

Site Management Plan

2020 - 2024

Thornwood Common Flood Meadow Local Nature Reserve



Epping Forest
Countrycare

a service provided by Epping Forest District Council

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1.0 General Information

1.1 Location (See Appendix I 6.1 Location, Boundaries and Access)

Name: Thornwood Common Local Nature Reserve (LNR)

Area: 2.7 Hectares 6.7 Acres

Grid Reference: TL 470043

Local Planning Authority: Epping Forest District Council

County: Essex

District: Epping Forest

Parish: North Weald

Conservation Status: Local Nature Reserve (declared 12/2004) Local Wildlife Site EP92 (declared 2009)

Nature of Legal Interest: Freehold

1.2 Site Description

Thornwood Flood Meadow was the last flood alleviation scheme developed on North Weald parish by EFDC and its partners. Completed in 1998, the site is managed primarily for flood alleviation, but within this remit the meadows are also being managed for nature conservation. This was reflected by its designation as a Local Nature Reserve in December 2004. Prior to its creation the area had been used as an old army camp and more recently for horse grazing. Other sections of the site were in arable production prior to being landscaped. Along the south, west and eastern edges of the site the land use remains as arable with some of the area being developed for conservation (see 3.1). A small housing development now exists on the site's northern boundary.

1.3 Owners

Epping Forest Countrycare
Planning Services
Civic Offices
High Street, Epping
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CM16 4BZ
(01992) 564224

Qasim Durani – Assistant Director Technical (01992 564055)

Abigail Oldham – Team Manager, Countryside and Landscape (01992 564224)

1.4 Rights of Access (See Appendix I, 6.1)

Access to the site is via 2 kissing gates on public footpath 76 North Weald, which runs east to west through the site. Once on site there is open public access. Vehicle access is via a gated concrete track along the northern boundary that leads into the Teazle Mead development.

1.5 Boundaries (see Appendix I, map 6.1)

1.6 Maps and Photographic Coverage

EFDC Planning holds aerial photographs of the North Weald area including the meadow for the following years - 1965, 1976, 1985, 1990, 1999 and 2001. These can be viewed by contacting contactplanning@eppingforestdc.gov.uk

2.0 Environmental Information

2.1 Physical Information

2.1.1 Topography

Thornwood Flood Alleviation Scheme is a low-lying area within the Thornwood Village catchment. Its highest point is 80.13m Above Ordnance Datum (AOD) on top of the embankment. The meadow is concave, lying between 79.9m AOD and 78.8m AOD (an engineering plan can be obtained from Land Drainage).

2.1.1 Climate

The closest records available are of Greenwich (averages from 1971 to 2000), which is approximately 30km south west of Thornwood Common.

| Month | Max Temp (°C) | Min Temp (°C) | Days of Air Frost (days) | Sunshine (hours) | Rainfall (mm) | Days of Rainfall ≥ 1mm (days) |
|-------|---------------|---------------|--------------------------|------------------|---------------|-------------------------------|
| Jan | 7.9 | 2.4 | 7.4 | 45.9 | 51.9 | 10.9 |
| Feb | 8.2 | 2.2 | 7.4 | 66.1 | 34 | 8.1 |
| Mar | 10.9 | 3.8 | 2.9 | 103.2 | 42 | 9.8 |
| Apr | 13.3 | 5.2 | 1.1 | 147 | 45.2 | 9.3 |
| May | 17.2 | 8 | 0.1 | 185.4 | 47.2 | 8.5 |
| Jun | 20.2 | 11.1 | 0 | 180.6 | 53 | 8.4 |
| Jul | 22.8 | 13.6 | 0 | 190.3 | 38.3 | 7 |
| Aug | 22.6 | 13.3 | 0 | 194.4 | 47.3 | 7.2 |
| Sep | 19.3 | 10.9 | 0 | 139.2 | 56.9 | 8.7 |
| Oct | 15.2 | 8 | 0.3 | 109.7 | 61.5 | 9.3 |
| Nov | 10.9 | 4.8 | 3 | 60.6 | 52.3 | 9.3 |
| Dec | 8.8 | 3.3 | 6.9 | 37.8 | 54 | 10.1 |
| Year | 14.8 | 7.2 | 29.1 | 1461 | 583.6 | 106.5 |

Source: <http://www.metoffice.gov.uk/public/weather/climate/u10hb54gm>

2.1.3 Geology and Soils

The surface geology consists of glacial boulder clay, overlying London clay.

2.1.4 Hydrology

The reason for the development of the flood scheme was 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 villages of Thornwood and North Weald in July 1987 and June 1993.

The water storage capacity of the flood meadow is 14,350 cubic meters. This is the standard of protection against a major storm event with a 1:100 year return period.

2.2 Biological Information

2.2.1 Flora

The site is made up of 4 distinct habitats; Wet meadow, dry meadow, ditch and hedgerows.

Hedgerows

The site is bounded on all sides by young hedgerows. These hedgerows vary in ages from 13 to 16 years old. Some have been laid others are managed simply by trimming back with a hedge trimmer. Species present in the hedgerow include Field Maple (*Acer campestre*), Dogwood (*Cornus sanguinea*), Oak (*Quercus robur*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Hazel (*Corylus avellana*).

Meadows

A species list for the meadows has been compiled by Countrycare staff over the last five years which can be found in Appendix II, table 7.2. There are two distinct meadow types; wet grassland and dry grassland (M2 and M1 respectively on the compartment map in Appendix I, 6.3). The wet meadow contains species such as Ragged Robin (*Lychnis flos-cuculi*), Water Figwort (*Scrophularia auriculata*), and Water Mint (*Mentha aquatic*). It also contains an abundance of Common Ragwort (*Senecio jacobaea*) which, although an important food plant for many invertebrates, should be kept under control to prevent its spread into the agricultural land surrounding Thornwood Common.

The dry meadow is predominantly rough grasses such as Perennial Rye Grass (*Lolium perenne*), False oat grass (*arrhenatherum elatius*) and Cocks Foot (*Dactylis glomerata*). The meadow has been undergoing an early cut every year for the last 5 years to reduce the vigorous growth of these species. As a result some wildflower species have begun to spread, such as Ladies bedstraw (*Galium verum*), Meadow buttercup (*Ranunculus acris*) and Birds-foot-trefoil (*Lotus corniculatus*).

2.2.2 Fauna

2.2.2.1 Birds

Wetland Bird Surveys (WeBS) have been carried out at Thornwood Common since November 2018. Although it is a small area in relation to the surrounding landscape, surveys have shown that the wet area and ditches is a good area for wintering Snipe (*Gallinago gallinago*), with a peak count of 11 in December 2018.

Even with only 2 winters of data to compare, the fragility of the site's habitat for wintering waders was shown with the wet 2019/2020 winter. 3 wintering Snipe were recorded in November 2019, but after that, only 1 was recorded there for the following winter. The likely reason was that the site was too wet and the area of patchy *Juncus effusus* which Snipe use for cover had too high a standing water level.

Added to that was the flood that occurred on Thursday 19th December 2019, which would have

drowned many of the soil invertebrates that Snipe feed on. Further evidence to support this theory was found during a site visit on Monday 22nd December, when the site had approximately 60 Corvids (Jackaw, Rook, Carrion Crow) on the ground, likely feeding on the drowned invertebrates. This many Corvids on the ground could also have scared off any Snipe.

It will be interesting to see how the Snipe population responds to dry or wet winters in the future.

What was noticeable during surveys in winter 19/20, was the Snipe using the ditches as cover, which were mown. During the autumn cut in 2020, the ditches were left uncut. During a volunteer day there in December 2019, efforts were made to clear the ditches using hand tools or by hand.

Unfortunately, due to the amount of rain that winter, it was not possible to ascertain whether this had worked.

Because of the large fishing lakes of Thornwood Springs Trout Fishery next to the reserve, this reserve is unlikely to attract any wildfowl of note. Despite that though, flocks of Mallard (*Anas platyrhynchos*) more than 10 have been recorded here, as well as a pair of Gadwall (*Anas strepera*) in January 2019 and 3 Teal (*Anas crecca*) which lingered with a flock of Mallard during Spring 2019 do sometimes use the area of standing water. Moorhen (*Gallinula chloropus*) are sometimes found there too.

No Swans have been recorded here and even though Canada Geese (*Branta canadensis*) do use the fishing lakes, the only geese that have been recorded here is a gaggle of 6 Domestic Greylag Geese (*Anser anser domesticus*) which occasionally wander on to the reserve from Teazle Meade or the trout fishery.

Kingfisher (*Alcedo atthis*) has been recorded on the reserve and have been seen hunting in the central ditch.

The patch of reedbed hasn't been found to attract warblers associated with reedbeds, such as Reed Warblers (*Acrocephalus scirpaceus*) and Sedge Warblers (*Acrocephalus schoenobaenus*) which have been recorded at Church Lane LNR, approximately 3 miles (4.8km) to the west. This oddity is further illustrated by the almost bizarre record of a singing male Reed Warbler in Thornwood Common Nature Area in May 2019.

Even though neither of these warblers have been recorded here yet, Reed Buntings (*Emberiza schoeniclus*) are recorded here all year round.

A Barn Owl (*Tyto alba*) box was installed in December 2019. A local resident has said he has seen Barn Owls hunting over the reserve so hopefully the box will be used.

There is regularly a Kestrel (*Falco tinnunculus*) hunting at the reserve, which suggests that there is a good population of small mammals. The only other Bird of Prey that has been recorded on the reserve is Sparrowhawk (*Accipiter nisus*), although special mention should be made of a female Merlin which was found on a tree next to Upland Road on the morning of 17th Novmeber 2019. This is most likely a bird that has migrated south for the winter. Apart from being a WeBS recordable species, it is s species that could make use of an area with a good population of small mammals.

A Peregrine recorded in the June 2020 Core Count flew did fly over the reserve but was just passing through.

The neighboring fields help to sustain a population of Linnet (*Linaria cannabina*) and Skylark (*Alauda arvensis*). Linnets and Yellowhammers (*Emberiza citronella*) are often recorded in the hedgerows of the reserve which were planted by Countrycare in 2006.

2.2.2.2 Mammals

Red Fox (*Vulpes vulpes*) possibly have made a den in the pile of grass cuttings, after 2 adults were seen there in later summer 2019. Whether they successfully bred or not is unknown.

There does not appear to be a problem with deer or rabbit grazing here.

An American Mink (*Neovision vison*) was recorded in January 2016 and a Field Vole (*Microtus agrestis*) was found in August 2015.

2.2.2.3 Lepidoptera

Casual records have yielded numbers of common species here, such as Orange Tip (*Anthocharis cardamines*), Meadow Brown (*Maniola jurtina*) and Brimstone (*Gonepteryx rhamni*) butterflies and a Garden Grass Veneer (*Chrysoteuchia culmella*) moth.

Surveys were carried in December 2019 for Brown Hairstreak (*Thecla betulae*) eggs on blackthorn bushes in the hedgerows around the reserve, which produced no results. During this survey eggs of the Blue-bordered Carpet (*Plemyria rubiginata*) moth were found on a blackthorn bush. More focused surveys, such as establishing a UK Butterfly Monitoring Scheme (UKMBS) transect, could prove worthwhile.

2.2.2.4 Odonata

Despite the amount that the 'wet area' shrinks by during the summer, there are a good variety of species found at Thornwood Common that make use of the permeant standing water and any lingering pools.

Broad-bodied Chaser (*Libellula depressa*), Ruddy Darter (*Sympetrum sanguineum*) and a hawkler (probably Emperor (*Anax imperator*)) were recorded here in July 2019.

The scrapes, when wet, can also support dragonflies, such as the female Black-tailed Skimmer (*Orthetrum cancellatum*) which was found there in June 2019.

A more focused survey here would not only generate a more complete species list, but with the discovery of Willow Emerald (*Chalcolestes viridis*) breeding evidence at Thornhill 2, Weald Common in March 2020, yet unknown rarer UK species could be here too.

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 creation project there are no significant historical features associated with it. Prior to being a flood meadow, the western side of the site had been an army camp and more recently was pasture used for grazing animals under the ownership of Epping Piggeries. The eastern side of the site was under arable production and was under the ownership of Copped Hall Estate.

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 main management work that takes place on the site is to maintain the wild flower areas, scrapes and drainage ditches. This is done by cutting the meadows on an annual basis and clearing the ditches and scrapes as required.

3.3 Public Interest

The local people of North Weald use the site for informal recreation. This is mainly in the form of dog walking.

3.4 Obligations

3.4.1 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 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.

3.4.2 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*)

3.4.3 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.

3.5 Past Management

The meadow was sown initially with two different wildflower seed mixes (see Appendix II, table 7.1). Both of these reflected species that can be found in the District's remaining water meadows. The only exception was the far north-western end of the site that was untouched by the scheme and has had an extended history as grassland. Until 2012 the whole site was being managed under countryside stewardship with the primary management tool being that of an annual hay cut.

Trees have been planted around the entire site some as hedges and others as clumps. (Compartment map Appendix I, 6.2). Both the wet areas and remaining meadowland is improving floristically and becoming increasingly species rich.

A list of tasks which have taken place on Thornwood Common can be found in Appendix II, 7.3.

4.0 Management Aims and Operations

At the time of writing (April 2020), the UK is currently in a state of lockdown due to the Covid-19 pandemic. Following government advice, all volunteer days are cancelled until further notice. Countrycare is also limited to only 2 members of staff and recruitment is also on hold due to Covid-19. This will mean that for the foreseeable future only essential works will be undertaken and some scheduled work may not take place according to the Work Schedules in this section.

4.1 Management Aims

4.1.1 To maintain the site's function as a flood alleviation scheme/water collection area.

4.1.2 To maintain and enhance the biodiversity of the grassland habitat.

4.1.3 To maintain and enhance the biodiversity scrapes.

4.1.4 To maintain and enhance the biodiversity of the hedgerows.

4.1.5 To maintain and enhance the biodiversity of the watercourse.

4.1.6 Promote the site for educational use to the public.

4.2 Management Operations (see compartment map in Appendix 1 6.2).

4.2.1 Maintain the site's function as a flood alleviation scheme

As prescribed by Land Drainage.

4.2.2 Maintain and enhance the biodiversity of the grassland habitat.

4.2.2.1 Cut meadow 1 on an annual basis between late June and August. The timing of the cut may be flexible, in poor summers it may be too wet to get machinery onto the site without causing unacceptable damage.

4.2.2.2 Give meadow 2 an early cut in April in order to reduce the amount of dominant or undesirable species.

4.2.2.3 Weed species and their control is a major factor to consider in terms of grassland management. Control of ragwort is a priority, this may be done by pulling it in August.

4.2.2.4 M2 is the part of the reserve where the waterbird activity is concentrated. More concentrated management of the control of *Juncus effusus* to extend the marginal habitat that Snipe use for cover would be of benefit. A possible suggestion would be for that area to be taken out of the cutting regime given to Grounds Maintenance.

4.2.3 To maintain and enhance the biodiversity of the scrapes

The main areas of standing water throughout the year are provided by the scrapes. Even in very dry years some of the scrapes are maintaining water e.g. 2005. It is important to maintain these scrapes as they are important aspects of the flood meadow from a conservation viewpoint especially for dragonflies.

4.2.3.1 Monitor encroachment of marginal species (i.e. reed mace) into the scrapes and clear when necessary.

4.2.3.2 The scrapes should be dredged as prescribed by Land Drainage.

4.2.4 To maintain and enhance the biodiversity of the hedgerows

- 4.2.4.1 **Hedge 1** - This hedge was originally planted in 2001 as a hedge but the dogwood suckered out and created an area of scrub. This was managed as scrub until 2015 when part of it was laid as a hedgerow and the remaining scrub cut back. Small patches of scrub have been left. The hedge will now be cut every three years to binder height in an A shape. This will start in winter 2018/19
- 4.2.4.2 **Hedge 2** - This hedge was planted in 2001 and was laid in 2014. It will be cut to binder height every three years in an A shape. This will start in winter 2016/2017.
- 4.2.4.3 **Hedge 3** - This hedgerow was planted in May 2003. It was laid in 2014/15 It will be cut to binder height every three years in an A shape. This will start in winter 2017/18.
- 4.2.4.4 **Hedge 4** - This hedge was planted as part of the initial scheme. It consists of a single line of shrubs and is very gapped. This should be planted up to make a proper boundary hedge.
- 4.2.4.5 **Hedge 5** - This hedge was planted in 2003 and 2004. It is gapped where trees have not taken, these gaps should be planted up to create a thick barrier indicating the site boundary.
- 4.2.4.6 **Hedge 6** - This hedge is a thick boundary hedge between the flood meadows and The Lodge. very little management is needed. Any encroachment should be cut back as and when it is needed.

4.2.5 Maintain and enhance the biodiversity of the water course

- 4.2.5.1 The central drain should be dredged as prescribed by land drainage.
- 4.2.5.2 Between culvert and arable field, the ditch should be cleared as prescribed by land drainage
- 4.2.5.3 The mature trees along the brook should be coppiced in a 10-year rotation to prevent the watercourse becoming blocked up and to improve the water quality in the brook. Section 2 was coppiced in 2013. Section D3 is not due to be coppiced until 2023.

4.2.6 Promote the site for educational use and use by the public

Due to the location of the site and the lack of available parking it is not easy to run environmental education events here, however where possible events/ school visits should be encouraged.

4.2.6.1 The interpretation panel at the eastern entrance of the reserve was updated, for the first time since its installation in 2006, in April 2019.

Any interpretation should try to encompass the following:

- a) promote the site for informal recreation,
- b) raise awareness of its wildlife value and
- c) explain the role of Land Drainage and Countryside.

As Thornwood Common LNR is now a WeBS Site, interpretation showing the findings and explaining the importance of the site will be good to do.

4.2.6.2 Organise over the next 5 years a minimum of 1 practical conservation day each year. Where possible organise environmental education events on site.

5.0 Work Schedule

5.1 Key

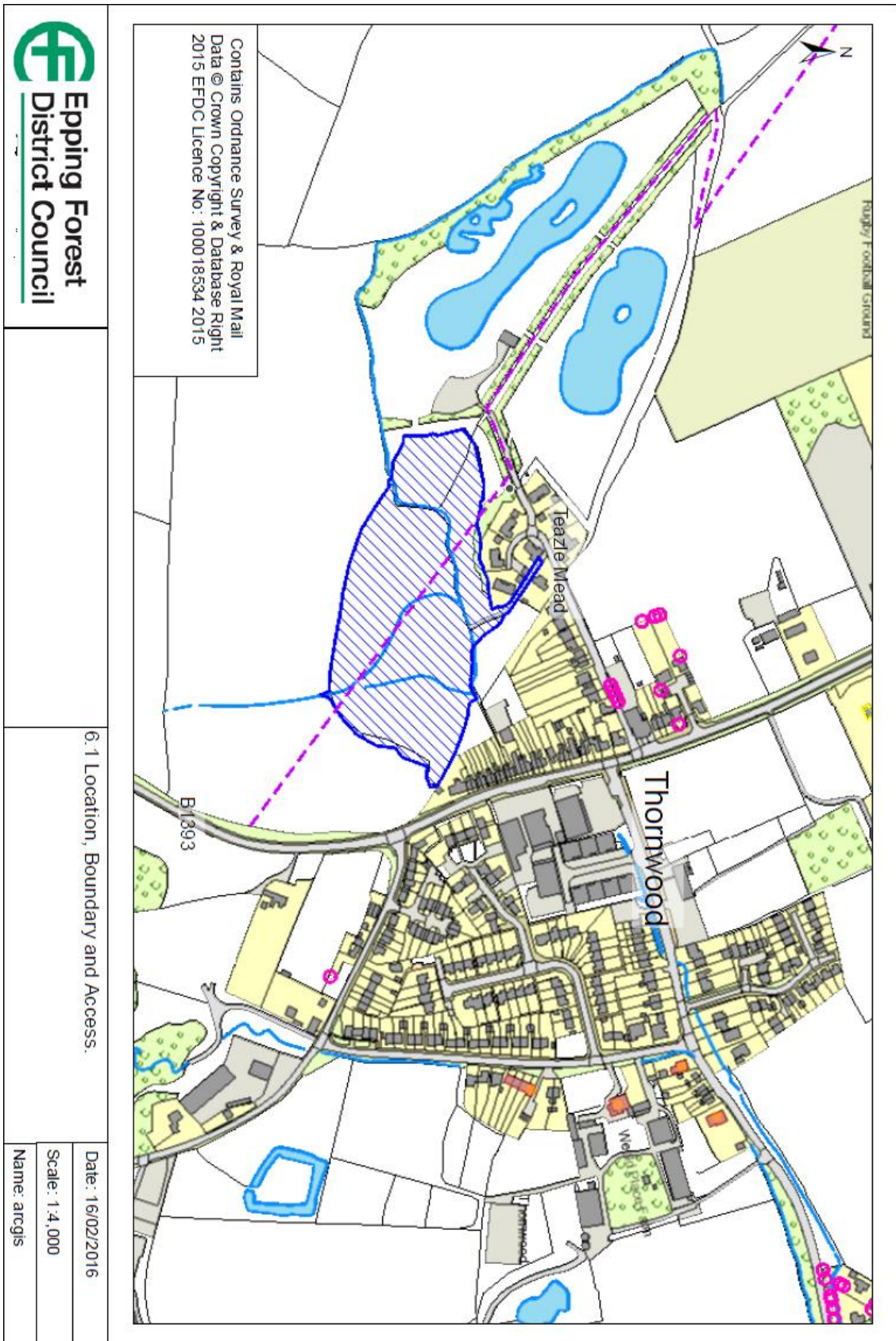
| Key | | | |
|-----|-----------------|---|---------------------|
| 1 | Jan, Feb, March | S | Staff |
| 2 | Apr, May, Jun | V | Volunteers |
| 3 | Jul, Aug, Sept | G | Grounds Maintenance |
| 4 | Oct, Nov, Dec | L | Land drainage |

5.2 Work Programme: Five Year Period

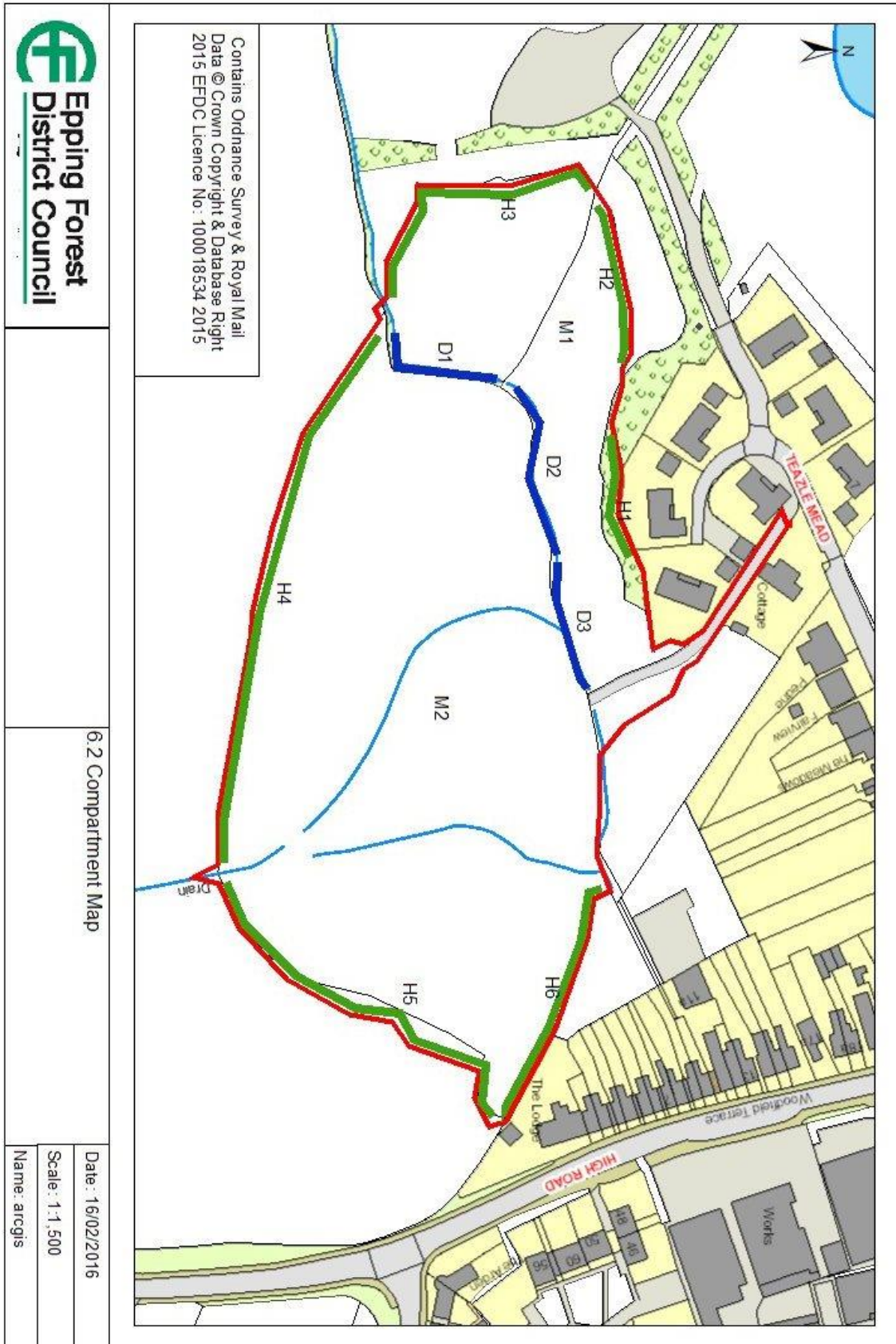
| Section | Project | 2020 | | | | 2021 | | | | 2022 | | | | 2023 | | | | 2024 | | | | |
|---------|--|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| 4.2.1 | Maintain the sites function as prescribed by land drainage | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L | L |
| 4.2.2.1 | Cut meadow 1 | | | G | | | | | | | | | | | | | | | | | | |
| 4.2.2.2 | Cut meadow 2 | | G | G | | | | | | | | | | | | | | | | | | |
| 4.2.2.3 | Pull ragwort | | | V | | | | | | | | | | | | | | | | | | |
| 4.2.3.1 | Monitor scrapes | | S | S | S | | | | | | | | | | | | | | | | | |
| 4.2.3.2 | Dredge scrapes as prescribed by land drainage | | | | L | | | | | | | | | | | | | | | | | |
| 4.2.4.1 | Cut hedge 1 | | | | | | | | | | | | | | | | | | | | | |
| 4.2.4.2 | Cut hedge 2 | | | | | | | | | | | | | | | | | | | | | |
| 4.2.4.3 | Cut hedge 3 | | | | | | | | | | | | | | | | | | | | | |
| 4.2.4.4 | Gap up hedge 4 | | | | | | | | | | | | | | | | | | | | | |
| 4.2.4.5 | Gap up hedge 5 | | | | | | | | | | | | | | | | | | | | | |
| 4.2.4.6 | Cut back encroachment from hedge 6 | | | | | | | | | | | | | | | | | | | | | |
| 4.2.5.1 | Dredge central ditch | | | | L | | | | | | | | | | | | | | | | | |
| 4.2.5.2 | Clear culvert | | | | L | | | | | | | | | | | | | | | | | |
| 4.2.5.3 | Work not due in this period | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| 4.2.6.1 | Upgrade interpretation panel | | | | | | | | | | | | | | | | | | | | | |
| 4.2.6.2 | Organise volunteer parties | | | V | | | V | | | V | | | V | | | V | | | | V | | |

APPENDIX 1

6.1 Location Map



6.2 Compartment Map



APPENDIX II

7.1 Species List – Updated in 2020 by Countrycare staff. Table 1 – Flora.

| Family | English Name | Latin Name |
|------------------|---------------------------|--------------------------------|
| Buttercups | Meadow Buttercup | <i>Ranunculus acris</i> |
| Nettles | Nettle | <i>Urtica dioica</i> |
| Campions | Ragged Robin | <i>Lychnis flos-cuculi</i> |
| | Common Mouse-ear | <i>Cerastium fontanum</i> |
| Docks | Curled Dock | <i>Rumex crispus</i> |
| St. John's Worts | Perforate St. John's Wort | <i>Hypericum perforatum</i> |
| Roses | Bramble | <i>Rubus fruticosus</i> |
| | Creeping Cinquefoil | <i>Potentilla reptans</i> |
| | Agrimony | <i>Agrimonia eupatoria</i> |
| | Meadow Sweet | <i>Filipendula ulmaria</i> |
| Peas | Red Clover | <i>Trifolium pratense</i> |
| | White Clover | <i>Trifolium repens</i> |
| | Hop Trefoil | <i>Trifolium campestre</i> |
| | Tufted Vetch | <i>Vicia cracca</i> |
| | Common Vetch | <i>Vicia sativa</i> |
| | Smooth Tare | <i>Vicia tetrasperma</i> |
| | Meadow Vetchling | <i>Lathyrus pratensis</i> |
| | Black Medic | <i>Medicago lupulina</i> |
| Willowherbs | Bird's-foot Trefoil | <i>Lotus corniculatus</i> |
| | Great Willowherb | <i>Epilobium hirsutum</i> |
| | Hoary Willowherb | <i>Epilobium parviflorum</i> |
| Geraniums | Cut-leaved Crane's-bill | <i>Geranium dissectum</i> |
| Carrots | Wild Carrot | <i>Daucus carota</i> |
| Bindweeds | Hedge Bindweed | <i>Calystegia sepium</i> |
| | Field Bindweed | <i>Convolvulus arvensis</i> |
| Dead-nettles | Water Mint | <i>Mentha aquatica</i> |
| | Hedge Woundwort | <i>Stachys sylvatica</i> |
| | Selfheal | <i>Prunella vulgaris</i> |
| Plantains | Ribwort Plantain | <i>Plantago lanceolata</i> |
| Figworts | Water Figwort | <i>Scrophularia auriculata</i> |
| Bedstraws | Hedge Bedstraw | <i>Galium mollugo</i> |
| | Ladies Bedstraw | <i>Galium verum</i> |
| Teasels | Teasel | <i>Dipsacus fullonum</i> |
| Daisies | Common Ragwort | <i>Senecio jacobaea</i> |
| | Oxeye daisy | <i>Leucanthemum vulgare</i> |
| | Daisy | <i>Bellis perennis</i> |
| | Yarrow | <i>Achillea millefolium</i> |
| | Mugwort | <i>Artemisia vulgaris</i> |
| | Creeping Thistle | <i>Cirsium arvense</i> |
| | Spear Thistle | <i>Cirsium vulgare</i> |
| | Black Knapweed | <i>Centaurea nigra</i> |
| | Greater Knapweed | <i>Centaurea scabiosa</i> |
| Bristly Oxtongue | <i>Picris echioides</i> | |

7.2 Wildflower Seed Mix

| Common Name | Scientific Name | Meadow 1 | Meadow 2 |
|---------------------|-----------------------------|----------|----------|
| Betony | <i>Stachys officinalis</i> | | yes |
| Cowslip | <i>Primula veris</i> | yes | yes |
| Devils Bit Scabious | <i>Succisa pratensis</i> | yes | |
| Hoary Plantain | <i>Plantago media</i> | | yes |
| Lady's Bedstraw | <i>Galium verum</i> | | yes |
| Meadow Buttercup | <i>Ranunculus acris</i> | yes | yes |
| Meadow Sweet | <i>Filipendula ulmaria</i> | yes | |
| Ragged Robin | <i>Lychnis flos-cuculi</i> | yes | |
| Selfheal | <i>Prunella vulgaris</i> | | yes |
| Water Avens | <i>Geum rivale</i> | yes | |
| Yarrow | <i>Achillea millefolium</i> | | yes |
| Yellow Flag Iris | <i>Iris pseudocorus</i> | yes | |
| Yellow Rattle | <i>Rhinanthus minor</i> | | yes |

7.3 Past Management

| Date | Task |
|----------|--|
| 02/16/06 | Coppiced along bank and thinning tree planting adjacent to bank. |
| 02/23/06 | Cleared blackthorn from behind houses, planted hawthorn in hedge. |
| 04/13/06 | 20 bollards and 1 sign board installed, fence removed over stream. |
| 04/27/06 | Installed 25 bollards. |
| 05/31/06 | Strimmed fence behind house. |
| 06/22/06 | Cut and raked meadow. |
| 21/05/07 | Cut meadow area. |
| 24/05/07 | Cut and raked meadow behind houses near compost heap. |
| 14/02/08 | Coppiced Hedge behind houses & cleared bramble. |
| 08/01/09 | Coppiced northern area of scrub cleared one metre gap. |
| 23/04/10 | Cleared ditch. |
| 01/07/10 | Cut & Raked bank replaced faggots. |
| 23/12/10 | Cleared stream bank. |
| 07/11/11 | Repaired and treated gate and info board and strimmed bramble along drive. |
| 19/07/11 | Cut & raked embankment on north side. |
| 03/05/11 | Cleared along garden fence. |
| 05/04/12 | Constructed compost bin, cut and raked grass, repaired fence. |
| 08/08/12 | Pre cut bund and grass behind teasle mead for volunteer day. |
| 09/08/12 | VOL DAY - Raked grassland installed new field gates on drive. |
| 14/02/14 | Hedgelaying. |
| 28/02/14 | Hedgelaying 28 metres. |

| | |
|----------|--|
| 24/04/13 | Pre-cut meadow and dropped off wood for vol day. |
|----------|--|

7.3 Past Management Cont..

| Date | Task |
|----------|--|
| 25/04/13 | VOL DAY - Raked meadow, extended compost bin, removed fence for hedgelaying, installed new sign, removed old wooden one. |
| 19/12/13 | Cleared and coppiced scrub. |
| 17/01/14 | Hedgelaying. |
| 31/01/14 | Hedgelaying. |
| 24/07/15 | Removed tree guards. |
| 23/04/14 | Pre cut meadow for vol day. |
| 24/04/14 | VOL DAY raked meadow. |
| 11/08/14 | Strimmed entrance. |
| 18/08/14 | Pulled ragwort. |
| 15/10/14 | Raked grass cut by contractors. |
| 23/01/15 | Hedgelaying. |
| 21/04/15 | Cut meadow in preparation for vol day. |
| 23/04/15 | VOL DAY - Raked grass from cut areas, coppiced encroachment. |
| 25/06/15 | Pulled Ragwort. |
| 30/10/15 | Hedgelaying. |
| 05/12/20 | Put up Barn Owl box, cleared central channel, dug up Pampas grass, Brown Hairstreak survey, cleared around planted trees, cleared footpath entrances, 2 new waymarkers put in. |
| 08/09/20 | Meadows cut by Grounds. |
| 07/10/20 | Area left uncut in Autumn cut in M2 'managed' for better Snipe habitat by cutting areas of differing sward height. |