

**Wessex Ecological Consultancy
28 Egerton Road
Bishopston
Bristol
BS7 8HL**

EASTWOOD FARM LOCAL NATURE RESERVE

**ECOLOGICAL SURVEY
AND MANAGEMENT RECOMMENDATIONS**

NOVEMBER 2014

EASTWOOD FARM LOCAL NATURE RESERVE

ECOLOGICAL SURVEY AND MANAGEMENT RECOMMENDATIONS

INTRODUCTION

A series of ecological surveys of Eastwood Farm Local Nature Reserve (LNR) was carried out in autumn 2014, with the intention of informing future management of the site. The aim was to identify habitats and other features of particular ecological value and in particular to highlight those with specific management needs. The survey was carried out late in the year and cannot therefore be regarded as complete: woodland ground flora in particular will have been under recorded. However, sufficient information has been gathered from this survey and existing knowledge of the site to enable a reasonable assessment to be made.

SITE DESCRIPTION

Eastwood Farm is a diverse site, with examples of several different habitats in a relatively small area; some of these are of nature conservation value in a city-wide context. The descriptions and management recommendations below divide the site into four habitat categories as follows: unimproved and semi-improved grasslands; flood plain and wetland; ancient woodland; and other habitats (secondary woodland and scrub, and amenity grassland).

The various areas described below are marked on the attached map.

1 Unimproved and Semi-improved Grasslands

1.1 The most diverse area of grassland on the site is a small field to the south-east of Beese's Tea Gardens. Frequent grass species here include crested dogstail (*Cynosurus cristatus*), red fescue (*Festuca rubra*) and common bent (*Agrostis capillaris*). The herb component is large and frequent species include devil's-bit scabious (*Succisa pratensis*), tormentil (*Potentilla erecta*), bird's-foot trefoil (*Lotus corniculatus*) and hay rattle (*Rhinanthus minor*).

The field has margins of tall herb vegetation, with frequent Himalayan balsam (*Impatiens glandulifera*) and bracken (*Pteridium aquilinum*). Some of these areas are under semi-mature trees of pedunculate oak (*Quercus robur*).

Earlier surveys have shown the area to be rich in insects, with species recorded here including long-winged conehead; small and essex skipper butterflies; straw dot, six-spot burnet and *Agapeta zoegana* moths; and the Hemipterans *Eurygaster testudinaria*, *Aelia acuminata* and *Corizus hyoscyami*.

1.2 A smaller area adjacent to the playground off Wyndham Crescent is less diverse, but has frequent black knapweed (*Centaurea nigra*) and smaller quantities of species such as bird's-foot trefoil, meadow vetchling (*Lathyrus pratensis*) and lesser stitchwort (*Stellaria graminea*).

1.3 The other concentration of species-rich grasslands is in the southern part of the LNR, around the entrance off Whitmore Avenue. There are three small fields between the entrance track and the rear of gardens on Wyndham Crescent. From south-east to north-west these are as follows:

1.3.1 The grassland here is not diverse. It is dominated by cocksfoot (*Dactylis glomerata*) with tall herbs including hogweed (*Heracleum sphondylium*), curled dock (*Rumex crispus*) and white dead-nettle (*Lamium album*).

1.3.2 The central of the three fields is much more diverse. It has good quantities of meadow vetchling and bird's foot-trefoil, in a sward dominated by perennial rye-grass (*Lolium perenne*) with frequent common ragwort (*Senecio jacobaea*). In the field's north-western corner common bent and crested dogstail become frequent and there are large quantities of black knapweed. Burnet moth pupae are frequent in the field.

1.3.3 The sward in the north-western field is generally less diverse, but in the north-western part of the field meadow vetchling, bird's-foot trefoil, meadow vetchling and common sorrel (*Rumex acetosa*) are all frequent. Burnet moth pupae are also present here.

1.3.4 The other field with species-rich grassland in this part of the LNR is to the east of the entrance track. Parts of the field are dominated by perennial rye-grass but a large area in the central part of the field has common catsear (*Hypochaeris radicata*), rough hawkbit (*Leontodon hispidus*), meadow vetchling, bird's-foot trefoil and the moss *Pseudoscleropodium purum*. Six species of waxcap fungus (*Hygrocybe pratensis*, *punicea*, *coccinea*, *nivea*, *russocoriacea* and *conica*) and two species of spindle fungus (*Clavulinopsis corniculata* and *fusiformis*) are present here.

2 Flood Plain and Wetland

2.1 The flood plain of the River Avon has a large area of tall herb vegetation. This includes frequent stinging nettle (*Urtica dioica*), hogweed and creeping thistle (*Cirsium arvense*) with patches of comfrey (*Symphytum officinale* and *x uplandicum*). The vegetation is most diverse where the ground is wettest, around small ditches and depressions. Additional species in such sites include marsh marigold (*Caltha palustris*), purple loosestrife (*Lythrum salicaria*), angelica (*Angelica sylvestris*) and water figwort (*Scrophularia auriculata*).

Where paths and play areas are mown the grassland sward is species-poor and dominated by perennial rye-grass.

Patches of scrub along the river bank have a wide mixture of self-sown and planted species, including buckthorn (*Rhamnus catharticus*), dogwood (*Cornus sanguinea*) and guelder rose (*Viburnum opulus*).

2.2 The river bank has a belt of stinging nettle, which in places is parasitised by greater dodder (*Cuscuta europaea*). Small teasel (*Dipsacus pilosus*) grows here in scattered stands.

2.3 The two ponds in the area both have good beds of submerged plants, dominated by nuttall's pondweed (*Elodea nuttallii*) and rigid hornwort (*Ceratophyllum demersum*), with smaller quantities of water-starwort (*Callitriche* sp). Ivy-leaved toadflax (*Lemna trisulca*) is locally frequent and there are patches of fringed water-lily (*Nymphoides peltata*) and an exotic water-lily. The most frequent emergent species is branched bur-reed (*Sparganium erectum*), with other species including greater reedmace (*Typha latifolia*) and yellow-flag (*Iris pseudacorus*).

3 Ancient Woodland

3.1 The largest area of ancient woodland is on the slope above Beese's Tea Gardens. These slopes are dominated by pedunculate oak, sessile (*Quercus petraea*) oak and their hybrid. Other trees include holly (*Ilex aquifolium*), small stands of wild cherry (*Prunus avium*) and seedlings of rowan (*Sorbus aucuparia*). The understorey is generally sparse. The ground flora is patchy due to past quarrying activity. Species present in less disturbed areas include bluebell (*Hyacinthoides non-scriptus*), wood millet (*Milium effusum*), wood melick (*Melica uniflora*), creeping soft grass (*Holcus mollis*), greater stitchwort (*Stellaria holostea*), great woodrush (*Luzula sylvatica*) and hairy woodrush (*Luzula pilosa*). Mosses present on the ground here include *Mnium hornum*, *Atrichum undulatum*, *Dicranella heteromalla* and *Fissidens incurvus*. Decaying logs support the liverworts *Lophocolea bidentata* and *Lopocolea heterophylla* and epiphytic species include the mosses *Cryphaea heteromalla* and *Orthotrichum affine* and the liverworts *Lejeunea cavifolia* and *Microlejeunea ulicina*.

3.2 The other area of semi-natural woodland is in the south-eastern part of the LNR. Most of this is not ancient, but it appears to include fragments of long-established woodland on steep banks. This is indicated by the presence of species such as sessile oak, scaly male fern (*Dryopteris affinis*) and hard shield-fern (*Polystichum aculeatum*). The canopy is generally open, with ash (*Fraxinus excelsior*) and silver birch (*Betula pendula*) as well as oaks. In places conifers and hornbeam (*Carpinus betulus*) have been planted. The understorey is locally dense, with frequent hawthorn (*Crataegus monogyna*), English elm (*Ulmus procera*) and elder (*Sambucus nigra*).

4 Other Habitats

There are small patches of secondary woodland, both planted and self-sown, in scattered localities around the site. The largest is on the north facing slope of the former landfill, where the large plantation of largely native planting is becoming very dense.

The LNR also includes significant areas of species-poor amenity grassland dominated by perennial rye-grass. The largest of these is on the top of the former landfill in the centre of the site.

ASSESSMENT

The biodiversity value of the reserve has been assessed in order to determine whether it is of nature conservation value in a national, regional or city-wide context, of either high or low value in a local context, or of minimal nature conservation value.

The assessment has used standard ecological criteria, such as diversity, rarity, fragility and amenity value. Reference has been made to suitable guidance, including the UK and Bristol Biodiversity Action Plans (BAPs). The value of the site for groups not surveyed, including invertebrates, has been assessed using information gathered on habitat type and structure.

The survey was carried out late in the year and the likelihood that some species were missed has been taken into account in making the assessment.

1 Unimproved and Semi-improved Grasslands

The field at 1.1, close to Beese's tea garden, is of high value. It supports a good range of indicator species of unimproved grassland and several of these are present in very good quantity. There are few, if any, other sites in Bristol that support grassland with the density of species such as devil's-bit scabious found here. Both devil's-bit scabious and tormentil (*Potentilla erecta*) are listed as near threatened in the recently published England Red List because of population decline. The diversity of the sward, the sheltered position of the field and the proximity of woodland and tall herb habitats all indicate that the field is likely to be of importance for invertebrates.

This field is of nature conservation in a city-wide context.

The grasslands by the playground (1.2), in the two fields between the entrance track and Wyndham Crescent (1.3.2 and 1.3.3) and in the field to the east of the entrance track (1.3.4) all support a reasonable diversity of indicator species of unimproved grassland, and survey earlier in the season might reveal further species. They are likely to be of some value for invertebrates. Field 1.3.4 has a diverse population of fungi and assessment using the methodology proposed by Griffith *et al* gives the field a score of 23: grasslands in the range 10-30 are considered of potential and those with a score of over 30 as good waxcap grasslands.

These fields are of high nature conservation value in a local context. Further survey might reveal them to be of nature conservation in a city-wide context.

2 Flood Plain and Wetland

This area is not outstandingly diverse in plant species but it supports some, notable purple loosestrife and marsh marigold that are indicative of wetland habitats. The overall abundance of flowering and seeding herbs suggests that the area is likely to be of significant value for invertebrates.

The tall herb vegetation on the flood plain is of high nature conservation value in a local context.

The strip of vegetation alongside the river is of particular interest because of the presence of two specialist plants of riversides, greater dodder and small teasel. The former is limited to a few large river systems in Britain and is Nationally Scarce. Eastwood Farm may be the only site in Bristol at which it occurs. Small teasel has a less restricted distribution nationally, although it is uncommon. It is also rare in Bristol

but unlike greater dodder it occurs along the River Frome. Trees alongside the river have good populations of lichens and bryophytes.

The riverside vegetation is of nature conservation value in a citywide context.

The ponds in the flood plain support a reasonable diversity of wetland plant species and are regularly used by mute swan, mallard and moorhen, with occasional records of less frequent species such as teal. They provide the largest area of standing water in this part of Bristol.

The ponds are of high nature conservation value in a local context.

3 Ancient Woodland

The area of woodland in the north-western part of the site is an example of acidic woodland, a habitat type that is rare in Bristol and the surrounding area but is characteristic of this part of the Avon Valley. Characteristic features include the dominance of oak species, a rich fern flora, the presence of creeping soft grass and stands of great wood rush. Although the area was quarried in the past a range of indicator species of ancient woodland, including wood melick, bluebell and hairy woodrush is present. The woodland contains a good quantity of dead wood and is probably of some interest for invertebrates. A good range of common woodland birds occurs here.

This woodland is of nature conservation value in a city-wide context.

The woodland at 3.2, in the south-eastern part of the site, is less diverse and shows fewer signs of being of ancient origin. However, it does support locally uncommon species such as sessile oak, hard shield fern and scaly male fern. It is likely to be of some value for invertebrates.

This area of woodland is of high nature conservation value in a local context.

4 Other Habitats

The scrub and secondary woodland provides habitat for birds and other wildlife. The planting on the edge of the landfill site is a recent habitat, but it provides a valuable link between the woodlands on the site and in the wider context. Its contribution to connectivity of woodland habitats along the Avon valley and in nearby sites, such as St Annes Valley, is therefore significant.

The plantation on the landfill edge is of high nature conservation value in a local context.

Patches of scrub on the site provide a habitat for invertebrates and for birds such as whitethroat, and is of low nature conservation value in a local context.

The amenity grassland is valuable for amenity but is not of any nature conservation value.

MANAGEMENT RECOMMENDATIONS

Existing management of the site has generally been sufficient to maximise the nature conservation value of the site, but some enhancement could be achieved.

Priorities

Feature	Nature Conservation Value	Requirement for Management	Priority
Grassland near Beese's	Citywide	High	High
Grassland near playground	High value in local context	High	High
Grasslands near Wyndham Crescent	High value in local context	High	High
Flood plain vegetation	High value in local context	Moderate	Moderate
River bank vegetation	Citywide	Moderate	High
Ponds	High value in local context	Moderate	Moderate
Woodland near Beese's	Citywide	Low	Low
Woodland in south-eastern part of site	High value in local context	Low	Low
Plantation on edge of landfill	High value in local context	Moderate	Moderate
Amenity grassland	Minimal value, but potential to increase value	Moderate	Moderate

High Priority

1.1 Grassland near Beese's

The grassland should be mown annually in late August. The mowings should be gathered and removed. They can be piled under nearby scrub.

A belt of between 1m and 2m should be flailed into adjacent areas of bramble, bracken and other tall herb vegetation around the field annually in November.

Control Himalayan balsam around the field by removing developing seed heads between July and October.

The oaks around the field are shading areas of grassland, but are valuable features in their own right. Reduce shading effect by removing lower boughs that are overhanging grassland.

1.2 Grassland near Playground

During the 2014 / 2015 winter all seedling oaks and other trees in the area should be pulled if possible, or if not cut to the base.

The grassland should be mown annually in August. The arisings should be gathered and removed.

1.3 Grasslands near Wyndham Crescent

The species-rich grasslands at 1.3.2, 1.3.3 and 1.3.4 should be mown annually in August. The arisings should be gathered and removed.

The less diverse grassland at 1.3.1 should be managed as tall herb vegetation. One half of the area should be mown every other year, so that each half is mown once every four years.

2.2 River Bank

The river bank requires little management, but at present the nettle is flailed down along considerable lengths in early autumn. This restricts the growth of both greater dodder and small teasel. The former in particular is restricted to a strip very close to the river, so only a narrow band of unmown nettle is required to ensure its survival.

Leave a 2m wide strip of nettle adjacent to the river's edge unmown, except where access is required.

Moderate Priority

2.1 Floodplain Tall Herb Vegetation

The mown grass areas are important for recreation and should be maintained as at present.

It would be beneficial to mow areas of the tall herb vegetation, so that 100m² compartments are mown on a five year rotation.

Most of the area's more interesting herb species, such as purple loosestrife and marsh marigold, grow along shallow ditches and other depressions that hold river water after winter floods. It would be beneficial to create further small depressions that hold water temporarily in the winter and spring in the area.

2.3 Ponds

The ponds retain much of their interest without intensive management, and the water depth is probably sufficient to prevent invasion by emergent species. However, the larger water lilies might become invasive.

Monitor cover of water lily species and if this exceeds 20% of the water area remove 75% of their growth. Carry out in September.

4.1 Woodland on Landfill Edge

This woodland will carry out its connectivity function without management, but development of a dense, even aged stand is limiting the value of the habitat for wildlife, in particular for nesting birds.

Thin the plantation woodland by 25%.

Fell three compartments measuring 10m by 30m in the plantation, one each winter for three years. Allow to regenerate as scrub, which will provide nesting habitat for birds such as whitethroat and garden warbler.

4.2 Amenity Grassland

The grassland around the edges of the landfill plateau is used by foraging owls. Adjusted management of a strip of grassland around the edges of the area would improve value for invertebrates and small mammals and for predators such as owls, kestrels and bats.

Leave a 5m wide strip of grassland around the edges of the plateau unmown from May to July. Mow half of the total length of the strip each year, so that each half is mown every other year on a rotation.

Low Priority

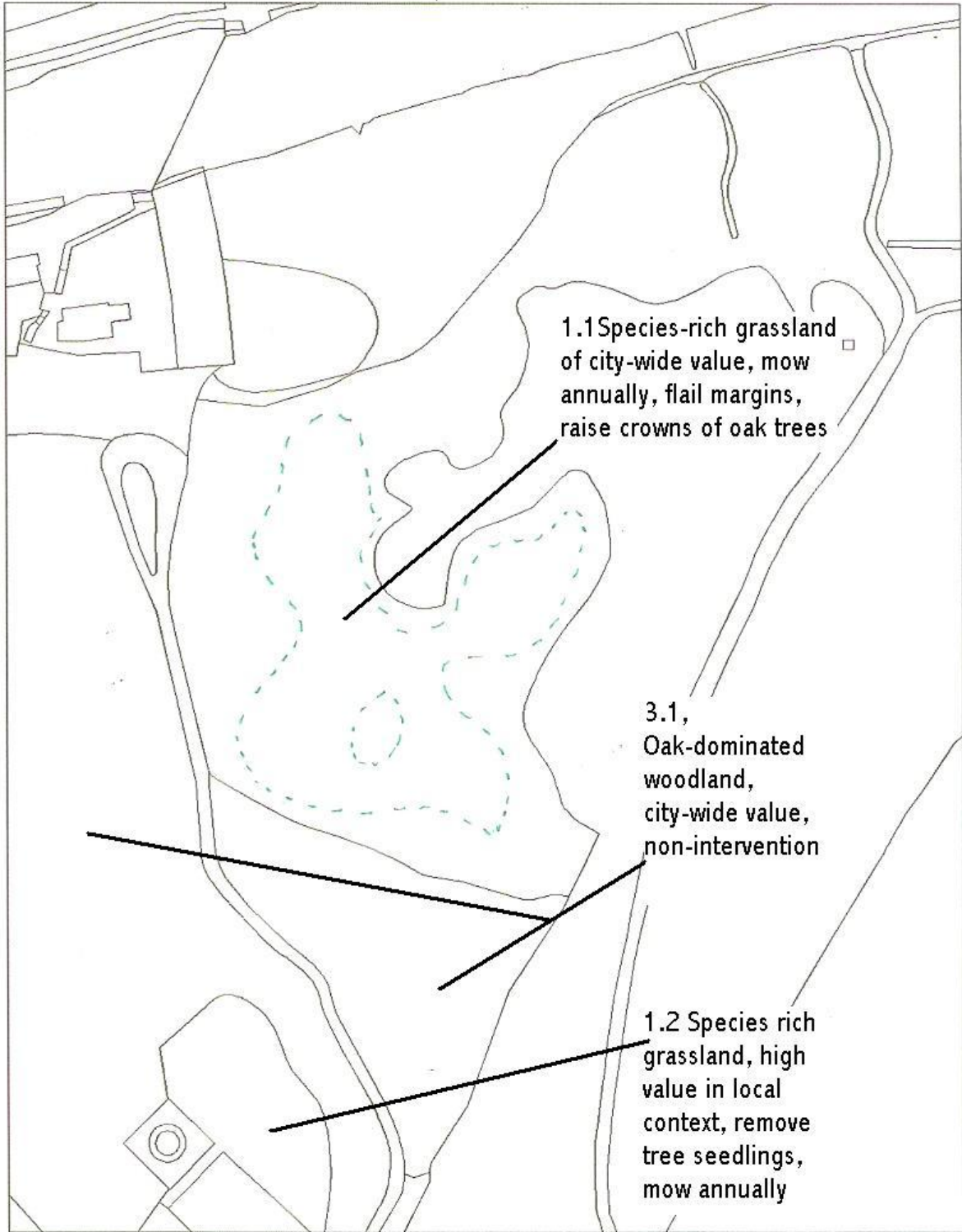
The two main woodland areas do not require management and can be left to develop naturally.

They should be monitored and if vehicular access or other activities are damaging the habitat then measures such as blocking off access points should be taken,

Trees on the site should be monitored to ensure that they do not present a health and safety risk. However, trees or tree limbs should only be felled where absolutely necessary. If a standing dead tree does present a safety risk it should, where possible, be reduced to a standing trunk rather than removed altogether. Existing dead wood should not be removed.

Acknowledgements

Thanks are due to Beese's Bar and Tea Gardens, Friends of Eastwood Farm and Bristol City Council for their support.

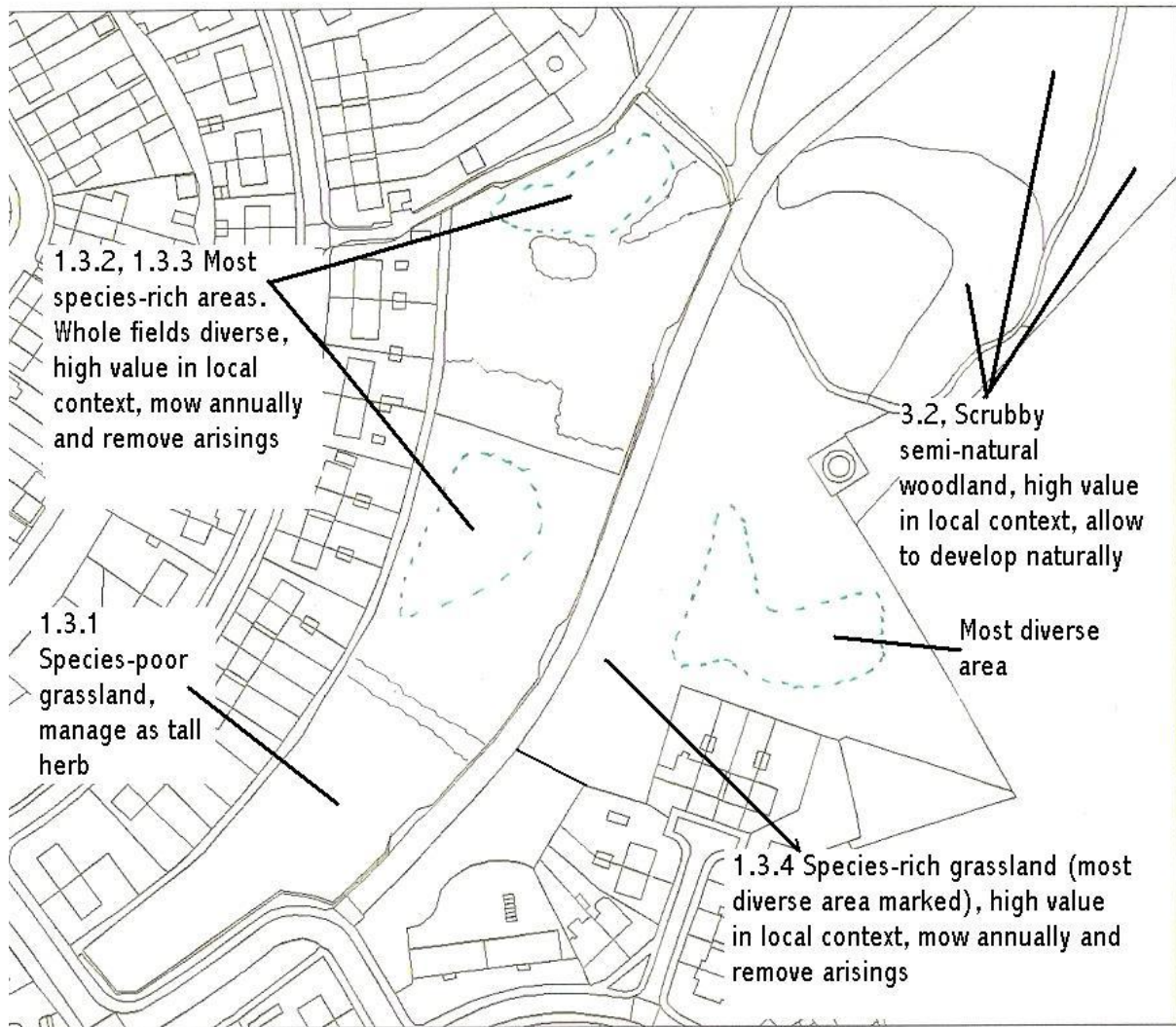


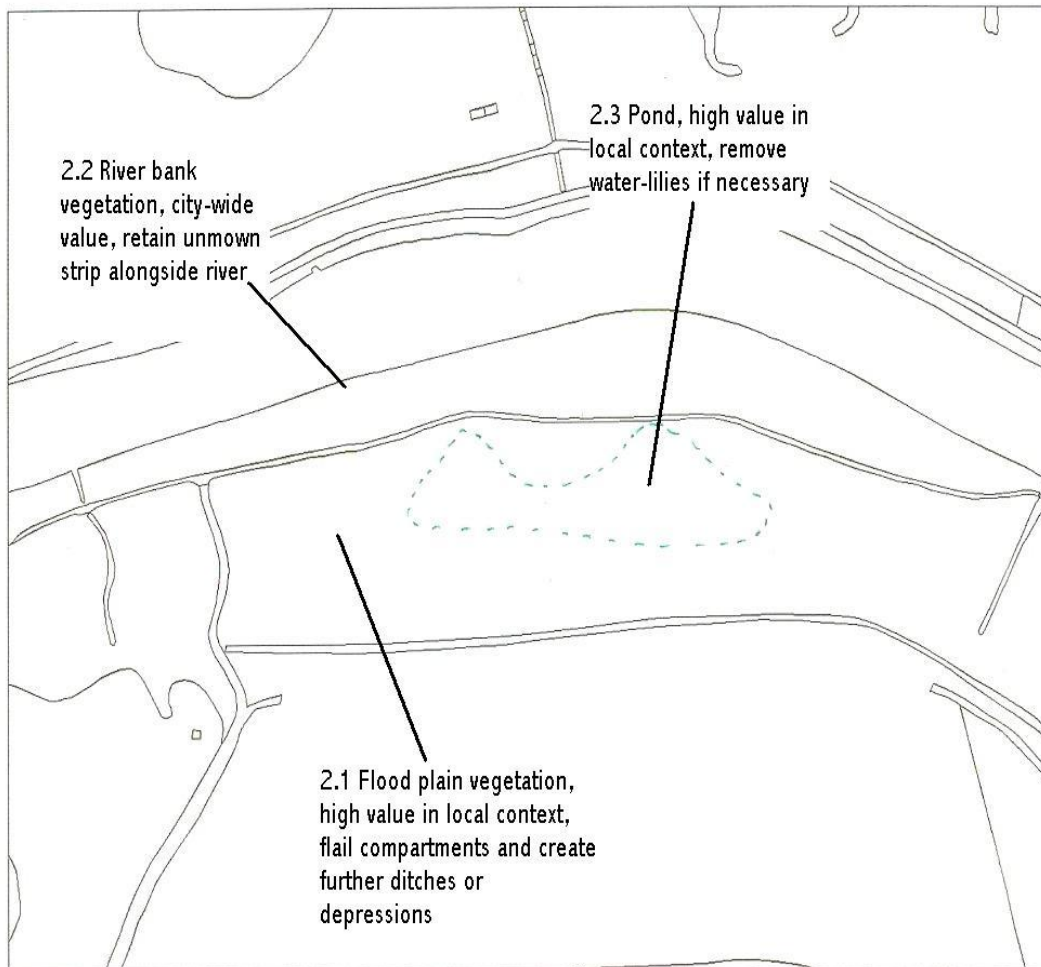
Bristol City Council
Environmental Improvements
 Eastwood Farm

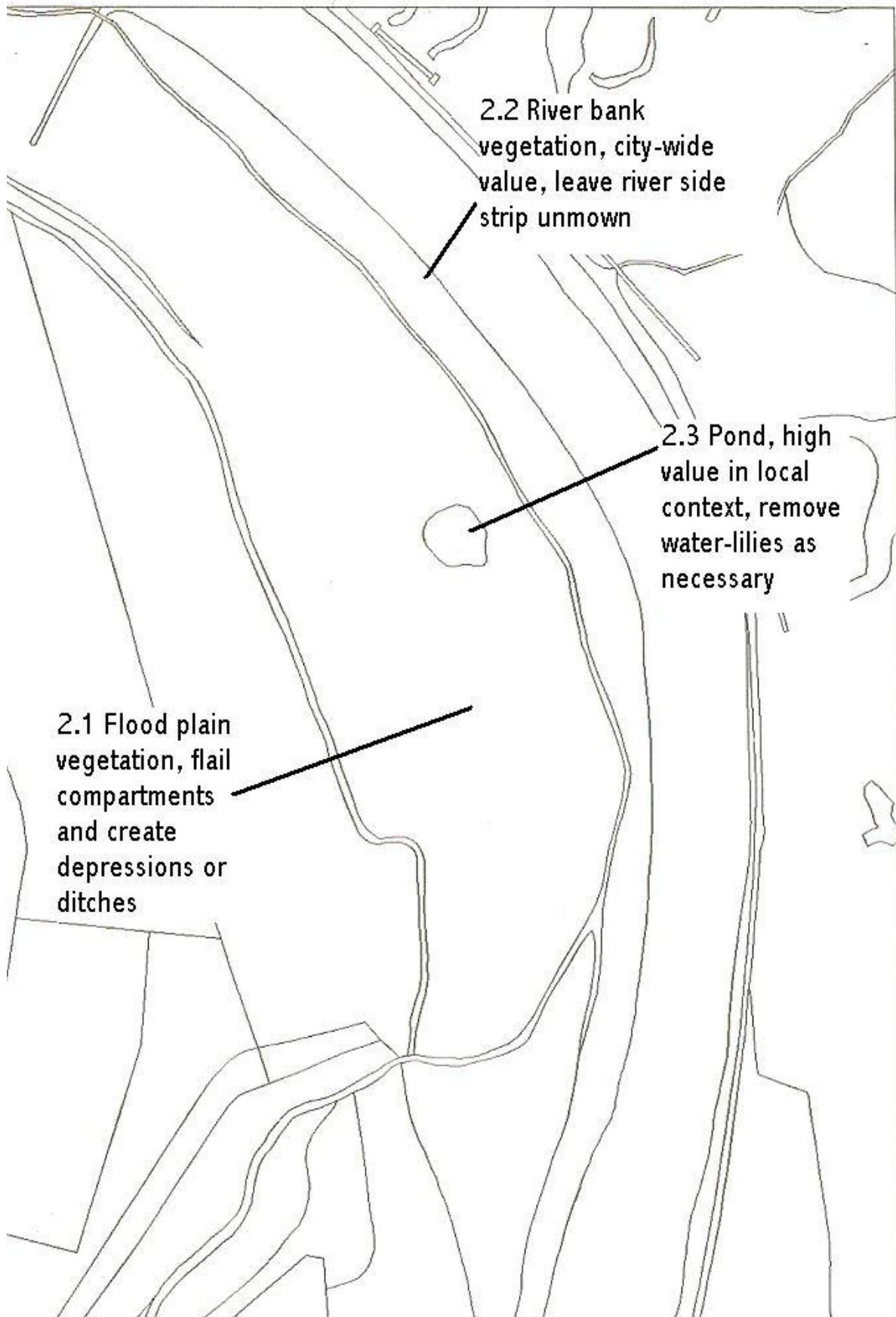
The information on this map is derived from the Ordnance Survey National Grid, which is a public right of way. It is not a guarantee of accuracy. The information is provided for general information only. The Ordnance Survey National Grid is a public right of way. It is not a guarantee of accuracy. The information is provided for general information only.

© Crown Copyright and database right 2014
 Ordnance Survey 100023426
ENVIRONMENT & LEISURE
 Scale: @A3 1:749
 Date: 10/09/2014

BRISTOL CITY COUNCIL
 NEIGHBOURHOODS DIRECTORATE
 Environmental and Leisure Services
 Council House Phone: 0117 9213179
 32 Colston Place, Bristol, Gloucestershire, UK
 BS1 8SL E-mail: www.bristol.gov.uk







1011
Improvements

The provision of information by Great Ouse Council is made under a right to information or otherwise, and is not subject to a charge. Council's expenses are not a liability of the Council and are not a liability of the Council. The Council is not liable for any loss or damage, including any loss of profits, arising from the use of the information provided by the Council, whether or not such loss or damage is foreseeable. © Great Ouse Council 2012

© Crown Copyright and database right 2014. Ordnance Survey 100023406.

ENVIRONMENT & LEISURE

Scale @A3 1:997
Date 10/05/2014

GREAT OUSE COUNCIL

NEIGHBOURHOODS
DIRECTORATE

Environmental and Leisure Services
Rush House Phone: 0147 922378
310 High Road, Peterborough PE1 2JG, UK
Email: 851@GOC.NHS.uk www.goc.gov.uk

