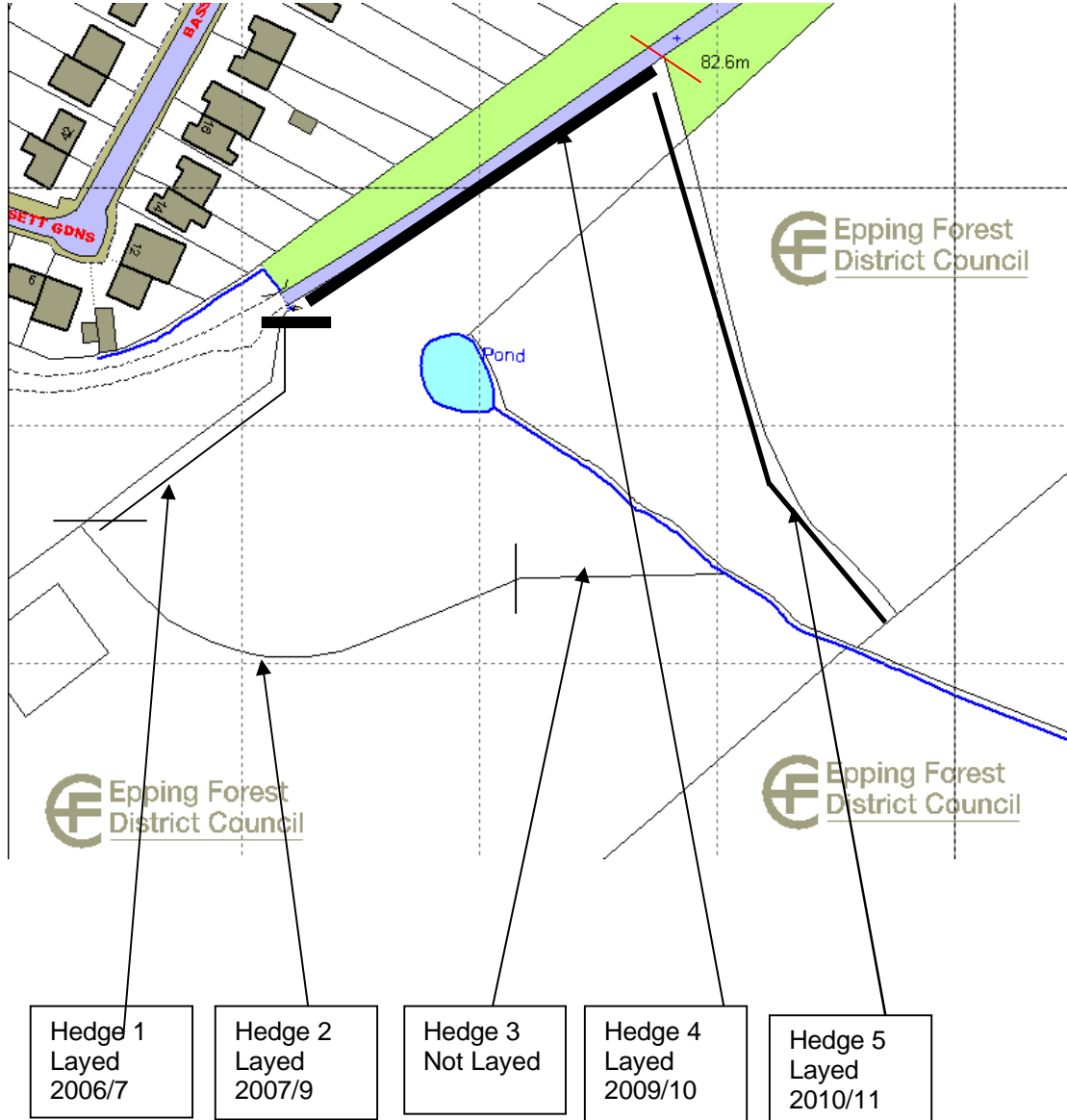


**Appendix I, 6.4.2**  
Weald Common Flood Meadow Local Nature Reserve  
Thornhill 2  
Management proposals



Pond to be cleared every 4 years as required in autumn	Wildflower Meadow to be cut every summer cuttings to be	Willow to be coppiced every 3 years	Hedges to be trimmed	Drainage Ditch to be cleared every 4 years. Scrub to be managed on a 5 year rotation
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**Appendix I, 6.5.1**  
**Weald Common Flood Meadow Local Nature Reserve**  
**Thornhill 2**  
**Hedgerows**

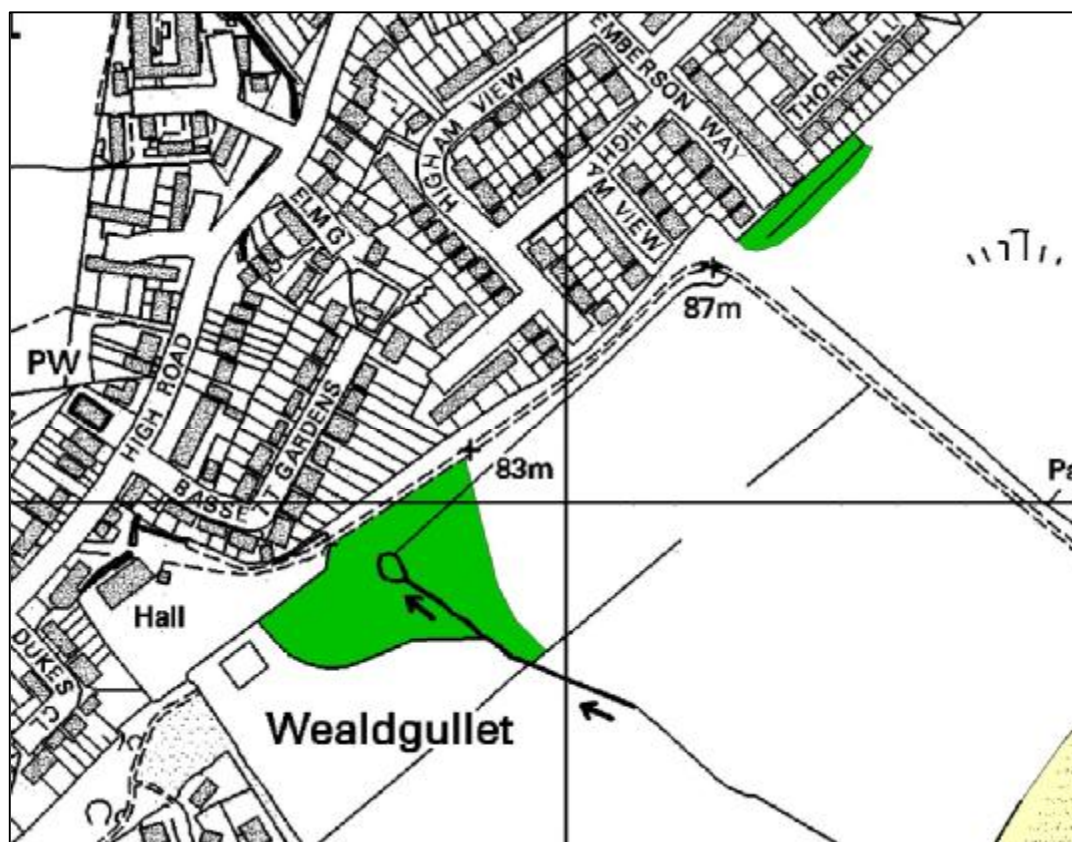


	Date laid	Date trimmed	Date for re-trimming
Hedge 1	2006 / 07	Jan 2010	Jan 2013
Hedge 2	2008 / 09	Oct 2012	Oct 2015
Hedge 3	Not laid		
Hedge 4	2009 / 10	Jan 2012	Jan 2014
Hedge 5	2010 / 11	Oct 2014	Oct 2017

**Appendix I, 6.6**  
Weald Common Local Nature reserve  
Thornhill 1 & 2 land drainage



**Appendix I, 6.7**  
Weald Common Local Nature Reserve  
Local wildlife site citation



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**Ep124 Weald Common LNR (1.2 ha) TL 500040**

This site, located to the south east of North Weald Bassett, comprise two meadows created in 1996 as part of a flood defence for the village and later declared a LNR in 2004. Despite the primary aim of flood alleviation, the opportunity to create a diverse wildlife habitat was incorporated into the scheme. The grassland is characterised by a range of species including Cowslip (*Primula veris*), Wild Carrot (*Daucus carota*), Grass Vetchling (*Lathyrus nissolia*) and Agrimony (*Agrimonia eupatoria*). The wet areas of the meadows and drains exhibit a wide variety of species. Cyperus Sedge (*Carex pseudocyperus*), Ragged-Robin (*Lychnis flos-cuculi*), Purple-loosestrife (*Lythrum salicaria*), Sweet-flag (*Acorus calamus*) and Water-plantain (*Alisma plantago-aquatica*) and several rushes (*Juncus* spp.) are recorded from these areas of the site.

**BAP Habitats**

Species-rich Grasslands (Essex)

**Selection Criteria**

HC11 – Other Neutral Grasslands

HC31 – Urban Sites

**Rationale**

This is a created site that serves not only a practical function, but enhances the local environment on the urban fringes of North Weald Bassett. The site has been developed for its wildlife potential, recreation and educational value for local residents.

**Review Schedule**

**Site Selected:** 2009

## Appendix II, 7.1

### Wildflower seed mixes

Three different wildflower seed mixes were selected as follows:

- M5 Short meadow mix: Fescue grass mix in the ratio of 20% wildflowers to 80% grass by mass.
- M6 Pond edge mix: Fescue grass mix in the ratio of 20% pond mix to 80% grass by mass.
- M7 Damp meadow mix: Fescue grass mix in the ratio of 20% wildflowers to 80% grass by mass with an increased percentage of Ragged Robin and the omission of water avens.

Variety		% by mass		
		M5	M6	M7
Cowslip	<i>Primula veris</i>	5		10
Lady's Bedstraw	<i>Galium verum</i>	15		
Meadow Buttercup	<i>Ranunculus acris</i>	20	25	30
Selfheal	<i>Prunella vulgaris</i>	10	10	
Yellow Rattle	<i>Rhinanthus minor</i>	25		
Harebell		1		
Hoary Plantain		10		
Yarrow	<i>Achillea millefolium</i>	4		
Betony	<i>Stachys officinalis</i>	10		
Meadow Sweet	<i>Filipendula ulmaria</i>		24	20
Purple Loosestrife	<i>Lythrum salicaria</i>		5	
Yellow Flag Iris	<i>Iris pseudocorus</i>		30	20
Ragged Robin	<i>Lychnis flos-cuculi</i>		5	18
Devils Bit Scabious	<i>Succisa pratensis</i>		1	2

## Appendix II, 7.2. Species Lists

Preliminary survey of flora carried out by Dr Annette Ford on 28 July, 31 August, 2 & 18 September 1999. A total of 115 species of plant were recorded

W Western meadow (Thornhill 2)  
E Eastern meadow (Thornhill 1)  
P Planted

Scientific Name	Common Name	Details
<i>Acer pseudoplatanus</i>	Sycamore	W P
<i>Achillea millefolium</i>	Yarrow	W E
<i>Agrostis stolonifera</i>	Creeping Bent	E
<i>Allaria petiolata</i>	Garlic Mustard	W
<i>Alopecurus myosuroides</i>	Black-grass	W
<i>Angelica sylvestris</i>	Wild Angelica	W
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	W E
<i>Arrhenatherum elatius</i>	False oatgrass	W E
<i>Barbarea vulgaris</i>	Winter-cress	W
<i>Bellis perennis</i>	Daisy	W
<i>Bromopsis ramosa</i>	Hairy Brome	W
<i>Carex hirta</i>	Hairy Sedge	W
<i>Carex otrubae</i>	False Fox Sedge	W
<i>Centaurea nigra</i>	Common Knapweed	W E
<i>Centaurium erythraea</i>	Common Centaury	W
<i>Cerastium fontanum</i>	Common Mouse-ear	W E
<i>Chenopodium album</i>	Fat-hen	W
<i>Chenopodium polyspermum</i>	Many-seeded Goosefoot	W
<i>Cirsium arvense</i>	Creeping Thistle	W E
<i>Cirsium vulgare</i>	Spear Thistle	W
<i>Convolvulus arvensis</i>	Field Bindweed	E
<i>Cornus sanguinea</i>	Dogwood	W
<i>Corylus avellana</i>	Hazel	W

<i>Crataegus monogyna</i>	Hawthorn	W
<i>Crepis capillaris</i>	Smooth Hawk's-beard	W
<i>Crepis vesicaria</i>	Beaked Hawk's-beard	W
<i>Dactylis glomerata</i>	Cock's-foot	W E
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	E
<i>Dipsacus fullonum</i>	Wild Teasel	W
<i>Elytrigia repens</i>	Common Couch	W E
<i>Epilobium hirsutum</i>	Great Willowherb	W E
<i>Epilobium montanum</i>	Broad-leaved Willowherb	W
<i>Equisetum arvense</i>	Field Horsetail	W E
<i>Euonymus europaeus</i>	Spindle	W P
<i>Festuca ovina</i>	Sheep' Fescue	E
<i>Festuca rubra</i>	Red Fescue	E
<i>Filipendula ulmaria</i>	Meadowsweet	W
<i>Galium aparine</i>	Cleavers	W
<i>Galium verum</i>	Lady's Bedstraw	E
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	W
<i>Geranium molle</i>	Dove's-foot Crane's-bill	E
<i>Glechoma hederacea</i>	Ground Ivy	W
<i>Glyceria fluitans</i>	Floating Sweet-grass	W E
<i>Hedera helix</i>	Common Ivy	W
<i>Heraclium sphondylium</i>	Hogweed	W E
<i>Holcus lanatus</i>	Yorkshire Fog	W E
<i>Hordeum murinum</i>	Wall Barley	W
<i>Hypericum hirsutum</i>	Hairy St John's Wort	W
<i>Juncus effusus</i>	Soft Rush	W E
<i>Juncus inflexus</i>	Hard Rush	W E
<i>Lactuca serriola</i>	Prickly Lettuce	W
<i>Lamium album</i>	White Dead-nettle	W E
<i>Lathyrus pratensis</i>	Meadow Vetchling	W E
<i>Lemna minor</i>	Common Duckweed	W

<i>Leontodon autumnalis</i>	Autumn Hawkbit	W E
<i>Lolium perenne</i>	Perennial Rye-grass	W E
<i>Lotus corniculatus</i>	Common Bird's-foot trefoil	W
<i>Lythrum salicaria</i>	Purple-looetrife	W
<i>Matricaria recutita</i>	Scented Mayweed	W
<i>Medicago lupulina</i>	Black Medick	W E
<i>Myosotis arvensis</i>	Field Forget-me-not	W
<i>Myosotis laxa</i>	Tufted Forget-me-not	E
<i>Odontites vernus</i>	Red Bartsia	W
<i>Persicaria maculosa</i>	Redshank	W
<i>Phleum bertolonii</i>	Smaller Cat's-tail	W E
<i>Phleum pratense</i>	Timothy Grass	W E
<i>Phragmites australis</i>	Common Reed	E
<i>Picris echioides</i>	Bristly Oxtongue	W E
<i>Picris hieracioides</i>	Hawkweed Oxtongue	E
<i>Plantago lanceolata</i>	Ribwort Plantain	W E
<i>Plantago major</i>	Greater Plantain	W
<i>Poa annua</i>	Annual Meadowgrass	W
<i>Polygonium aviculare</i>	Knotgrass	W
<i>Potentilla reptans</i>	Creeping Cinquefoil	E
<i>Prunella vulgaris</i>	Selfheal	W E
<i>Prunus domestica</i>	Wild Plum	W P
<i>Prunus Spinosa</i>	Blackthorn	W E
<i>Pulicaria dysenterica</i>	Common Fleabane	W
<i>Quercus robur</i>	Pedunculate Oak	W E
<i>Ranunculus acris</i>	Meadow Buttercup	W
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	W
<i>Ranunculus repens</i>	Creeping Buttercup	W
<i>Rorippa nasturtium-aquaticum</i>	Water-cress	W
<i>Rosa arvensis</i>	Field Rose	W

<i>Rosa canina</i>	Dog Rose	W E
<i>Rubus fruticosus</i> agg	Bramble	W E
<i>Rumex crispus</i>	Curled Dock	W E
<i>Rumex obtusifolius</i>	Broad-leaved Dock	W E
<i>Rumex sanguineus</i>	Wood Dock	W E
<i>Salix alba</i>	White Willow	W E
<i>Salix caprea</i>	Goat Willow	W
<i>Salix cinerea</i>	Grey Willow	W E
<i>Scrophularia nodosa</i>	Common Figwort	W E
<i>Senecio erucifolius</i>	Hoary Ragwort	W E
<i>Senecio jacobaea</i>	Common Ragwort	W
<i>Silene dioica</i>	Red Campion	W
<i>Silene latifolia</i>	White Campion	E
<i>Solanum dulcamara</i>	Bittersweet	W E
<i>Sonchus arvensis</i>	Perennial Sow-thistle	W E
<i>Sparganium erectum</i>	Branched Bur-reed	W
<i>Stachys sylvatica</i>	Hedge Woundwort	W E
<i>Stellaria holostea</i>	Greater Stitchwort	W
<i>Taraxacum</i> agg	Dandelion	W
<i>Trifolium campestre</i>	Hop Trefoil	W
<i>Trifolium dubium</i>	Lesser Trefoil	W E
<i>Trifolium pratense</i>	Red Clover	W E
<i>Trifolium repens</i>	White Clover	W E
<i>Tripleurospermum inodrum</i>	Scentless Mayweed	W E
<i>Typha latifolia</i>	Common Reedmace	W E
<i>Ulmus</i> agg	Elm	W E
<i>Urtica dioica</i>	Stinging Nettle	W E
<i>Verbascum</i> spp.	Mullein	E
<i>Vicia cracca</i>	Tufted Vetch	W E
<i>Vicia tetrasperma</i>	Smooth Tare	W E
<i>Viola arvensis</i>	Field Pansy	W

**Appendix III, 8.1**  
Land photographs



*Thornhill 1, April 2010*



*Thornhill 2, pond excavations Sept 2003*



*Thornhill 2, hedge 2 laid Nov 2007*



*Thornhill 2, laid hedge 2 2007*



*Thornhill 2, hedge 1, laid Nov 2006*



*Thornhill 2, hedge 3 and bridge Mar 2005*