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KNOWLE WEST HEALTH PARK

ECOLOGICAL REPORT

For

BRISTOL CITY COUNCIL

AUGUST 2020

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1 INTRODUCTION

This report summarises the findings of a field survey and a data search covering land around the Knowle West Health Centre in south Bristol. It also assesses the nature conservation value of the site and identifies potential impacts associated with proposals to redevelop the site.

2 METHODS

An Extended Phase 1 Survey was carried out on 29th August 2020. The survey covered vegetation types and plant species, birds, some groups of insects and badgers. Habitat potential for other protected species was assessed.

A data search was carried out at Bristol Regional Environmental Records Centre (BRERC), who provided details of designated sites, protected species and notable species recorded within 1km of the survey site.

3 SURVEY RESULTS

3.1 Site Description

The survey site forms part of a health park and is dominated by mown grassland, partly growing on mounds that have been formed as part of landscaping works. There are belts of scrub on the western and eastern edges of the site, and smaller areas within the site.

The survey site forms part of a designated Wildlife Corridor Site and Novers Common immediately to the west of the survey site is a Site of Nature Conservation Interest (SNCI) and is managed as a Local Nature Reserve (LNR).

3.2 Vegetation

The areas described below are shown on the attached map. Species lists for the grassland are attached as appendix 1.

<u>Species-poor Grassland</u>

Most of the site has mown species-poor grassland that is dominated by perennial rye-grass (*Lolium perenne*), with other grass species including red fescue (*Festuca rubra*), cocksfoot (*Dactylis glomerata*) and common bent (*Agrostis capillaris*). Herb species include ribwort plantain (*Plantago lanceolata*), red clover (*Trifolium pratense*) and yarrow (*Achillea millefolium*), with very small amounts of ox-eye daisy (*Leucanthemum vulgare*).

An area in the western part of the site (shown on the attached map) is both taller and slightly more diverse. Perennial rye-grass remains frequent here but false oat-grass (*Arrhenatherum elatius*) is co-dominant. Additional herb species include common

bird's-foot trefoil (*Lotus corniculatus*), meadow vetchling (*Lathyrus pratensis*) and tufted vetch (*Vicia cracca*).

Trees and Scrub

The western edge of the site has a belt of scrub, which has a mixture of self-sown and planted trees and shrubs. The trees are all immature with the exception of some larger sallows (*Salix x reichardtii*). Species present include field maple (*Acer campestre*), hazel (*Corylus avellana*), holly (*Ilex aquifolium*) and ash (*Fraxinus excelsior*). The ground flora beneath the trees is dominated by ivy (*Hedera helix*), with other species including wood sedge (*Carex sylvatica*), wood avens (*Geum urbanum*) and hedge garlic (*Alliaria petiolata*).

The eastern edge of the site has a narrower band of scrub, which is dominated by hazel and also includes some large sallow trees. Other shrub species here include blackthorn (*Prunus spinosa*) and hornbeam (*Carpinus betulus*). Ivy dominates the ground flora, which also includes wood avens.

There is a large patch of bramble (*Rubus fruticosus agg*) in the western part of the site.

3.3 Birds and Insects

The following bird species were recorded:

Grassland: House sparrow and wood pigeon.

Western scrub belt: Blackbird, blackcap, blue tit, bullfinch, chiffchaff, carrion crow, green woodpecker, robin and wood pigeon.

Eastern scrub belt: Blue tit, chiffchaff, great tit, house sparrow and wood pigeon.

A list of insects recorded is included as an appendix.

3.4 Protected Species

No badger sett or other signs of badger activity were found.

None of the trees on the site has any hole, crevice or similar feature that could be used by roosting bats.

Further details are given in the Assessment section below.

3.5 Adjacent Areas

The Novers Common SNCI to the west has a mix of scrub, semi-improved grassland and unimproved grassland.

3.6 Data Search

BRERC does not hold any records of protected or notable species from the site itself. There is a large number of records from the surrounding area; most of these relate to bird species that remain common or widespread but are of conservation concern due to steep population declines. Records of other groups include the following:

Slow worm: From a site approximately 300m to the north-west, most recently in 1992; from a site approximately 350m to the north-west, most recently in 2015; from Novers Common, approximately 40m to the north-west, most recently in 2000.

Pipistrelle bats sp: From Novers Hill, approximately 350m to the south-west, most recently in 1992.

Common pipstrelle bat: From an unspecified site in the search area, most recently in 2013.

Soprano pipistrelle bat: From an unspecified site in the search area, most recently in 2011.

Noctule bat: From an unspecified site in the search area, most recently in 2013.

There are several records of notable plants and insects, largely from the Northern Slopes LNR.

BRERC do not hold records of badger, but they are active at several sites in the local area, including Novers Common.

4 ASSESSMENT

The biodiversity value of the various features on the site has been assessed in order to determine whether they are 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 2006 NERC Act and the UK and Bristol Biodiversity Action Plans (BAPs). The value of the site for groups not surveyed, including many invertebrates, has been assessed using information gathered on habitat type and structure.

4.1 Habitats

Grassland

Most of the grassland on the site is species poor and lacks any plants indicative of unimproved grassland or of any other priority habitat. A history of regular mowing and the small size of the area indicate that the grassland is unlikely to be of significant value for invertebrates.

The species-poor grassland is of minimal nature conservation value.

Parts of the grassland are slightly more diverse and support a low diversity of indicator species of unimproved grassland, which include common bird’s-foot trefoil, meadow vetchling and tufted vetch. Unimproved grassland is a priority habitat that has become very rare, largely due to agricultural intensification, over recent decades. This area has undergone some degree of improvement in the past and that these areas should be classified as poor (i.e. species-poor) semi-improved grassland. The small area of habitat suggest that the grassland is unlikely to be of significant value for invertebrates.

The more diverse area of grassland is of low nature conservation value in a local context.

Trees and Shrubs

The most extensive and diverse area of scrub is on the site's western boundary. It has a mixture of planted and self-sown species and some of the more uncommon species recorded, such as rowan, are clearly the result of planting. The ground flora of the area includes some species associated with long-established woodland, notably wood sedge, and spring survey may reveal further species. The area has features such as a high diversity of shrub species, the presence of older plants of hazel and sallow and the presence of dead wood that suggest that it may be of value for invertebrates. It is a small area but it is continuous with larger areas of similar habitat around Novers Common. A good variety of insect species was recorded here; one of these, the soldierfly *Chorisops nagatomii* is uncommon locally. It is likely that the scrub supports several moth species that are included in the Section 41 list of species of conservation concern. The area is too small to be of interest for birds if isolated, but as part of a larger block of habitat to the west it supports a good diversity of species. These include bullfinch, which is a Section 41 species, and green woodpecker, which is also of conservation concern.

The western area of scrub is of high nature conservation value in a local context.

The eastern area of scrub is smaller and less diverse and is more isolated from other similar habitats. It is therefore of lower value for groups such as birds and invertebrates.

The eastern area of scrub is of low nature conservation value in a local context.

The area of bramble is of some value for invertebrates, but in view of the large areas of comparable habitat present in the surrounding area is not of significant nature conservation value.

4.2 Protected Species

Badgers

There are no signs of badger activity on or around the site but they are present in the surrounding area and probably cross the survey site on occasion.

Bats

There are no potential bat roosts on or adjacent to the survey site.

Most of the site has negligible potential as bat foraging or commuting habitat. The edges, particularly the edge of the western area of scrub, have potential as bat foraging habitat. Survey through the spring and summer would be required to establish the scale of any such interest, but given the surrounds it is likely to be low to moderate.

Reptiles

Although the most recent slow worm records from Novers Common are twenty years old the habitat remains suitable for this species and it is likely that it still occurs there. The taller grassland on the survey site is apparently suitable for this species, but it has been regularly mown in the recent past and is isolated from any other suitable habitat

by dense scrub, mown grassland and paths. There is therefore no possibility that it supports slow worm or any other reptile species. The mown grassland across the rest of the site is unsuitable for reptiles.

Amphibians

There are no records of great crested newt or common toad in the surrounding area. It is likely, however, that the latter is present. There are no potential breeding sites for amphibians on or, as far as could be seen, adjacent to the site. Most of the site is unsuitable as terrestrial habitat for amphibians but they could use the scrub areas.

Hedgehog

Although BRERC does not have records of this species in the surrounding area it is likely to be present. There is insufficient cover on most of the survey site for this species, but it could be present in the areas of scrub.

Other Species

The survey site does not have potential value for other protected species.

4.3 Invasive Species

No invasive plants that are included on Schedule 9 of the Wildlife and Countryside Act were recorded on or around the survey site.

5 IMPACTS

5.1 Habitats

Loss of the mown species-poor grassland across most of the site would not have any significant ecological impact.

Loss of the area of slightly more diverse grassland would have a minor adverse impact.

Loss of the western area of scrub would have a moderate adverse impact.

Loss of the eastern area of scrub would have a minor adverse impact.

5.2 Protected Species

No impact on any protected species has been detected at present.

There may be impact on foraging bats if the western area of scrub is lost, or if the edge of the area is subject to additional light spill.

Birds are very likely to nest in the areas of scrub on the site, including the patch of bramble, and measures to prevent damage to occupied birds' nests during works would be required.

6 MITIGATION AND FURTHER SURVEY

6.1 Habitats

Significant impacts on habitats would be avoided if the species-rich grassland in the western part of the site and the eastern and western scrub areas are retained and protected during construction works.

The impacts of the loss of other habitats is negligible and further mitigation would not be required.

6.2 Protected Species

If development is likely to affect the western scrub area, either directly or indirectly through light spill, a bat activity survey should be carried out.

In order to avoid the destruction of occupied birds' nests any removal of trees and scrub (including bramble) should take place between 1st September and 28th February. If this is not possible then the area must be checked by an ecologist before works commence. If active nests are found then the area (as defined by the ecologist) must be left undisturbed until a further check has shown it be clear of occupied nests.

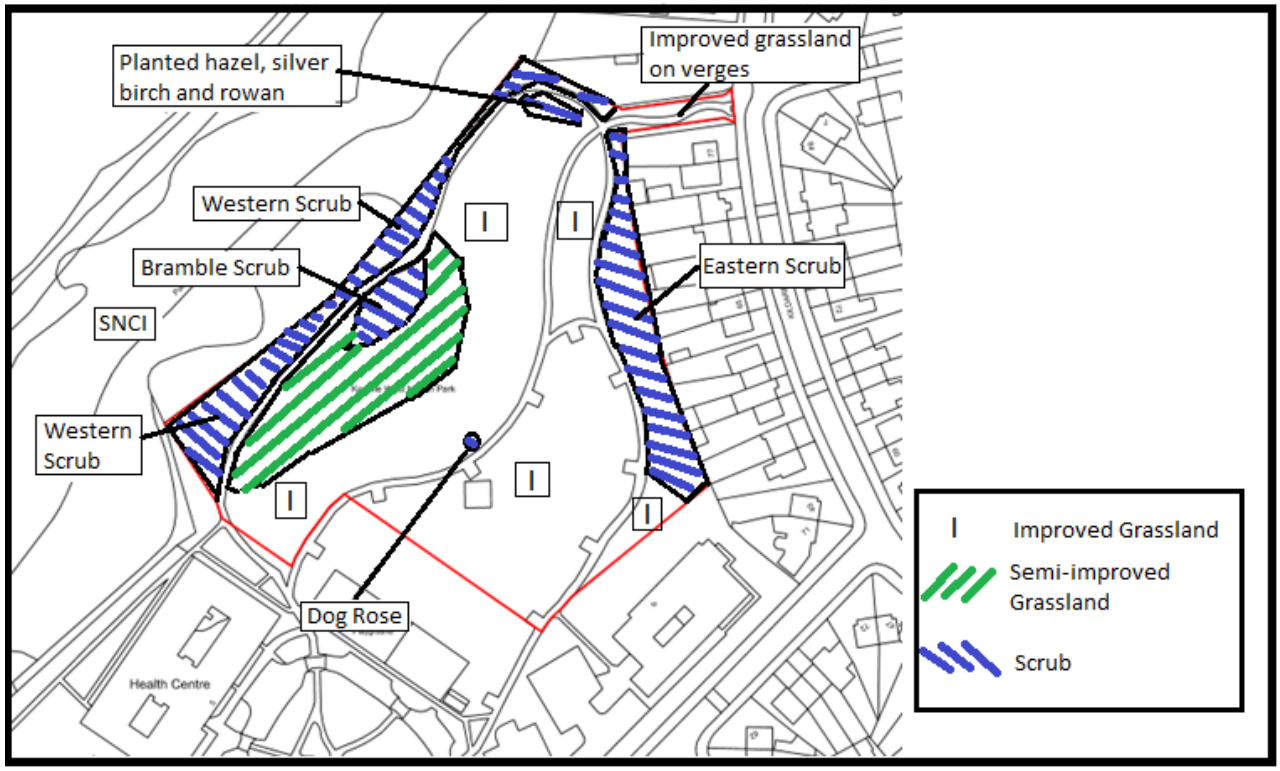
No other mitigation for protected species is required.

6.4 Biodiversity Net Gain

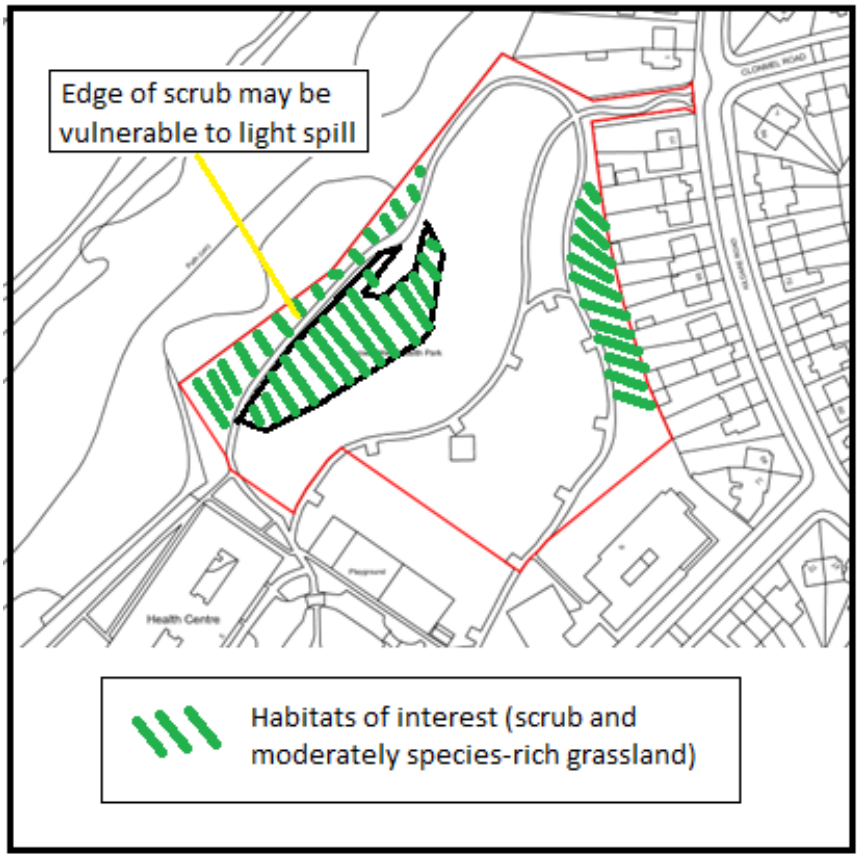
The National Planning Policy Framework requires that developments achieve net biodiversity gain; this requirement will be further developed in the forthcoming Environment Bill, which requires a 10% net gain.

Net gain is calculated by completing a metric, in which all vegetated areas pre- and post-development are given a score. At this site this means that even development of the species-poor grasslands will contribute to net loss, whilst development of the species-rich grassland or scrub would make a slightly larger contribution to the net loss.

In order to achieve net gain on site it will be necessary to retain significant areas of vegetation, prioritising the species-rich grassland and scrub, or to provide features such as green walls or green roofs. It may be possible to provide enhancement by diversifying grasslands that are currently species-poor (this would require soil stripping) and by planting hedges and trees. If such measures are not possible then it may be possible to contribute to an enhancement scheme off-site, although details of how this might be accomplished are still being developed.



Map 1: Habitats



Map 2: Potential ecological constraints

Photograph 1: The area of moderately species-rich grassland

Appendix 1: Plant Species Recorded (Grasslands)

		1	2
Grasses			
Agrostis capillaris	Common bent		R
Agrostis stolonifera	Creeping bent	R	R
Arrhenatherum elatius	False oat-grass	R	F
Cynosurus cristatus	Crested dogstail		R
Dactylis glomerata	Cocksfoot	O	R
Elymus repens	Common couch		R
Festuca rubra	Red fescue	O	O
Holcus lanatus	Yorkshire fog	RLF	R
Lolium perenne	Perennial rye-grass	F	F
Phleum pratense	Timothy	R	
Poa trivialis	Rough-stalked meadow-grass	R	R
Trisetum flavescens	Golden oat-grass	R	
Herbs			
Achillea millefolium	Yarrow	RLF	R
Cirsium arvense	Creeping thistle	R	R
Cerastium fontanum	Common mouse-ear	R	R
Convolvulus arvensis	Field bindweed	R	R
Crepis capillaris	Smooth hawksbeard	R	
Geranium dissectum	Cut-leaved cranesbill	R	R
Geranium molle	Dovesfoot cranesbill	R	
Jacobaea vulgaris	Common ragwort		O
Lathyrus pratensis	Meadow vetchling		OLF
Leucanthemum vulgare	Ox-eye daisy	R	
Plantago lanceolata	Ribwort plantain	R	O
Plantago major	Rat's-tail plantain	R	
Potentilla anserina	Silverweed		R
Potentilla reptans	Creeping cinquefoil	R	
Ranunculus acris	Meadow buttercup		R
Ranunculus repens	Creeping buttercup	R	R
Rumex obtusifolius	Broad-leaved dock		R
Scorzoneroides autumnalis	Autumnal hawkbit	R	
Taraxacum vulgare agg	Dandelion	O	R
Trifolium pratense	Red clover	R	R
Trifolium repens	White clover		R
Vicia cracca	Tufted vetch		R
Vicia sepium	Bush vetch		R

Abundance code: D – dominant; A – abundant; F – frequent; O – occasional; R – rare; L – locally.

Appendix 2: Plant Species Recorded (Scrub)

		1	2
Trees and Shrubs			
Acer campestre	Field maple	O	R
Alnus glutinosa	Alder	R	
Carpinus betulus	Hornbeam		R
Clematis vitalba	Old man's-beard	R	R
Corylus avellana	Hazel	O	F
Crataegus monogyna	Hawthorn	RLF	O
Euonymus europaeus	Spindle		R
Fraxinus excelsior	Ash	R	
Ilex aquifolium	Holly	R	
Ligustrum ovalifolium	Garden privet	R	
Ligustrum vulgare	Wild privet	R	
Prunus spinosa	Blackthorn	R	R
Rosa arvensis	Field rose	R	
Rosa canina	Dog rose	R	R
Rubus fruticosus agg	Bramble	OLF	R
Salix x reichardtii	Sallow	R	R
Sambucus nigra	Elder	R	
Sorbus aucuparia	Rowan	R	
Viburnum lantana	Wayfaring tree	R	R
Viburnum opulus	Guelder rose	R	R
Ground Flora			
Alliaria petiolata	Hedge garlic	R	R
Anthriscus sylvestris	Cow parsley	O	R
Brachypodium sylvaticum	Wood false-brome	R	
Carex sylvatica	Wood sedge	R	
Chamaenerion angustifolium	Rosebay willowherb		R
Geum urbanum	Wood avens	R	
Hedera helix	Ivy	F	F
Poa trivialis	Rough-stalked meadow grass	R	R

Abundance code: D – dominant; A – abundant; F – frequent; O – occasional; R – rare; L – locally.

Appendix 3 Insect Species Recorded

Short grassland: *Agriphila tristella* moth.

Tall grassland: Meadow brown butterfly; *Agriphila tristella* moth; *Tipula oleracea* and *Sphaerophoria scripta* flies; *Bombus pascuorum* bee.

Western scrub: *Stigmella microtheriella, Stigmella floslactella, Phyllonorycter coryli, Phyllonorycter nicellii, Parornix devoniella, Phyllonorycter lantanella, Phyllonorycter leucographella, Phyllonorycter corylifoliella, Phyllonorycter aceri, Phyllonorycter foliella, Phyllonorycter corylifoliella, Stigmella aurella, Stigmella splendidissimella, Gracillaria syringella* and *Lyonetia clerkella* moths (as larval leafmines); *Elasmostethus interstinctus* bug; *Episyrphus balteatus* and *Chorisops nagatomii* flies.

Eastern scrub: *Stigmella microtheriella, Stigmella floslactella, Phyllonorycter coryli, Phyllonorycter nicellii, Parornix devoniella, Phyllonorycter lantanella, Phyllonorycter esperella, Phyllonorycter spincolella* and *Gracillaria syringella* moths (as larval leafmines); *Episyrphus balteatus* fly.