Site name: Humber Doucy Lane (opposite 37 to 123)

Site ref: IP030a/IP030b
Site status: No wildlife designation
Grid ref: TM 19631 45824/TM 19735 45657
Area: 0.96 hectares/1.51 hectares
Date: 24th July 2019
Recorder: J Crighton
Weather conditions: Clear sky, no wind, *ca.* 32°C
Ranking: 5
Biodiversity value: Low

Map:

Of the three fields, IP030a is the northernmost section. IP030b are the central and southernmost sections

Photos:

IP030a Arable field from footpath in north of site

IP030a Hedgerow along Humber Doucy Lane

IP030b Field margin (Target Note 1)

IP030b Oak beyond northern boundary

Habitat type(s):

Arable field, species-rich intact hedgerow with trees, scattered broad-leaved trees

Subsidiary habitats:

Bare ground, field margins, stag-horned oak trees, knot holes

Site description:

IP030a lies to the east of Humber Doucy Lane, opposite numbers 97 to 123. Rushmere Street forms the northern boundary. The site is a small section of a larger arable field, currently sown with an oilseed-rape crop and fenced on the southern, north-western and western boundaries with rabbit-proof mesh. A species-rich hedgerow with several mature standard trees separates the site from the road, and a rough overgrown path runs between the hedgerow and the mesh fence around the perimeter of the field.

IP030b is directly south of IP030a, opposite numbers 37 to 97 Humber Doucy Lane. Beyond its southern boundary is the Humber Doucy Sports Centre and the Ipswich Wanderers Football Club. It

comprises two fields, the northern-most field in IP030b (central to the group) is enclosed by ancient species-rich hedgerows with mature trees. The hedgerow on the eastern boundary of this field lies outside of the site boundary.

To the south, the site is a section of a much larger field. The Humber Doucy Lane boundary is lined with hedgerow and mature standards. Both of the fields contained vegetable crop at the time of survey. These hedges are likely to be classed as 'important' under the Hedgerow Regulations 1997.

The eastern boundary of both IP030a and b is defined by the Rushmere St Andrew parish boundary, which passes through these fields without any visible physical feature demarcating it.

Protected species seen or known:
Common pipistrelle bat
Soprano pipistrelle bat
Noctule bat
Serotine bat

Protected species potential:
Common lizard
Badger

Priority habitats present:
Hedgerow

Priority species seen or known:
Hedgehog
Stag beetle
White admiral butterfly
BoCC Red List birds include house sparrow, starling, yellowhammer, song thrush, linnet, herring gull and skylark
BoCC Amber List birds include dunnock and swift (Suffolk Character Species)

Priority species potential:
Bullfinch

Connectivity:
These sites have moderate connectivity with similar habitats through a network of field boundaries and hedgerows.

Structural diversity:
The only features which offer structural diversity within these sites are the field margins, hedgerows and mature trees.

Flora:
Hedgerows surround much of these sites and contains a mix of blackthorn, hawthorn, elm, plum sp., elder, ivy, bramble and hop with some mature ash, sycamore and oak standards. The hedgerow

alongside IP030a is more dense than further south, with evidence of more recent management. A rough, overgrown footpath lies adjacent to this which has a mix of forbs typical of arable field margins such as petty spurge, creeping thistle, knotgrass, common mallow, ragwort, black horehound and prickly lettuce, as well as several grasses, dominated by false oat, but also some smaller cat's tail, Yorkshire fog, cock's foot, rough meadow grass and perennial rye.

The field margins in the northern field of IP030b are much wider (Target Note 1) and contain more forbs than grasses. The composition is similar to that of IP030a with the addition of scentless mayweed, fat hen and common poppy. They do not meet the criteria for the Priority habitat 'Arable Field Margins' but are notable for their width and potential. Several mature oaks are of note around the boundaries of these fields.

Avifauna:

It was a sub-optimal time of year for recording this group, and the prevailing hot weather meant there was little bird activity noted. However, the hedgerows provide good potential nesting and foraging sites with blackcap, house sparrow and wood pigeon seen or heard during the survey. The hedgerows also have the potential to support bullfinch and the fields offer open ground for breeding skylark.

Invertebrates:

Although the arable use of these sites provides sub-optimal habitat for invertebrates, the hedgerows, field margins and areas of bare, dry ground do offer opportunities for a range of species. In particular, the ancient hedgerows could support stag beetle larvae within subterranean deadwood. Oak trees can also support a high insect biomass. Large white and peacock butterflies were noted during the survey.

Herpetofauna:

There are limited opportunities for this group within these two sites, however the field margins and adjacent hedgerows may support common lizard.

Mammals:

The mature trees on the boundaries of these sites, most notably the oaks, contain cracks, crevices knot holes and stag-horned deadwood which offer potential roosting features for bats, which are also likely to commute and forage along the network of hedgerows.

No evidence of a badger sett was found but this did not constitute a detailed survey and a sett could be present within the hedgerows away from the road. Badgers are also likely to forage around the field boundaries.

A number of hedgehog records exist from Humber Doucy Lane and the associated residential areas, and they are likely to use the hedgerows and field margins for nesting and foraging.

Common species of mammal such as fox, rabbit and deer species are likely to forage on these sites. Mice, voles and shrews are also likely to be present in the field margins and hedgerows.

Comments and recommendations:

These sites were proposed for residential use, however, due to the proximity of Rushmere village, and the requirement to maintain its individual identity, the information provided indicates that the land is most likely to be maintained as countryside.

There are opportunities to enhance biodiversity on these two sites, potentially through providing land for off-site compensatory habitat for other developments. Planning policy supports the mitigation hierarchy of avoid, minimise, remediate and only as a last resort, compensate. However, due to the nature of the existing habitats on some of the other sites, it is likely that future development at these locations will require off-site compensation to avoid a biodiversity loss and to deliver net gain.

Compensation for habitat loss can be delivered through the creation of new habitat, restoring or enhancing existing habitats or occasionally, by accelerating successional processes. Off-site compensation habitat should be located as close as possible to the site and should seek to replicate the characteristics of the habitat(s) to be lost, taking account of the structure and species composition to provide local distinctiveness. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than habitats lost and wherever possible, should contribute to the wider ecological network. They should also be subject to long-term good habitat management practices.

The hedgerows should be retained and enhanced by additional planting along the line of the parish boundary with Rushmere St Andrew. Native woody species typical of the area should be used and protected from browsing mammals until they establish.

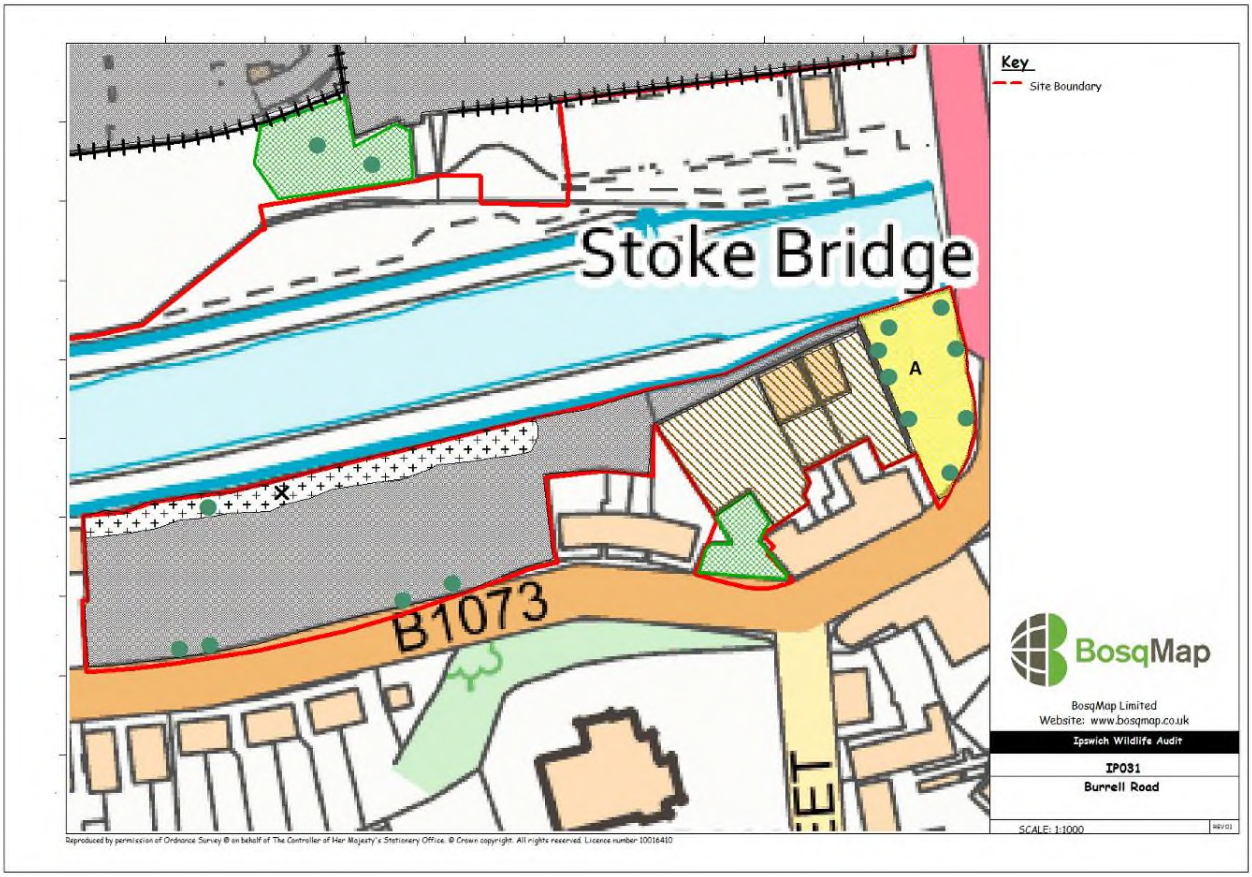
Delivering net gain is independent of any wider requirements of planning policy or the need to comply with legislation relating to nature conservation or biodiversity.

If these sites were to be used as Public Open Space, interpretation panels should be used to showcase the presence of on-site habitats and species.

Site name: Burrell Road

Site ref: IP031a/IP031b
Site status: No wildlife designation
Grid ref: TM 16220 43886
Area: 0.44 hectares/0.18 hectares
Date: 5th August 2019
Recorder: A Looser
Weather conditions: Hot and sunny, 28°C
Ranking: 5
Biodiversity value: Low

Map:



Photos:

View along car park

Tall ruderal vegetation east of car park

Amenity grassland at eastern end

Habitat type(s):

Hard standing, ephemeral short perennial, tall ruderal, dense scrub, amenity grassland, scattered trees

Subsidiary habitats:

-

Site description:

The majority of this site is a car park, located to the north of Burrell Road. The River Orwell County Wildlife Site forms the northern boundary of the site. To the east of the car park, behind the houses is an area surrounded by fencing, which has been left unmanaged and has developed tall ruderal vegetation with scattered scrub. There is also a small area of dense scrub adjacent to the road. The site also encompasses a small area of amenity grassland with scattered trees, adjacent to Stoke Bridge.

Protected species seen or known:
Records in the surrounding area include:
Otter
Water vole
Badger
Slow worm
Grass snake
Great crested newt
Daubenton's bat
Natterer's bat
Noctule bat
Common pipistrelle bat
Soprano pipistrelle bat

Protected species potential:
-

Priority habitats present:
River (adjacent to site)

Priority species seen or known:
Records in the surrounding area include:
Hedgehog
Stag beetle
Swift (Suffolk Character Species)

Associated with the river corridor, BoCC Red List birds include herring gull, curlew, common scoter, white-fronted goose and yellow wagtail, and BoCC Amber List include black-tailed godwit, black-throated diver, dark-bellied brent goose and little tern.

Priority species potential:
Cinnabar moth

Connectivity:
This site is isolated from other similar habitat types, although its proximity to the river corridor helps provide some connectivity.

Structural diversity:
The site has some structural diversity with hard standing, short mown grass, tall ruderal vegetation, scrub and trees.

Flora:
There is a good diversity of common plant species coming up along the edge of the river along the car park including wall barley, cock's-foot, barren brome and fern grass with a range of herbs including herb Robert, dove's-foot cranesbill, perennial sow thistle, bristly ox tongue, common cat's-ear, dandelion, ragwort, prickly lettuce, pineapple mayweed, scarlet pimpernel, ribwort plantain, greater plantain, comfrey, green alkanet, common mouse-ear, red dead nettle and common field speedwell.

An ash tree was present along the river and occasional buddleia shrubs have started to colonise.

The area of tall ruderal vegetation has similar species with the addition of false oat and rough meadow grass, creeping thistle, Canadian fleabane, mugwort, wild carrot and fennel with occasional dog rose and bramble scrub.

The amenity grassland at the eastern end has typical species for this habitat including rye grass with dandelion, daisy, yarrow and common field speedwell. This area had some scattered ornamental trees.

Avifauna:
The survey took place at a sub-optimal time of year for recording this group. The diversity of plants and its location adjacent to the river means that this site is good for birds, particularly seed eating species such as finches. The developing scrub and trees also provide some nesting opportunities.

Invertebrates:
The various plants provide a good nectar source for common invertebrates including bees and butterflies. Common carder bee and small white butterfly were both seen during the visit and others will be present during the year. Several crickets and grasshoppers were also noted in the tall ruderal area. The presence of ragwort means cinnabar moths (Priority Species) are likely to be present as their caterpillars feed exclusively on ragwort.

Herpetofauna:
The area of tall ruderal vegetation is currently suitable for this group, particularly grass snake which may access the site via the river corridor. The habitat is likely to continue to improve for this group if the site remains undeveloped.

Mammals:
The majority of the site is sub-optimal for this group. Bats are likely to forage along the river corridor. Otter has also been recorded along the river corridor although the current habitats on site means they are likely to be transient only. There are numerous hedgehog records in the area and the grassland and tall ruderal area provides good foraging habitat for them. Other common mammal species are likely to be present including small mammals.

Comments and recommendations:
IP031a is allocated for 20 dwellings, and IP031b for 18 dwellings.

A reptile survey should be undertaken, particularly in the eastern part of the site and mitigation for this group undertaken as required. Although currently there are only small amounts of woody vegetation, any clearance should only take place outside the main bird nesting season (March - August inclusive) or immediately preceded by a nesting bird check.

Japanese knotweed and Japanese rose have been recorded close to the train station and these species are listed as invasive on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Although no evidence was found on site during the survey, this site assessment does not constitute an invasive species survey and further monitoring of these species is required to ensure they have not

spread and colonised the site.

This site is located adjacent to the River Orwell wildlife corridor. Any lighting scheme should be designed to prevent light spillage into this area, or the scrub habitat along the river banks. Bats can be sensitive to increased light levels, so it is important to maintain dark corridors to support local ecological networks. There is an opportunity to strengthen the local ecological network by creation of new scrub and grassland habitat at the western end of the site as a continuation of the existing wildlife corridor. Any new habitat should use native planting local to the area.

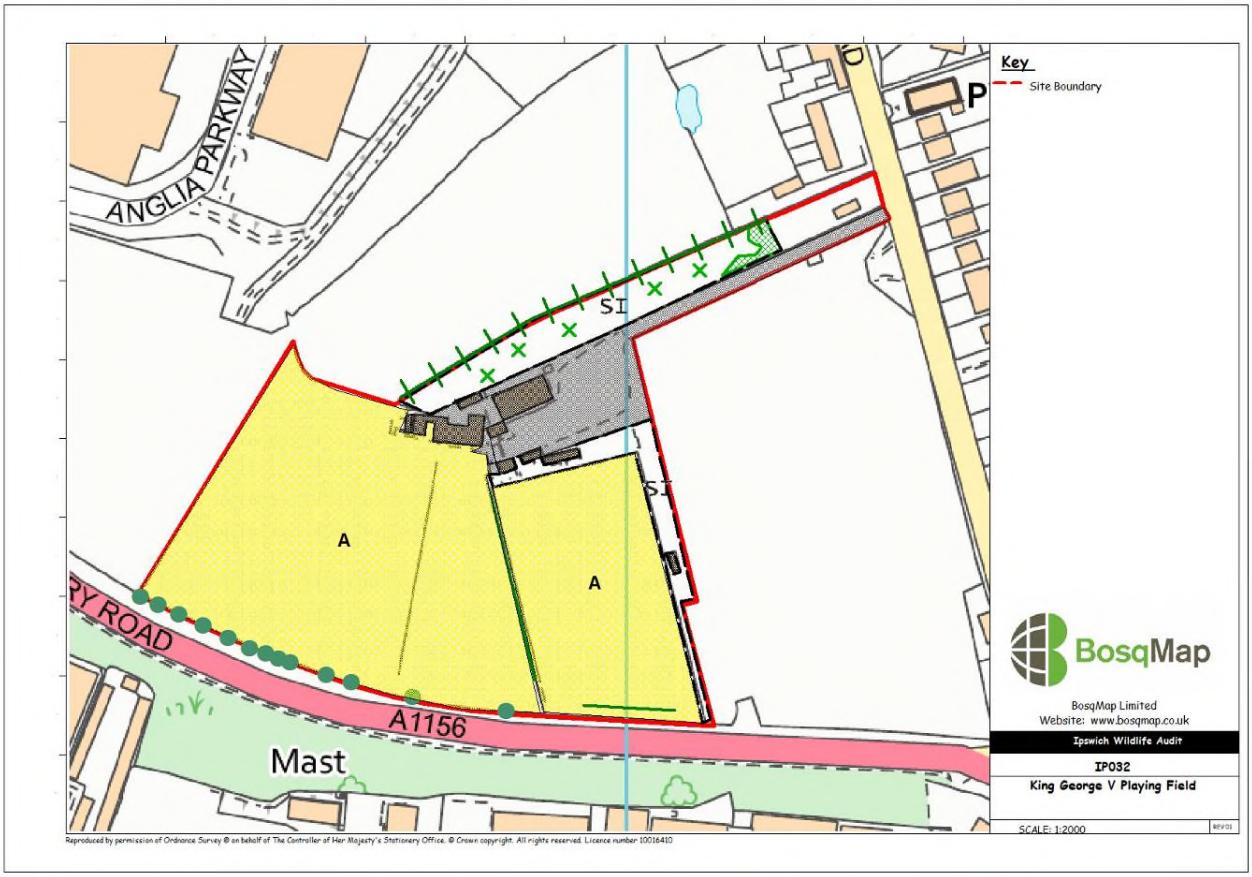
It is unknown if houses or flats are planned for this site. Swifts are a declining migratory species that are almost totally dependent on holes and crevices in buildings for nesting, but leave no mess. Swift boxes should be integrated into taller new buildings using 'swift bricks' or 'swift blocks'. Externally mounted boxes can also be used but have a shorter life span than integrated features. Both types are most effective at attracting swifts when used with a swift 'call system'.

Holes in fences for hedgehog should be part of new housing proposals, to deliver landscape permeability for this wide-ranging, declining species.

Site name: King George V Field, Old Norwich Road

Site ref: IP032
Site status: No wildlife designation
Grid ref: TM 13850 47290
Area: 3.68 hectares
Date: 22nd July 2019
Recorder: A Looser
Weather conditions: Hot and sunny, 28°C
Ranking: 5
Biodiversity value: Low

Map:



Photos:

View north across playing fields

Habitat type(s):

Amenity grassland, poor semi-improved grassland, species-poor hedgerow, dense scrub, scattered scrub, scattered trees

Subsidiary habitats:

Buildings, hard standing

Site description:

These playing fields are located to the north of the A1156 Bury Road, but are accessed from the Old Norwich Road via a narrow track. The dominant habitat is short mown amenity grassland, consistent with its use as a playing field. A linear strip of species-poor rough grassland with scattered scrub lies to the north of the pavilion with a hedgerow on its northern edge. Another hedge heads south from the pavilion and a third recently planted hedgerow runs along the south-eastern boundary. This site was assessed in a previous wildlife audit in 2012, as part of a larger site. A residential property is included in the current site boundary but this was not surveyed. The area east of the site, south of the access track, is currently being developed.

Protected species seen or known:

Records in the surrounding area include:
Badger
Common pipistrelle bat
Soprano pipistrelle bat
Serotine bat
Great Crested Newt

Grass snake (reported by local resident)

Protected species potential:
Slow worm on margins

Priority habitats present:
Hedgerows

Priority species seen or known:
Hedgehog
Common toad
Stag beetle

BoCC Red List birds including herring gull, skylark, house sparrow, starling and song thrush
BoCC Amber List birds including dunnock and swift (Suffolk Character Species)

Priority species potential:
-

Connectivity:
There is currently some connectivity to other semi-natural habitat to the north, although much of this is currently also proposed for development. Otherwise it is surrounded by roads, residential housing and an industrial estate.

Structural diversity:
With the exception of the hedgerows, structural diversity is poor.

Flora:
The grassland was dominated by rye grass with smooth meadow grass, common couch, meadow foxtail and Yorkshire fog. Interestingly a small patch of meadow barley was noted on the southern edge, which is normally found on old meadows and pastures. Along the playing field margins where the grass has been left unmown, the flora is more interesting. Wild carrot, black knapweed, smooth hawk's-beard, yarrow, common cat's-ear, bird's-foot trefoil, ox-eye daisy, red clover, creeping cinquefoil, bristly ox-tongue, prickly lettuce, poppy, white campion, spear thistle, selfheal, and ragwort are present.

The linear strip of grassland north of the pavilion is dominated by grasses including cock's-foot and Yorkshire fog with occasional common herbs including ribwort plantain, greater plantain, field bindweed, dandelion and creeping buttercup.

The hedgerow along the northern boundary of the linear strip of grassland is species-poor with hawthorn, blackthorn, field maple, elder and bramble. The hedgerow running south of the pavilion is dominated by leylandii, with occasional hawthorn, sycamore and travelers joy. The recently planted hedgerow along the southern boundary is composed mainly of hazel, dogwood and ash.
Scattered trees occur along the southern boundary including field maple, ash, cherry, dogwood, hawthorn, elder and sycamore.

Avifauna:
It was a sub-optimal time of year for surveying this group and only common, widespread species including blackbird, black headed gulls, carrion crow and magpie were observed during the visit. The trees and hedgerows provide some nesting and foraging opportunities for birds.

Invertebrates:
The hedgerows and rough margins provide some habitat for common invertebrate species. Red-tailed bumblebees were observed foraging on the margins. Meadow brown, gatekeeper, small white and peacock butterflies were also seen during the visit, as well as several crickets and grasshoppers along the margins. The hedgerows and mature trees along the boundary provide good habitat for stag beetles, whose larvae feed on subterranean dead wood.

Herpetofauna:
Although most of the site is short mown and therefore sub-optimal for this group, the margins provide some habitat for slow worm. One of the local residents reported regularly seeing a grass snake in the linear strip of grassland north of the access track. The habitat is sub-optimal for amphibians, although toad could be present around the northern margins especially as there is an offsite pond to the north.

Mammals:
The short mown grassland provides some foraging habitat for hedgehogs (Priority species) and there are records of them in the area in 2018. The hedgerows also provide some nesting and potentially hibernation habitat for them.

Other common species of mammal such as fox and deer are likely to utilize the site during the year.

Comments and recommendations:
This site is proposed for 80% housing development and 20% amenity open space.

Due to the presence of rough grassland around the margins a reptile survey should be carried out prior to any removal of vegetation. Any woody vegetation clearance must take place outside bird nesting season (March to the end of August inclusive) unless immediately preceded by a nesting bird check by a suitably qualified ecologist.

New development should retain as much of the higher value existing habitat as possible, for example the hedgerows, and integrate it within a landscaping scheme, to deliver locally accessible natural greenspace. This will help retain the local biodiversity resource, with enhancement through additional habitat creation and long-term good habitat management practices. Greenspaces should be interlinked to provide functional ecological corridors for a range of species and as much as possible they should connect with wider off-site ecological networks so if possible any greenspace should be proposed to the north-east of the site adjacent to other semi-natural areas. New planting should seek to use native species typical of the local area for example hawthorn, blackthorn, field maple, dogwood and hazel.

Careful planning and design can integrate the requirement for sustainable drainage systems with the creation of new wildlife habitat. Such places can also create aesthetically pleasing features which can

also be integrated into landscaping schemes. Within the allocated greenspace there is the opportunity to channel and store run-off through surface features such as swales, retention basins and ponds, resulting either in temporary or permanent water features. The design should incorporate a variety of features to maximise potential habitats niches and any planting should utilise native species. Where possible, existing habitats should be retained and integrated into the system as this will result in greater species diversity. New habitats should be created taking into account local ecology and site conditions.

As reptiles are highly likely to be present on the site, a log pile for basking reptiles over the top of a below-ground hibernacula should be incorporated into an undisturbed area of greenspace. Hibernacula can be created by filling holes (minimum 2m long by 1m wide, and up to 50cm deep) with loose rubble (such as brick) and/or log sections. This should be covered with topsoil and turf, allowing access opportunities so that reptiles can easily enter the hibernacula at the appropriate time. These habitat piles can also support stag beetle larvae if logs are buried.

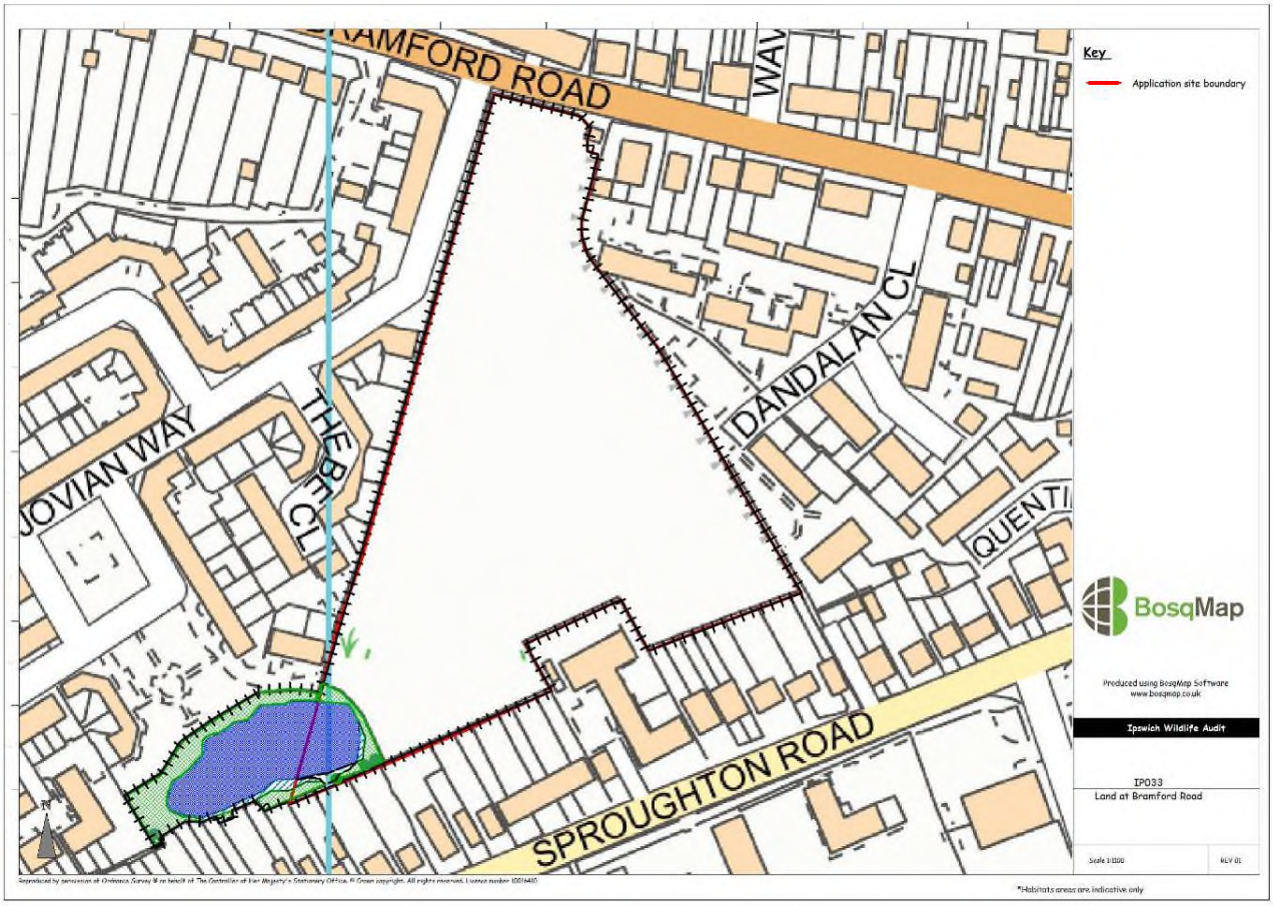
Swifts are a declining migratory species that are almost totally dependent on holes and crevices in buildings for nesting, but leave no mess. Swift boxes should be integrated into taller new buildings using 'swift bricks' or 'swift blocks'. Externally mounted boxes can also be used but have a shorter life span than integrated features. Both types are most effective at attracting swifts when used with a swift 'call system'.

Holes in fences for hedgehog should be part of this new housing proposals, to deliver landscape permeability for this wide-ranging, declining species. Toad, another UK Priority species, will also benefit from holes in garden fences.

Site name: Land at Bramford Road (Stocks Site)

Site ref: IP033
Site status: No wildlife designation
Grid ref: TM 14076 45544
Area: 2.03 hectares
Date surveyed: 22nd July 2019
Recorder: Not Surveyed
Weather conditions: Warm and sunny with a slight breeze, 24°C
Ranking: 4
Biodiversity value: Medium

Map:



Photos:

View south from road

Pond in south-western corner

Habitat type(s):

Rough grassland, dense continuous scrub, broad-leaved scattered trees, pond

Subsidiary habitats:

-

Site description:

Due to fencing, this site could not be accessed and was viewed from the road only. The pond was also viewed from Jovian Way. This site was previously surveyed in the 2012 Audit and appears to be unchanged in terms of its habitat.

The site is roughly triangular in shape with boundaries on Bramford Road and housing off Dandalan Close to the north-east, Jovian Way and associated housing to the west and the gardens of dwellings off Sproughton Road to the south-east. It contains a mosaic of vegetation with long grassland, scrub and mature trees and there is a large pond in the south-west corner of the site. This pond lies at the perimeter of the green space in the Jovian Way housing development.

Protected species seen or known:

Records in the surrounding area include:
Badger
Common pipistrelle bat
Soprano pipistrelle bat
Daubenton's bat
Natterer's bat
Noctule bat
Great crested newt
Grass snake
Slow worm
Barn owl

Protected species potential:
Common lizard

Priority habitats present:
Pond

Priority species seen or known:
Records in the surrounding area include:
Hedgehog
Stag beetle
Common toad
Five banded weevil wasp
BoCC Red List birds include house sparrow, song thrush, linnet and starling
BoCC Amber List birds include dunnock, bullfinch, reed bunting and swift (Suffolk Character Species)

Priority species potential:
-

Connectivity:
The site is relatively isolated however the gardens to the east of the site offer a degree of connectivity towards the railway corridor to the south west of the site.

Structural diversity:
From available imagery, the site appears to have good structural diversity with a pond, tall grassland, dense scrub and mature trees offering a diverse range of habitats.

Flora:
Due to the access difficulties this was not fully assessed. Species seen from the boundaries include false oat, rough meadow grass and common couch grass with yarrow, ragwort, mugwort and hemlock. Plants visible associated with the pond includes common reed. Bramble and buddleia scrub is present, particularly adjacent to Jovian Way. An oak tree was also noted.

Avifauna:
The areas of dense scrub provide good foraging, nesting and roosting opportunities for a range of common bird species. Summer migrants such as whitethroat could also nest in the areas of dense bramble. The pond could also attract wildfowl such as mallard, coot and moorhen.

Invertebrates:
The diversity of habitats on site, including a number of native trees and scrub, should provide a high diversity of invertebrates, both terrestrial and aquatic within the pond and associated flora. Large white and small white butterflies were present and black tailed skimmer and brown hawker dragonflies were seen flying over the pond and other common species are likely to be present. If there is any subterranean deadwood suitable for supporting their larvae, stag beetle could be present.

Herpetofauna:

The long grass and patches of scrub provide a good habitat for reptiles and amphibians such as grass snake, common lizard, slow worm and common toad and can provide a good hibernation site if left uncut through the winter. The pond could also support smooth newts, frogs and toads, although it is unknown whether it has a high fish population. Further assessment would be required to assess suitability for great crested newt.

Mammals:

It is possible that some of the mature trees on site have features which may support roosting bats, including cracks, crevices and rot holes. The range of habitats, including the pond will also support a variety of insect life so there are likely to be bats foraging over this area.

There are a number of hedgehog records in the immediate area and the combination of grassland and scrub provides good foraging, refuge and hibernation opportunities for them.

Common species of mammal such as fox, rabbit and muntjac deer are likely to forage on this site. Mice, voles and shrews are also likely to be present in the rough grassland areas and scrub.

Comments and recommendations:

This site has been allocated for residential development with 55 dwellings at medium density (55dph) on 50% of the site. The other 50% of the site is proposed to be amenity green space.

A full preliminary ecological appraisal of this site should be undertaken prior to development, along with any species-specific surveys highlighted in the report. These are likely to include, but not be limited to, reptiles, breeding birds, great crested newt, bats and badgers.

All retained features should not be subjected to any light spillage so any lighting scheme should be designed to prevent this. Bats are particularly sensitive to increased light levels, so it is important to maintain dark corridors to support local ecological networks.

New development should retain as much of the existing habitat as possible and integrate it within a landscaping scheme, to deliver locally accessible natural greenspace. In this instance, a habitat mosaic of grassland and scrub should be retained to buffer the pond and its associated features. This will help retain the local biodiversity resource, with enhancement through additional habitat creation and long-term good habitat management practices. Greenspaces should be interlinked to provide functional ecological corridors for a range of species and as much as possible they should connect with wider off-site ecological networks. New planting should seek to use native species typical of the local area. If there was a commitment to regular maintenance, then a wildflower area could be sown to benefit invertebrates. The mix should include species typical of the prevailing soil conditions, eg. either sandy and free draining or if there are heavier soils. Wildflower areas are left uncut until mid-July/August and then cut, with a second cut in September.

Planning policy supports the mitigation hierarchy of avoid, minimise, remediate and only as a last resort, compensate. However, due to the nature of the existing habitats on this site, it is likely that future development will require compensation to avoid a biodiversity loss and to deliver net gain.

Compensation for habitat loss can be on-site and/or off-site and is delivered through the creation of new habitat, restoring or enhancing existing habitats or occasionally, by accelerating successional processes. Off-site compensation habitat should be located as close as possible to the site and should seek to replicate the characteristics of the habitat(s) to be lost, taking account of the structure and species composition to provide local distinctiveness. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than habitats lost and wherever possible, should contribute to the wider ecological network.

Delivering net gain is independent of any wider requirements of planning policy or the need to comply with legislation relating to nature conservation or biodiversity.

Careful planning and design can integrate the requirement for sustainable drainage systems with the creation of new wildlife habitat. Such places can also create aesthetically pleasing features which can also be integrated into landscaping schemes.

There is the opportunity to channel and store run-off through surface features such as swales, retention basins and ponds, resulting either in temporary or permanent water features. The design should incorporate a variety of features to maximise potential habitats niches and any planting should utilise native species. Where possible, existing habitats should be retained and integrated into the system as this will result in greater species diversity. New habitats should be created taking into account local ecology and site conditions.

In addition to this, action can be taken for individual species such as swifts, bats, reptiles and stag beetles.

Swifts are a declining migratory species that is almost totally dependent on holes and crevices in buildings for nesting but leave no mess. Swift boxes should be integrated into taller new buildings using 'swift bricks' or 'swift blocks'. Externally mounted boxes can also be used but have a shorter life span than integrated features. Both types are most effective at attracting swifts when used with a swift 'call system'.

Bat boxes should be integrated into new buildings, or durable boxes placed on trees where there is a low risk of interference.

If reptiles are present, mitigation for impacts on the reptile population will be required and ideally populations should be retained on site in conjunction with additional habitat enhancement. In order to achieve this, log piles for basking reptiles sited over the top of a below-ground hibernacula should be incorporated into an undisturbed area of greenspace. Hibernacula can be created by filling holes (minimum 2m long by 1m wide, and up to 50cm deep) with loose rubble (such as brick) and log sections. This should be covered with topsoil and turf, allowing access opportunities so that reptiles can easily enter the hibernacula at the appropriate time. This structure will also benefit amphibians and could also be used to provide stag beetle habitat if logs are buried to support their larvae.

Holes in fences for hedgehog should be part of new housing proposals, to deliver landscape permeability for this wide-ranging, declining species. Toad, another UK Priority species, will also benefit from holes in garden fences.