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THORNBURY GREEN SPACES

ECOLOGICAL ENHANCEMENT PLANS

SUMMER 2022

For

THORNBURY TOWN COUNCIL

CHANTRY PLAYING FIELDS

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ECOLOGICAL ENHANCEMENT PLAN

1 INTRODUCTION

This plan is one of a series commissioned by Thornbury Town Council with the aim of identifying measures by which the biodiversity interest of green spaces in the town might be enhanced, whilst maintaining their value for both formal and informal recreation.

A site survey was carried out on 5th September 2022. It covered vegetation types and plant species, insects and birds, and potential for other groups was assessed.

2 SITE DESCRIPTION

2.1 Summary

Chantry Playing Fields is dominated by two rugby pitches, which together with the rest of the grassland across the site are regularly mown. There is a continuous hedge, with semi-mature trees, along the Church Road boundary on the northern edge of the sites and the western boundary has a line of trees. Other boundaries have walls and fences with gappy vegetation.

The Playing Fields form part of a chain of green spaces in northern Thornbury, lying between the playing fields of The Castle School and Oakleaze Green to the south-east, and the grounds of St Mary's Primary School and St Mary's Churchyard to the north-west. Beyond these sites are the grounds of Thornbury Castle and open countryside.

2.2 Vegetation

The areas described below are shown on the attached map.

<u>Area 1</u>

The majority of the site has close mown grassland, which is dominated by perennial rye-grass (*Lolium perenne*), with other grass species including creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*) and cockfoot (*Dactylis glomerata*). There is not a high diversity of herb species within the sward but species present include dandelion (*Taraxacum vulgare agg*), common catsear (*Hypochaeris radicata*), yarrow (*Achillea millefolium*), ribwort plantain (*Plantago lanceolata*) and smooth hawksbeard (*Crepis capillaris*).

The herb component is higher, but not more diverse, on small banks in the southern part of the site.

<u>Area 1 a)</u>

There is little variation in the composition of the sward across the grassland area, but it is slightly more diverse in the south-eastern part of the site. Additional species here

include fiddle dock (*Rumex pulcher*), field bindweed (*Convolvulus arvensis*) and germander speedwell (*Veronica chamaedrys*).

Area 2
This is the boundary hedge along Church Road. It is narrow – approximately 1 metre wide – and tall – approximately 2.5 metres. It has a mix of native shrub species: hawthorn (*Crataegus monogyna*), field maple (*Acer campestre*), dogwood (*Cornus sanguinea*), ash (*Fraxinus excelsior*), English elm (*Ulmus procera*), blackthorn (*{Prunus spinosa*) and dog rose (*Rosa canina*). Several semi-mature trees – lime (*Tilia x vulgaris*), sycamore (*Acer pseudoplatanus*), crack willow (*Salix x fragilis*), grey poplar (*Populus x canescens*) and false-acacia (*Robinia pseudo-acacia*) – have been planted on the southern side of the hedge. Ground flora species associated with the hedge include black horehound (*Ballota nigra*) and cyclamen (*Cyclamen hederifolium*).

Area 3
The eastern boundary of the site has a wall with some exotic planting nearby. The wall supports a moderately diverse growth of lichens.

Area 4
The southern boundary of the site abuts domestic gardens and has sections of wall and fence. A strip alongside the boundary has been left unmown. This has tall grassland dominated by false oat-grass (*Arrhenatherum elatius*) with frequent bramble (*Rubus fruticosus agg*) and cow parsley (*Anthriscus sylvestris*). Other plant species here include stinking iris (*Iris foetidissima*), wood avens (*Geum urbanum*) and black horehound, with encroaching scrub species including elder (*Sambucus nigra*), English elm and stag's-horn sumach (*Rhus typhina*).

Area 5
The western boundary has an open line of trees, which include lime, sycamore, grey poplar, horse chestnut (*Aesculus hippocastanum*), walnut (*Juglans regia*) and cypress (*Cupressus macrocarpa*). Several smaller trees, which include pedunculate oak (*Quercus robur*) and rowan (*Sorbus aucuparia*), have recently been planted here. The ground flora below the trees is dominated by false oat-grass and also includes cyclamen, French crane's-bill (*Geranium endressii*), musk mallow (*Malva moschata*), hollyhock (*Alcea rosea*), teasel (*Dipsacus fullonum*) and stinking iris.

2.3 Fauna
The following bird species were recorded:

Area 1 (grassland): Carrion crow;

Area 2 (Church Road boundary): Wood pigeon;

Area 5 (western boundary): blue tit, wood pigeon.

The following insect species were recorded:

Area 2 (Church Road boundary): *Lyonetia clerkella, Parornix devoniella, Stigmella plagicolella* moths.

Area 4 (southern boundary): Red admiral butterfly; hornet, ivy bee, buff-tailed bumblebee; *Eristalis tenax, Eristalis pertinax, Myathropa florea, Volucella inanis, Volucella zonaria* flies;

Area 5 (western boundary): *Aspidapion radiolus* beetle.

2.4 Amenity

The rugby pitches are the dominant amenity provision on the site. Otherwise, it is well used for informal recreation. An unofficial and unsurfaced path across the eastern side of the park is well used, particularly by students from The Castle School.

3 EVALUATION

3.1 Introduction

Various criteria are used in assessing the biodiversity value of sites. These include rarity, in terms of either habitats or species, which can be viewed in a range of contexts from international to local and also degree of threat: some species remain widespread but are of conservation concern because their populations have declined rapidly. Some habitats take many centuries, or require very specialised conditions, to develop their full diversity and those that cannot be recreated are more highly valued than those that can be readily created. The extent and connectivity of habitats is of importance, since many species rely on large areas of habitat or on having access to different habitat types at different stages in their life cycle. This can be particularly important in urban areas, where species can be lost from small and isolated areas of habitat, even if these remain in good condition. Conversely, sites can have value in a wider context if, for example, they allow wildlife to colonise gardens and other sites in the surrounding area or if they allow wildlife to move into and across otherwise inhospitable areas. In accessible urban areas the public appeal or visibility of wildlife is also a factor in contributing to public enjoyment and wellbeing.

Guidance on site evaluation is given by various sources, including the South Gloucestershire Biodiversity Action Plan (BAP) and the 2006 Natural Environment and Rural Communities (NERC) Act, and has been followed here.

3.2 Habitats

The grassland that dominates the site has been intensively managed and the use of fertilisers in particular has excluded all but the most tolerant species of plant. Frequent mowing means that the grassland is not of significant value for invertebrates, or for other animals.

The grassland across most of the site is of minimal nature conservation value.

The grassland in the south-eastern corner of the site is only slightly more diverse, but it does include germander speedwell, a plant that is associated with species-rich grasslands. Fiddle dock, which was found here, is an uncommon plant that has been recorder from fewer than ten sites in South Gloucestershire, and from only three others

since 2000. It had not been recorded in Thornbury previously (it was also found at Mundy Playing Fields during these surveys).

The grassland here is of nature conservation value in a local context.

The hedge at area 2 is moderately diverse in woody species and the proximity of standard trees adds to its potential for birds and other wildlife. The presence of a strip of tall grassland alongside the hedge adds to its value for wildlife, in particular for invertebrates.

The hedge is of nature conservation value in a local context.

The strip of vegetation at area 4, on the southern edge of the site, is of some value for invertebrates. A large plant of flowering ivy here was attracting very large numbers of insects at the time of survey. These include ivy bee (*Colletes hederae*), which is a recent colonist of Britain, as well as hornet and two hoverflies that mimic this species: *Volucella inanis* and *Volucella zonaria*, both of which are scarce in South Gloucestershire, with only two previous records of the former (one of them in Thornbury).

The vegetation here is of nature conservation value in a local context.

The western boundary of the site (area 5) is of interest for its mix of tree species and the associated tall grassland. Although species such as hollyhock are not native they add interest to the site. The associated beetle, *Aspidapion radiolus*, has not been recorded from South Gloucestershire previously but this is more likely to be due to the unobtrusive nature of this small weevil than genuine rarity.

The vegetation along this boundary is of nature conservation value in a local context.

3.3 Protected and Invasive Species

No signs of any protected species were seen on or around the site. It is likely that bats use the tree lines on the edge of the site for foraging and commuting and there are potential roosting opportunities in the trees at area 5, on the western edge of the site.

The grassland is mown too frequently to be used by groups such as reptiles.
No scheduled invasive species were recorded on the site.

3.4 Summary

Area	Scale of Interest	Features of Interest
1 (main grassland)	Minimal	
1 (south-eastern corner)	Local context	Fiddle dock (locally uncommon plant)
2 (hedge on northern boundary)	Local context	Value for birds and insects, potentially foraging bats
4 (vegetation on southern boundary)	Local context	Value for insects
5 (western boundary)	Local context	Value for birds and insects, potential for foraging and roosting bats

4 MANAGEMENT

4.1 Aims

To maximise the biodiversity interest of the site whilst maintaining its value for amenity and other interests.

4.2 Objectives

To extend the area of tall grassland on the site.

To extend the area of wooded habitats on the site.

4.3 Constraints

The main constraint on management for biodiversity here is the need to retain rugby pitches on the site, together with short grass around the margins of the pitches. This means that no changes to management can be proposed for a large area in the centre of the site. It is also important to maintain the appeal of the site for informal recreation and to ensure that the informal path across the south-eastern corner of the site.

There are ecological constraints on enhancement opportunities. Most importantly, the soil across most of the site is very fertile (as revealed by the composition of the existing vegetation) and this means that measures such as the creation of wildflower meadows are impractical without drastic interventions to change the soil chemistry.

There are also practical constraints on some potential measures. Initiatives such as the creation of beds of wildflower planting would be worth consideration if there is support and enthusiasm for such measures but have not been recommended here because they require a commitment to relatively intensive management if they are to be maintained in the long term.

4.4 Rationale

The valuable habitats that can be created here in the most sustainable fashion are tall grassland, flowering lawn and new areas of tree/shrub cover.

Tall grassland is of value for groups such as small mammals, as terrestrial habitat for amphibians, and for invertebrates. It is of most value when it contains flowering plants,

which can include “weeds” such as thistles and ragwort and non-native species (such as hollyhock here), scattered shrubs and when seed heads and similar features are allowed to overwinter. Tall grassland does require some intervention, in the form of occasional mowing, in order to stop it becoming completely overgrown by scrub.

Flowering lawn is used here to mean grassland that is allowed to grow taller than in the case of amenity turf but is still mown several times through the growing season. This allows low-growing plants to flower and provides habitat for some insects but avoids issues associated with taller meadow grass, such as the disposal of arisings. The area proposed for this treatment here is distant from the rugby pitches, so will not interfere with their use, and has a higher frequency of herb species than other areas of grassland across the site.

Tree and shrub planting is an excellent way to add ecological diversity. Biodiversity gain is maximised if native species are used but closely related non-native species, such as fruit trees, often have similar benefits. Species that produce flowers attractive to pollinating insects and bear fruit are valuable. Shrubs are usually more valuable for nesting birds than are trees, since they provide dense cover that trees usually lack until they reach maturity.

Single large blocks of habitat are usually of greater value for wildlife than small isolated patches, and the proximity of other habitat types can be very important: many insects that as larvae feed on trees feed as adults on flowers in open habitats, for example.

4.5 Management Proposals

1 Maintain management as at present over most site but avoid fertiliser use on any area not within the rugby pitches.

2 In the area shown on the attached map relax mowing regime, so grassland is cut once a month from May to September, with mower blades set at 70 mm.

3 In the areas shown on the attached map allow tall grassland to develop: cut each area once every three years but otherwise leave uncut.

4 Plant trees and shrubs in the areas shown on the attached map. The following is a suggested planting list, but it can be varied in line with local wishes:

Trees

Field maple	*Acer campestre*
Silver birch	*Betula pendula*
Apple	*Malus domestca*
Crab apple	*Malus sylvestris*
Pear	*Pyrus communis*
Pedunculate oak	*Quercus robur*
Rowan	*Sorbus aucuparia*

Shrubs

Hazel	*Corylus avellana*
Hawthorn	*Crataegus monogyna*
Spindle	*Euonymus europaea*
Buckthorn	*Rhamnus catharticus*
Blackcurrant	*Ribes nigra*
Raspberry	*Rubus idaeus*
Wayfaring tree	*Viburnum lantana*

5 Fit bird and bat boxes to trees in area 5, the western boundary of the site. Boxes can be either purchased commercially or made by the local community or schools.

6 Install bug hotels at the locations shown. Suitable designs are given at the links below:

https://www.rspb.org.uk/get-involved/activities/nature-on-your-doorstep/garden-activities/build-a-bug-hotel/

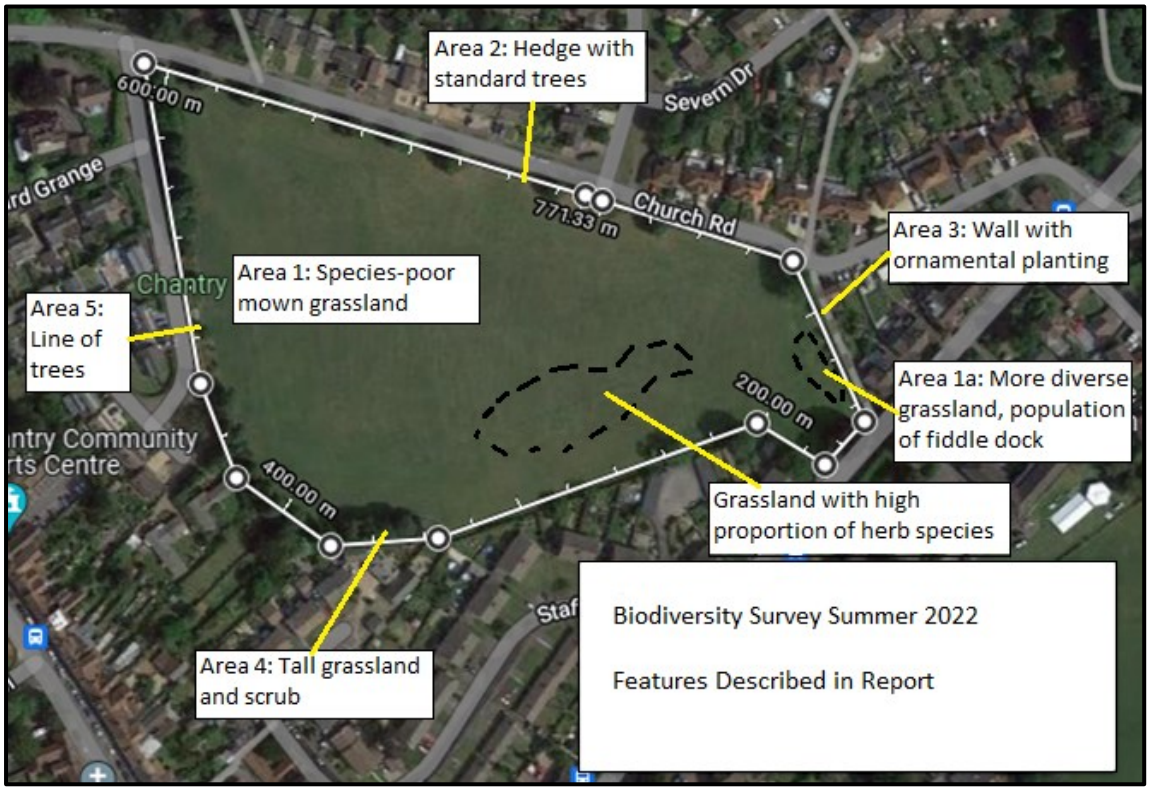
https://schoolgardening.rhs.org.uk/Resources/Project/Make-a-bug-hotel

Measures such as drilling holes in wooden posts can also provide nest sites for solitary bees.

7 Retain any dead wood as a habitat feature, place in partial shade in area 5. Logs should be kept in as large sections as possible, because this makes them difficult to move and also provides optimal habitat for wildlife.

4.6 Work Planner

Task	Year 1	Year 2	Year 3	Year 4	Year 5
Maintain amenity grassland over most of site, avoid use of fertilisers	Throughout	Throughout	Throughout	Throughout	Throughout
Mow herb-rich grassland, set mower blades at 70mm	May-Sept	May-Sept	May-Sept	May-Sept	May-Sept
Mow one-third of tall grassland strips on a rotation, so each area is cut once every three years		Sept	Sept	Sept	Sept
Plant trees and shrubs		Oct-Feb			
Install bug hotels		Feb			
Maintain bug hotels		As necessary	As necessary	As necessary	As necessary
Create dead wood piles in area 5	When possible	When possible	When possible	When possible	When possible


Area 2: Hedge with standard trees
600.00 m
Severn Dr
771.33 m
Church Rd
Area 3: Wall with ornamental planting
Chantry
Area 1: Species-poor mown grassland
Area 5: Line of trees
200.00 m
Area 1a: More diverse grassland, population of fiddle dock
400.00 m
Grassland with high proportion of herb species
Area 4: Tall grassland and scrub
Biodiversity Survey Summer 2022
Features Described in Report


Tree and Shrub Planting
600.00 m
Severn Dr
Tall Grassland
771.33 m
Church Rd
Chantry Playing Fields
200.00 m
Tree and Shrub Planting
Tall grassland
Flowering lawn
Biodiversity Survey Summer 2022
Enhancement Proposals
Bee hotel locations

Photograph 1: Part of area 1 – area 4 along wall

Photograph 2: Area 4, tall grassland and scrub, area 3 in background

Photograph 3: Ivy in area 4 was attracting large numbers of pollinating insects