

Preliminary Ecological Appraisal

Grindle Farm

September 2023

<i>Project no.</i>	<i>Report</i>	<i>Date</i>
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DISCLAIMER

This report has been compiled in accordance with BS 42020:2013 Biodiversity - Code of practice for planning and development, as has the survey work to which it relates.

The information, data, advice and opinions which have been prepared and provided are true, and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional *bona fide* opinions.

This survey was carried out and an assessment made of the site at a particular time. The evidence of the report can be used to draw conclusions as to the likely presence/absence of protected species and the impacts of any future development works. This survey is a snapshot in time and further work may be necessary, for instance, if there is a delay, or when applying for a Natural England European Protected Species Licence, or the requirement for a Habitat Regulations Assessment.

Every effort has been made to date to provide an accurate assessment of the current situation, but no liability can be assumed for omissions or changes after the survey has taken place.

It is our policy to submit biological records to Suffolk Biodiversity Information Service (SBIS), for the purposes of increasing knowledge of the distribution of species within Suffolk. If you wish to discuss this, please contact us within three months of submission of this report.

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GRINDLE FARM, SPROUGHTON

PRELIMINARY ECOLOGICAL APPRAISAL

EXECUTIVE SUMMARY

SWT Trading Ltd: Wilder Ecology was commissioned by Alice Wickman, Rivers Advisor for Suffolk Wildlife Trust to undertake a Preliminary Ecological Appraisal of an area of Grindle Farm, Ipswich. This survey was undertaken in advance of a planning application to facilitate the creation of a small backwater habitat. The backwater will be created at Grindle Farm and connected to the River Gipping.

The surveys focused on assessing the habitats present at the site as well as any protected and Priority species.

The site was found to contain other neutral grassland. The habitats on site have medium distinctiveness and are of moderate condition.

The site itself comprises Coastal and Floodplain Grazing Marsh Priority habitat, a high distinctiveness habitat, currently in moderate condition. There is one statutorily designated site (Bramford Meadows Local Nature Reserve) and eight non-statutorily designated sites within 2km of the site. The closest site is Hazel Wood County Wildlife Site (CWS).

The site offers suitable habitat for a range of protected and UK Priority species but is most notable for its potential to support water vole and reptiles. The River Gipping provides suitable habitat for water voles and the meadow provides suitable reptile habitat. Bats, otter and badger may utilise the site for commuting and foraging. The surrounding ditches offer suitable connective habitat for water voles. Brown hare, harvest mouse and common toad may also use the site incidentally.

Guidance has been provided to avoid any impacts on water voles, reptiles, water shrew and harvest mouse. Works will take place outside of the nesting bird season. In the long term, this proposal will result in a habitat condition improvement of “other neutral grassland” to “temporary pond” and a Biodiversity Net Gain of 58.65% habitat units; and have a positive impact upon the fauna that it supports.

1. INTRODUCTION

1.1 General Introduction

This report has been prepared by SWT Trading Ltd: Wilder Ecology, the ecological consultancy of the Suffolk Wildlife Trust, for Alice Wickman, Rivers Advisor, Suffolk Wildlife Trust. It comprises the results of a preliminary ecological survey to investigate the potential impacts on wildlife that would result from the creation of a new backwater connected to the River Gipping.

1.2 Location and Description of Site

Grindle Farm is situated in Sproughton, Ipswich, with a central grid reference of TM 12333 45465 and is located adjacent to the River Gipping. The site lies within an area of Coastal and Floodplain Grazing Marsh Priority habitat associated with the river corridor. The wider landscape is dominated by arable fields, a network of hedgerows and small parcels of woodland.

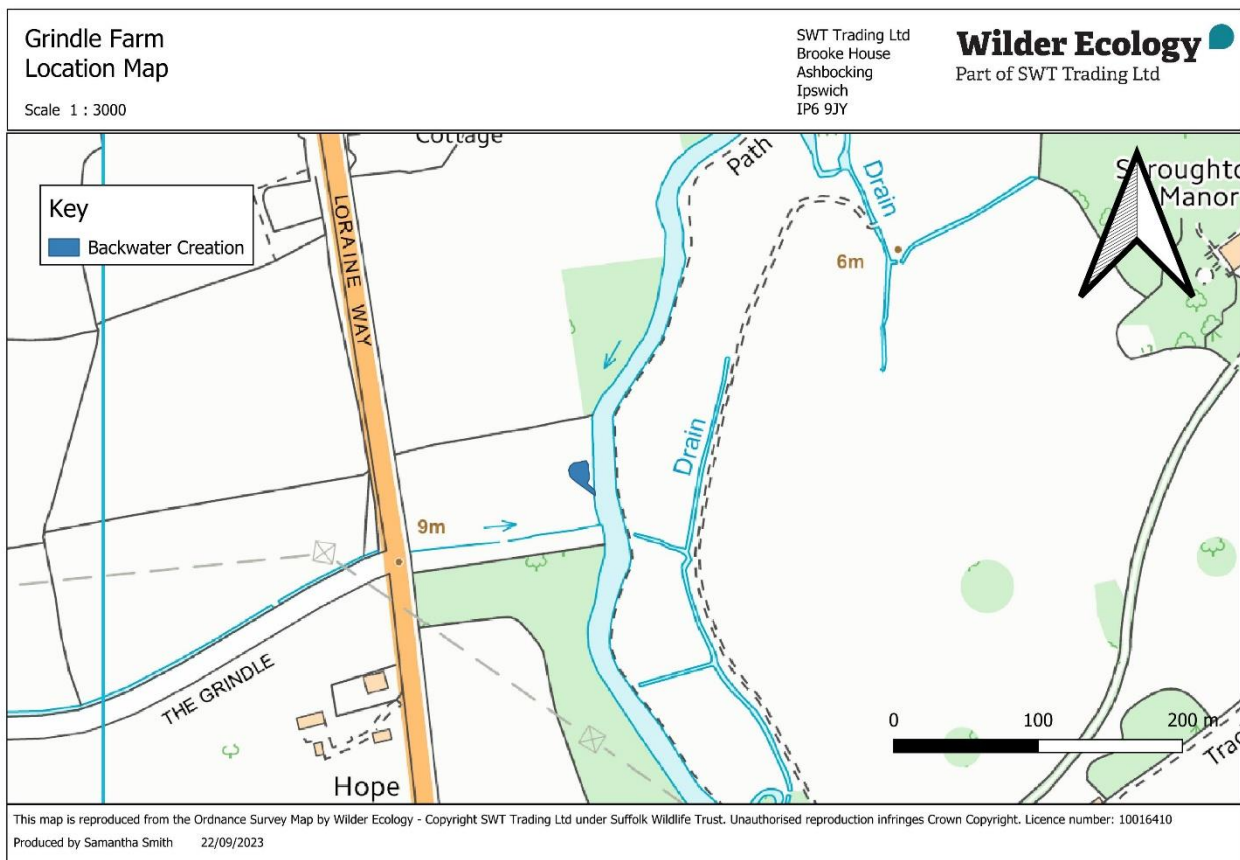


Figure 1. Location Map

The River Gipping lies immediately adjacent to the east of the site, where the backwater will be created and connected. The location of the backwater and river connection were the focus of the surveyed area for this report.

1.3 Outline of Proposed Works

Habitat enhancement works include a backwater created in an existing depression with connection to the River Gipping. The proposed backwater will be a significant contribution to the flora and fauna of the area and will enhance the ecological value of the site for fish, flora, invertebrates and water voles. The backwater will provide an area of calm water with native marginal vegetation providing refuge for fish and invertebrates as well as food and suitable habitat for water vole.

The backwater is proposed to be created in autumn 2023 and should be completed within one week. Weather conditions and other external factors may cause delays, so a period of two months has been given on the application to account for this.

The ground levels at the point where the channel will join the river will be lowered by a maximum of 50cm. The backwater will be created in an existing depression. The backwater will be dug to a maximum of 1m deep with varying depths and a gentle gradient. Sheep fencing will be installed around the perimeter of the backwater, which will protect the habitat from grazing livestock.

The site falls under the Babergh District Council and is within the Ipswich Policy Area (IPA), an area of geography including the urban areas of Ipswich Borough Council and *“local communities that have a close functional relationship with Ipswich but fall within the administrative district boundaries of Babergh, Mid Suffolk and Suffolk Coastal.”* Key decision making for cross boundary planning in the IPA is made by an IPA board consisting of councillors and officers from Babergh, Mid Suffolk and Suffolk Coastal District Councils, Ipswich Borough Council and Suffolk County Council.

The emerging Babergh and Mid Suffolk Joint Local Plan is in its development stages. When adopted, this Plan will replace the existing Babergh Local Plan (2006) and Barbergh Local Plan

2011-2031 Core Strategy and Policies (February 2014). In the intervening time, relevant existing 'saved' policies from the Local Plan 2006 include:

Local Plan 2006

- Chapter 2: Environment, EN03.
- Chapter 2: Environment, EN06

In addition, the National Planning Policy Framework (NPPF) 2021 states that *"Planning policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;"* (Chapter 15: Conserving and Enhancing the Natural Environment, paragraph 174. (d)). Further to this in order to protect and enhance biodiversity and geodiversity, plans should *"promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable gains for biodiversity."* (Paragraph 179. (b)).

1.4 Objectives of Survey

The aim of the survey was to determine how the proposed work might impact on wildlife or habitats that are of significance in a local, regional or national context. This primarily involved the consideration of species that have legal protection, but also included an assessment of any other noteworthy species and communities, as well as the type and quality of the habitats.

A secondary aim was to identify any constraints or considerations placed upon the re-development of the site as the result of the flora or fauna present.

The advice given in this report is valid for 12 months. If, after this time, the proposed work has not been undertaken, the advice of an ecologist should be sought as to the possible need for a new survey prior to submitting a planning application or implementing the scheme. Notwithstanding this, any obvious material changes in the area, such as the excavation of holes that might be new badger setts, the growth of tall vegetation over previously cultivated land, or changes in the scheme design, should be reported to SWT Trading Ltd. prior to any work commencing on site so that the advice herein can be revised, if necessary.

2. SURVEY METHODOLOGY

2.1 Desktop

Before the site visit, a search of the Suffolk Biodiversity Information Service database was made for existing records of legally protected species and for sites with conservation designations within two kilometres of the proposed development site.

2.2 Site visit

A site visit was made on 5th September 2023 by Alison Looser and Samantha Smith. Weather conditions were clear and approximately 26°C. Habitats on the site were mapped in line with the UK Habitat Classification. The site was surveyed for signs of legally protected or otherwise noteworthy species, such as those of Principal Importance in England (Priority species included on the “Section 41 list” as required by the Natural Environment and Rural Communities Act 2006) and Red Data Lists; and assessed for habitats that might support legally protected species. Any habitats of value in their own right or that appeared to be of particular value to wildlife were also recorded. These features are identified on the UK Habitat Classification map by means of Target Notes, which are then referred to in the text.

Where access was possible, the search extended beyond the boundary of the site, as populations of some species (*e.g.* badgers) living beyond the immediate boundary of the site could still be affected by activities upon it.

Specific searches and assessments were made as follows:

- Bats – identification of potential roost sites and searches for evidence of activity; assessment of foraging habitat and commuting routes;
- Otter – search for holts, spraints and footprints;
- Water vole – search for and mapping of burrows, latrines, footprints, pathways and feeding stations;
- Reptiles – assessment of suitable habitat and potential hibernation sites;
- Birds – assessment of nesting habitat, *e.g.* trees, scrub, ground conditions; likelihood of the presence of species listed within Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), identified as a Bird of Conservation Concern (Eaton *et al.* 2015) or other significant assemblages;

- Badger – search for and mapping of setts, pathways, footprints, holes, latrines, hairs;
- Great Crested Newt – assessment of suitable terrestrial habitat;
- Priority species – searches and assessment of habitat for the presence of and potential use by species such as brown hare;
- Species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) – where appropriate, identification and mapping of such species.

Where it was possible to do so, potential impacts were identified and assessed in accordance with the Institute of Ecology and Environmental Management's *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2018) with particular reference to the geographic frame of reference that it contains. This suggests valuing ecological resources in the following context: International, UK, National (England), Regional, County, District, Local/Parish and Site. The scale and significance of each potential impact is then assessed using published guidance, which varies from species to species, and the risk of potential impacts occurring (without mitigation) is quantified in accordance with the CIEEM guidelines, using either 'certain' (95% probability or higher), 'probable' (50% to 94%), 'unlikely' (5% to 49%) or extremely unlikely (less than 5%). A combination of these factors can then be used as a guide to determine appropriate mitigation.

2.3 UK Habitat Classification Survey

The survey of habitats was undertaken following the recommendations of the UK Habitat Classification Working Group (2018 and 2020). Fieldwork was conducted using UKHab-Professional at Primary Hierarchy Level 5, with a Minimum Mapping Unit of 25m². Vegetation datasets were generated by listing all recognisable species within each distinct grassland and stand, with scrub and woodland species listed separately.

The site and its constituent habitats were evaluated using Biodiversity Metric 4.0 Condition Assessment Sheets appropriate to the habitats recorded.

2.4 Biodiversity Net Gain

Net gain in planning terms describes an approach to development that leaves the natural environment in a measurably better state than it was before. The approach to delivering net

gain still requires the application of the mitigation hierarchy, in that impacts on biodiversity should be first avoided, then minimised and only as a last resort be compensated. Where losses cannot be compensated within a development footprint then biodiversity losses may be offset by delivery of gains elsewhere. Although not yet mandatory, a minimum target of 10% net gain should be sought as specified in the Environment Act 2021. However, it should be noted that impacts on irreplaceable habitat cannot be offset to achieve no net loss or net gain.

A key part of the process is demonstrating measurability and the Biodiversity Metric 4.0, designed by Natural England provides the means to account for the ecological value of a site and how changes arising from development or management will impact on this value over time.

Achieving the best outcomes for biodiversity requires credible evidence derived from ground-truthing and justifiable choices based on ecological knowledge. In addition, the delivery of net gain is dependent upon the financial means to undertake the necessary habitat management, in order to secure a long-term biodiversity benefit.

2.5 Competence

Samantha Smith, BSc, MSc, is an Ecologist with over two years' experience in habitat assessment using UK Habitat Classification, undertaking GIS mapping and protected species surveys to include bats, reptiles and badgers.

Alison Looser, BSc Hons, ACIEEM is a senior ecologist with extensive experience of ecological surveys including botanical surveys. She is also highly competent at bird, water vole, otter, badger, bat, great crested newt and hazel dormouse surveys and holds Natural England survey licences for the latter three. Alison also undertakes GIS mapping and holds a CSCS card.

2.6 Constraints of Methodology

This survey was designed to provide a preliminary assessment of the site's wildlife value. Observations were made on and around the site to establish the potential of the habitats to support legally protected and other noteworthy species. Although presence or absence has

been determined where possible, for some species-specific survey techniques or levels of survey effort are needed. Where necessary, additional survey work is recommended.


The wildlife and habitats present on any site are subject to change over time. All single-visit surveys of this kind can only record the situation as it is at the time, rather than providing a comprehensive analysis of the site's ecology. The survey was limited to ecological issues and so did not consider aspects such as archaeology, landscape, arboriculture or Tree Preservation Orders.

3. RESULTS

3.1 Habitat

3.1.1 Habitat Description

The site is defined as the area of land inside the boundaries of the backwater and the river connection. This is comprised of other neutral grassland, dominated by cocksfoot and false oat grass. At the time of the site visit, the meadow had been recently cut and therefore species identification was limited to cuttings left onsite and species present along the boundaries of the meadow. An area dominant in dense common nettle is present along the bank of the River Gipping.

Other Neutral Grassland		Code: g3c
Secondary codes:	16 – Tall forbs	
Ecological Distinctiveness	Approximate area (ha)	
Medium	0.02	
Description		
<p>The grassland includes cocksfoot, Yorkshire fog, false oat grass and perennial rye grass.</p> <p>Forbs species present include creeping buttercup, meadow buttercup. The uncut boundaries of the meadow include nodding thistle, ribwort plantain, white campion and red deadnettle which are likely to have been present throughout the meadow.</p> <p>Vegetation closest to the bankside of the River Gipping to the east is dominant in dense common nettles and includes curled dock, broad leaved dock, perennial ryegrass, white deadnettle, comfrey, hedge bindweed, common reeds and sedge species.</p>		
		
<p><i>Photograph 1. Looking east across meadow towards River Gipping</i></p>		
Condition:	Moderate	
Rationale for condition assessment:		
<p>The meadow was cut at the time of the site visit, although boundary edges were maintained. There is no bracken or scrub encroachment present and a lack of invasive species present. However, there was not an abundance of species per m².</p>		

Rivers and Streams		Code: r2
Secondary codes:		
Ecological Distinctiveness	Approximate area (ha)	
Medium	0.005	
Description		
<p>The River Gipping is situated to the east of meadow. The bankside vegetation is dominant in dense common nettles and includes curled leaved dock, broad leaved dock, perennial ryegrass, white deadnettle, comfrey, hedge bindweed, common reeds and sedge species.</p>		
		
<i>Photograph 2. River Gipping</i>		
Condition:	Moderate	
Rationale for condition assessment:		
<p>There is continuous aquatic marginal vegetation present along either side of the river and a lack of physical damage from poaching or machinery along this stretch. No non-native plant or animal species were seen on the site visit or recorded nearby. The bankside vegetation is tall currently, but this is due to seasonal growth.</p>		

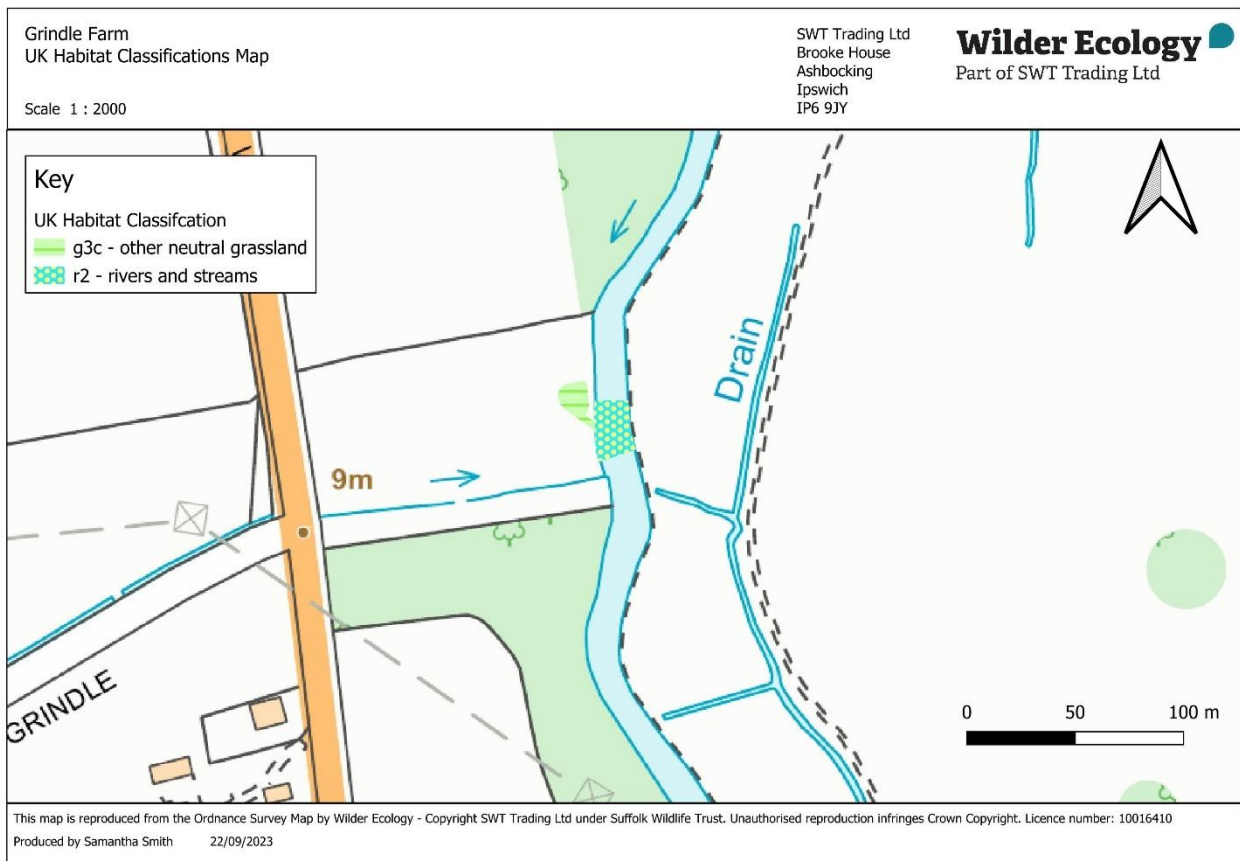


Figure 2. UK Habitats Classification map

3.1.2 Habitat Assessment

The site is within a Coastal and Floodplain Grazing Marsh Priority Habitat, which includes a network of grazing marshes adjacent to the River Gipping.

3.1.3 Proximity to designated habitats

There is one statutorily designated site (Bramford Meadow LNR) within 2km of the site and eight non-statutorily designated sites. Table 1 below provides a summary of these sites.

Table 1. Statutory and non-statutory designated sites within 2km

Distance/ direction	Name and Designation	Description
370m / NE	Hazel Wood County Wildlife Site (CWS)	An ancient woodland situated on the outskirts of Ipswich, bordered along its northwestern boundary by the River Gipping. A well-defined woodbank separates the wood from a riverside footpath. A number of mature pollards and some area of old hornbeam coppice are present, indicative of ancient woodlands.
460m / S	Sproughton Churchyard CWS	A biodiversity priority lowland meadow habitat with species-rich unimproved grassland.
1.04km / NE	Bramford Meadows Local Nature Reserve and CWS	A good example of floodplain grazing marsh (Priority habitat) and comprises of series of low-lying wet meadows in the valley of the River Gipping.
1.6km / NW	Miller's Wood CWS	Ancient woodland enclosed by a woodbank, parts of which are probably medieval in origin.
1.65km / NE	River Gipping (Sections) CWS	This CWS covers many stretches of the River Gipping as it flows between Stowmarket and Ipswich, of considerable conservation value due to its fauna and flora.
1.7km / W	Burstall Long Wood CWS	One of a group of ancient woodlands listed on English Nature's Inventory of Ancient Woodland. Situated amidst arable fields, and enclosed on three sides by a ditch and bank.
1.75km / SE	Chantry Park, Beechwater and Meadow CWS	Historic parkland of large size and high quality habitat mosaic valuable for wildlife.
1.85km / W	Round Wood and Elms Grove CWS	Ancient woodland listed on English Nature's Inventory of Ancient Woodland. A bank and ditch considered to be medieval in origin marks the northern and part of the western boundary of the wood.

3.2 Legally Protected Species

It should be noted that this section only covers species with legal protection that is likely to be relevant to the proposals. For example, species for which sale alone is an offence are not mentioned here.

3.2.1 Bats

There are numerous records of bats within 2km of the site. Within 1km of the site, common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Daubenton's bat (*Myotis daubentonii*), noctule (*Nyctalus noctule*), and serotine (*Eptesicus serotinus*) have been recorded.

The site itself is small but well connected and is situated within a meadow and adjacent to the River Gipping providing high suitability for foraging and commuting with features such as tree-

lined water courses, hedgerows and grassland. No roosting habitat is noted on site, however roosting habitat may be present within trees and buildings in the wider area.

This site is likely to have 'local' importance for many bat species.

Table 2: Guidelines for assessing potential suitability for bats (Collins, 2016)

Suitability	Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis by large numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or patch of scrub.</p>
Moderate	A structure or tree with one or more potential roosting sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland, tree-lined water courses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

3.2.2 Otter

There are records of otter within 2km of the site. The closest record was 350m south of the site, along the River Gipping.

The River Gipping is a water course on the eastern boundary of the site that will be connected to the backwater. This provides a potential commuting and foraging route for otters. A search for otter signs was conducted such as spraint, resting areas and holts and none were seen on the site visit. However, it is noted that otter are mobile species and could colonise this area prior to commencement of works.

This site is likely to have '**local**' importance for otter.

3.2.3 Water vole

There are numerous records of water vole within 2km. The closest record was 75m east of the site.

The River Gipping provides optimal habitat for water voles. Field signs of water vole were found along the stretch of the river where the proposed work will take place (grid reference TM 12343 45459). Latrines and feeding remains were identified along with a potential burrow.

This site is likely to have '**local**' importance for water voles.

3.2.4 Reptiles

Numerous records of grass snake, slow worm and common lizard are located within 2km of the site. The closest record was slow worm at 400m southeast of the site, followed by grass snake and common lizard around 1km from the site.

The site provides suitable habitat for reptiles such as slow worm, grass snake and common lizard within the grassland and the along the riverbank where refuge and foraging habitat is present. The site is also connected to additional habitat in the wider area through the river corridor, hedgerows and meadows. The site itself offers no suitable hibernation habitat.

This site is likely to have '**local**' importance for reptiles.

3.2.5 Birds

Notable bird records within 2km of the site include those on the Birds of Conservation Concern 5 (BoCC⁵) Red and Amber lists.

BoCC⁵ Red list: swift, greenfinch, house sparrow, starling, skylark, yellowhammer, linnet.

BoCC⁵ Amber list: sparrowhawk, kestrel, grey wagtail, dunnock.

Other notable records include that of kingfisher. A kingfisher was heard along the river during the site visit.

The site itself is small and provides limited nesting suitability for birds within the bankside vegetation. In the wider area, trees and hedgerows provide suitable nesting habitat for a wide range of common birds.

This site is likely to have '**local**' importance for birds.

3.2.6 Badger

Numerous records of badger were present within 2km of the site.

No evidence of badger was found on site such as sett/s, latrines or foraging. A mammal run was noted at the northern end of the meadow. The meadow provides potential foraging habitat and is well connected to the wider area via hedgerows, a series of meadows and the river corridor. Woodland parcels are also located within the wider area, with habitat likely to provide suitable sett building opportunities. It is considered likely that badgers are present within the wider area and therefore could be transiently present on site.

This site is likely to have '**local**' importance for badger.

3.2.7 Great crested newt

There are no ponds within 500m of the site. There are no records of GCN within 1km of the site. There are only two records recorded within 2km of the site, with the closest being 1.1km northwest.

The grassland meadow and bankside vegetation would provide suitable terrestrial habitat, however there is a lack of suitable aquatic breeding habitat onsite and within 500m. The River Gipping would act as a barrier to any habitat to the east of the site. Therefore, they will not be considered further in this report.

3.2.8 Other legally protected wildlife

White clawed crayfish

There are no local records for white clawed crayfish and the River Gipping does not provide suitable habitat for them. Therefore, they will not be considered further in this report.

Hazel dormouse

There are no records for hazel dormouse within 2km of the site. The site does not provide suitable habitat, with a lack of woodland or canopy cover, therefore they will not be considered further in this report.

3.3 Species of Principal Importance in England

This section considers those species listed by the Secretary of State, as required by Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 that are not covered in the preceding section. It should be noted that some of these species (formerly described as UK BAP species) do also receive legal protection, but not in a way that is considered relevant to this proposal. Furthermore, some of the species in the preceding sections are also Species of Principal Importance in England.

The site itself is small but is well connected to wider landscape with potential to support a diverse assemblage of species.

Mammals

There are records for hedgehog, water shrew, brown hare and harvest mouse within 1km of the site. The grassland meadow and river corridor provides suitable habitat for these species.

Amphibians

The site provides suitable habitat for amphibians such as common toad and there are records within 2km of the site.

Invertebrates

The grassland meadow provides habitat for a range of invertebrates including stag beetle of which there are records within 2km.

Fish

European eel has been recorded within 2km of the site and River Gipping provides suitable habitat for this species.

3.4 Wildlife and Countryside Act Schedule 9 Plants and Animals

Certain species listed within this Schedule have now become common and widespread (*e.g.* grey squirrel and muntjac deer) and are not dealt with here. Others, mainly plants but also including aquatic invertebrates, remain scarce in the wild, but threaten outward spread from gardens or established colonies in the wild.

There are records of giant hogweed, Japanese knotweed and Himalayan balsam within 2km of the site, but the closest is more than 500m from the site.

No invasive species were noted on site; however, this survey does not constitute a full invasive species survey.

3.5 Limitations of the Survey

A detailed invasive species search was not undertaken.

Areas of the bank of the River Gipping were not accessible due to dense common nettles and access to the bank edge was limited to certain areas. However, this constraint does not change the outcome of the assessment, as it is considered that enough of the bank was accessed and presence of water vole was determined, and appropriate mitigation can be recommended.

At the time of the site visit, the meadow had been cut and therefore species identification was limited. It is considered this constraint is overcome by the identification of the cuttings left on site and noting species present along the boundaries of the meadow which are likely to have been present throughout.

3.6 Summary of Results

- There is one statutorily designated site and eight non-statutorily designated sites within 2km of the site.
- This site is connected to the wider landscape providing 'high' suitability for foraging and commuting for a range of bat species. No roosting habitat is present on site.
- Water vole and otter are known to be present along the River Gipping. Evidence of water vole was noted along the bank where the backwater connection to the river is proposed.
- The site has high suitability for reptiles including slow worm, grass snake, and common lizard.
- The site itself is small and offers limited nesting habitat for birds.
- The grassland and river corridor provides suitable habitat for a range of Priority species, such as hedgehog, water shrew, brown hare, and harvest mouse and is also suitable for other Priority species such as common toad, stag beetle and European eel.

4. POTENTIAL IMPACTS AND ZONE OF INFLUENCE

The Zone of Influence (Zoi) is defined as "The areas/resources that may be affected by the biophysical changes caused by activities associated with a project" (CIEEM, 2018). The Zoi takes into account all areas for potential impacts as a result of this development. For example:

- Within the application site boundary and immediately adjacent habitats for direct impacts to valued ecological features (e.g. habitats and protected species).
- Within a 2km radius of the application site boundary for designated nature conservation sites which may be indirectly impacted as a result of the proposed development.
- Within 250m of the development site for great crested newts, as based on the small-scale of the proposal.

4.1 Potential negative impacts of works without appropriate mitigation

Table 3. Potential negative impacts of works

Ecological receptor	Impact without mitigation	Level of value	Scale of impact	Likelihood of impact without mitigation
Habitat	Damage to the River Gipping bank when connecting to the backwater.	Site	Minor negative	Certain
Bats	Potential disturbance to foraging and commuting habitats.	Local	Minor negative	Unlikely
Otter	Potential destruction of a holt or resting place.	Local	Major Negative	Unlikely
Water vole	Potential destruction of burrows.	Local	Major Negative	Likely
Reptiles	Injury/death to reptiles on site.	Local	Minor negative	Unlikely
Breeding birds	Disturbance to an in-use birds nest.	Local	Minor negative	Unlikely
Badger	Disturbance/destruction of badger sett on access route.	Local	Minor negative	Unlikely

4.2 Potential outcomes of works with appropriate mitigation and enhancements

Table 4. Potential positive impacts of works

Ecological receptor	Impact of works	Scale of impact
Habitat	Enhancement of the overall habitat and a contribution to the improvement of flora and fauna of the area.	Positive
Bats	Increased invertebrate biomass by improving habitat.	Minor positive
Otter	Backwater creation is unlikely to benefit otter but is likely to increase fish abundance for prey.	Minor positive
Water vole	Backwater creation is likely to benefit water vole by providing more foraging and refuge habitat. The channel works may increase the variety of vegetation for water voles to feed on.	Minor positive
Reptiles	The backwater is likely to increase the abundance of amphibians on site thereby increasing food availability to grass snakes.	Minor positive
Priority species	The backwater will increase habitat for fish, flora and invertebrates.	Minor positive

5. BIODIVERSITY NET GAIN

Table 5 highlights the baseline biodiversity value of the site, and measures to provide post-construction gains are detailed under Section 6.1 Habitats.

Table 5. Total baseline site value

Preconstruction Baseline BU total site values							
UK Habitat Type	Distinctiveness Score		Condition Score		Area of Habitat (ha)	Length of Habitat (km)	Biodiversity Units BU
Other neutral grassland	Medium	4	Moderate	2	0.02		0.18
Total habitat area and units					0.02		0.18

Table 6. Site value after backwater creation

Post construction BU total site values							
UK Habitat Type	Distinctiveness Score		Condition Score		Area of Habitat (ha)	Length of Habitat (km)	Biodiversity Units BU
Temporary lakes and ponds	High	6	Good	3	0.02		0.28
Total habitat area and units					0.02		0.28

6. RECOMMENDATIONS

The following recommendations are made on the assumption that the plans and proposals made available during the preparation of this report remain unchanged and, unless specified, are subject to the successful resolution of any planning application. Where further survey work is recommended that could be material to the planning application, it should be completed and the results made available to the Local Planning Authority prior to any planning decision being made.

6.1 Habitats

There will be no negative impacts upon any of the statutory and non-statutory designated sites within 2km.

The proposed enhancement of other neutral grassland to a backwater provides an uplift from 0.18 to 0.28 Biodiversity units, delivering an increase of 58.65% in Biodiversity Net Gain.

Precautionary measures include:

If the weather is particularly wet at the time of works, tracking boards could be used to limit potential damage caused by excavator tracks when digging out the proposed backwater.

A spill kit must be available for use at all times in case of a pollution event, and all fuelling etc must be undertaken over a spill mat to prevent ground-water pollution.

6.2 Bats

In order to prevent any disturbance to the usual foraging and commuting behaviours of bats, there should be no night-time lighting of the site or working with machinery outside of daylight hours.

6.3 Water vole and otter

Only a small section of the River Gipping will be connected to the backwater via a small channel. Due to the evidence of water voles within the area of the proposed connection, works should be planned so that the channel is located more than 5m away from any burrows that may be identified. Water voles and otters are mobile species and can potentially colonise new areas after this survey. Therefore, another survey will be carried out immediately prior to the backwater's connection to the River Gipping. During this survey, all water vole burrows will be marked with canes and flags. Machinery will always keep 5m away from the marked burrows at all times. If any of the proposed feature locations are within 5m of the identified burrows, they will be moved up stream or downstream by 5m.

6.4 Reptiles

The works are to be undertaken in autumn 2023. If works are undertaken from late October through to February it is highly likely that any reptiles will be in hibernation in the wider landscape. However, as a precautionary measure a two-stage cut of the grassland should be undertaken prior to the use of diggers for the backwater creation. In the unlikely event any reptiles are found during works, works must cease immediately, and advice should be sought from a suitably qualified ecologist.

6.5 Birds

The work is proposed to be undertaken outside of the bird nesting season (March-August inclusive), so nesting birds will not be impacted.

6.6 Badger

There was no evidence of badger on site, and the proposed works are unlikely to impact badgers.

In the unlikely event a hole is discovered which could be attributable to badger all work must cease and a suitably qualified ecologist contacted for further advice.

6.7 Species of Principal Importance in England

Recommendations provided for reptiles with two stage cutting of grassland will protect both water shrew and harvest mouse.

Due to the timings of the works, it is unlikely that any other Priority species will be negatively impacted.

6.8 Schedule 9 Plants and Animals

No earth will be moving to or from the site, and whilst a full invasive species survey was not undertaken, none were noted on the site visit. The resulting spoil from the backwater creation will be spread thinly in the surrounding area. Care should be taken to not introduce any invasive plant species, the backwater should be left to naturally colonise with plant species without any artificial introductions.

7. REFERENCES

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APPENDIX 1. PHOTOGRAPHS



Photograph 1. Area dominant in tall common nettles along the riverbank.



Photograph 2. Water vole latrine found at TM 12343 45459.



Photograph 3. Water vole feeding remains found at TM 12343 45459.



Photograph 4. Potential water vole burrow, along riverbank, just north of the site location.



Photograph 5. Ditch along the southern boundary of the meadow.

APPENDIX 2. LEGAL CONSIDERATIONS

Introduction

The National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity. Government Circular 06/2005 'Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system' (which is still live following the publication of the NPPF) states in paragraph 99: "It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision."

The NERC Act 2006 imposes an obligation on all public bodies, including local authorities, to have regard to the conservation of biodiversity, particularly of those species and habitats identified as being of principal importance. Section 41 of the Act requires a list to be published that identifies such species and habitats, and for England these are now referred to as Species and Habitats of Principal Importance in England.

The impact assessment and recommendations set out below are based on professional experience and available guidelines. While there is some interpretation of current legislation on this basis, it should be noted that the authors do not have legal training. In the case of any uncertainty it is recommended that a specialist environmental lawyer be consulted.

The contents of this report should not be taken to indicate support of any planning application or subsequent development, on the part of SWT Trading Ltd or its parent company, Suffolk Wildlife Trust. Suffolk Wildlife Trust reserves the right to object to, or comment upon, any planning application that may arise on this site should any unacceptable wildlife impacts remain unresolved or should any relevant planning policies be compromised.

Habitats

The Conservation of Habitats and Species Regulations 2017 (as amended) enshrine the EU Birds Directive (The European Community Council Directive on the Conservation of Wild Birds

(2009/147/EC)) and EU Habitats Directive (The European Community Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC)) into English law, with Natural England as the appropriate nature conservation organisation for England. Ramsar sites are wetlands of international importance designated under the Ramsar Convention. Special Protection Areas (SPA) and Special Areas of Conservation (SAC) (Natura 2000 sites) are defined in the regulations as a 'European site'. The Regulations define competent authorities, if a plan or project is likely to have a significant effect on a European site the competent authority is required to make an appropriate assessment of this effect in accordance with the requirements of the Regulations.

Sites of Special Scientific Interest (SSSIs) give legal protection to the best sites for wildlife and geology. Natural England holds responsibility for identifying and protecting SSSIs in England under the Wildlife and Countryside Act 1981 (as amended). Where public bodies request to carry out operations on a SSSI which have been identified as potentially damaging the special interest features of the SSSI, then assent under 28H of the Act is required.

County Wildlife Sites (CWS) are a non-statutory designation which is recognised by the National Planning Policy Framework and all Suffolk Local Planning Authorities within their Planning Policy.

Species/ group	Legislation/level of protection	Offences	If work required:
GCN	Full Protection under: The Conservation of Habitats and Species Regulations 2017 (as amended) and Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> • to deliberately capture, kill or injure great crested newts; • to damage or destroy a breeding site or resting place used by great crested newts; • to deliberately disturb great crested newts in a way that is likely to impair their ability to migrate, hibernate, survive or reproduce, or in a way that is likely to affect significantly their local distribution or abundance; • to intentionally or recklessly disturb great crested newts while they are occupying a place of shelter or protection, or attempt to do so; • to intentionally or recklessly obstruct access to any place of shelter or protection, or attempt 	<p>Any work that would otherwise result in one of these criminal offences must be carried out under a licence issued by Natural England.</p> <p>Guidelines produced by English Nature (which is now Natural England) state that any development work within 500 metres of a breeding pond should be carried out under a licence from Natural England, if it is likely that the population in the pond will be affected.</p> <p>Damage to or destruction of breeding sites and resting places is an absolute offence and so there is no defence available within the law, even if the persons involved were not aware of a habitat's use by these animals. Courts will have regard to whether or not the impact could have been reasonably</p>

		to do so.	avoided in deciding upon a sentence. In all cases the risk of an offence occurring can be minimised by taking all reasonable precautions, as set out in available guidance.
Bats	Full Protection under: The Conservation of Habitats and Species Regulations 2017 (as amended) and Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> • to deliberately capture, kill or injure any bat; • to damage or destroy a breeding site or resting place used by bats (whether bats are in it at the time or not); • to deliberately disturb bats in a way that is likely to impair their ability to migrate, hibernate, survive or reproduce, or in a way that is likely to affect significantly their local distribution or abundance; • to intentionally or recklessly disturb bats while occupying a place of shelter or protection, or attempt to do so; • to intentionally or recklessly obstruct access to any place of shelter or protection, or attempt to do so. 	Any work that would otherwise result in one or more of these criminal offences must be carried out under a Natural England licence. Damage to or destruction of breeding sites and resting places is an absolute offence and so there is no defence available within the law, even if the persons involved were not aware of a habitat's use by these animals. Courts will have regard to whether or not the impact could have been reasonably avoided in deciding upon a sentence. In all cases the risk of an offence occurring can be minimised by taking all reasonable precautions, as set out in available guidance.
Otter	Full Protection under: The Conservation of Habitats and Species Regulations 2017 (as amended) and Wildlife and Countryside Act 1981 (as amended)	<ul style="list-style-type: none"> • to deliberately capture, kill or injure any otter; • to damage or destroy a breeding site or resting place used by otters (whether they are in it at the time or not); • to deliberately disturb otters in a way that is likely to impair their ability to hibernate, survive or reproduce, or in a way that is likely to affect significantly their local distribution or abundance; • to intentionally or recklessly disturb otters while occupying a place of shelter or protection, or attempt to do so; • to intentionally or recklessly obstruct access to any place of shelter or protection, or attempt to do so. 	Any work that would otherwise result in one or more of these criminal offences must be carried out under a Natural England licence.
Water vole	Full Protection under:	<ul style="list-style-type: none"> • to intentionally kill, injure or take water voles; • to intentionally or recklessly damage, destroy or obstruct 	The Act does not include a provision for a licence to be granted for offences involving water voles as a result of the proposed works, but there is a

	Wildlife and Countryside Act 1981 (as amended) - Schedule 5	<p>access to places used by Water Voles for shelter or protection (<i>i.e.</i> their burrows);</p> <ul style="list-style-type: none"> to intentionally or recklessly disturb water voles while occupying a place of shelter or protection. 	<p>defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided. To use this defence it would be necessary to demonstrate that all reasonable measures had been taken in an effort to avoid the impact. This would mean considering alternative development plans, undertaking precautionary measures and carrying out appropriate mitigation work.</p>
Reptiles	<p>Part Protection under:</p> <p>Wildlife and Countryside Act 1981 (as amended)</p>	<ul style="list-style-type: none"> Intentionally kill or injure any reptile 	<p>There is no licensing system for reptiles, but there is a defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided. For this defence to be used in a court of law it would be necessary to document and carry out a series of precautions and mitigation measures that seek to avoid the offence from being committed.</p>
Birds	<p>Varying Protection under:</p> <p>Wildlife and Countryside Act 1981 (as amended)</p>	<ul style="list-style-type: none"> Intentionally kill or injure any wild bird; Intentionally take damage or destroy the nest of any wild bird included in Schedule 1 (whether or not it is active); Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; Intentionally take or destroy the egg of any wild bird; Intentionally or recklessly disturb any bird species included in Schedule 1 of the Act while it is building a nest, or is in, on or near any nest containing eggs or young; Intentionally or recklessly disturb the dependent young of any bird included in Schedule 1. 	<p>Schedule 1 of the Act includes certain rare or threatened species. Licences to permit these offences can only be granted by Natural England for reasons of preserving public health or public safety.</p>
Badger	<p>Part Protection under:</p> <p>Protection of Badgers Act 1992</p>	<ul style="list-style-type: none"> to wilfully kill or injure a badger, or attempt to do so; to intentionally or recklessly damage, destroy or obstruct access to a sett; 	<p>Potentially unlawful activities can be made legal if they are covered by a licence, issued by Natural England.</p>

		<ul style="list-style-type: none"> • to intentionally or recklessly disturb a badger when occupying a sett; unless the action was the incidental result of a lawful operation and could not reasonably have been avoided. 	
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Species of Principal Importance in England

Although the majority of Species of Principal Importance in England receive no direct legal protection, the Natural Environment and Rural Communities (NERC) Act 2006 places an obligation on local authorities to have regard to their conservation and this is most obviously brought to bear through their planning control functions. As such, the presence of such species can be a material consideration to a planning decision. Beyond this development control function, it is good practice for any land manager to adhere to the underlying nature conservation principles.

In addition to their aforementioned protection, the following species are listed as Species of Principal Importance in England; great crested newt, bats which occur regularly in Suffolk including barbastelle, noctule, soprano pipistrelle and brown long-eared, hazel dormouse, otter, water vole, white-clawed crayfish and all species of reptile.

Schedule 9 Plants and Animals

The Wildlife and Countryside Act 1981 (as amended) makes it an offence, amongst other things, to:

- plant or otherwise cause to grow in the wild any plant that is included in Part II of Schedule 9;
- to release or allow to escape into the wild any animal which is of a kind which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state, or is included in Part I of Schedule 9 of the Act.

There is a defence available if it can be proven that all reasonable steps were taken to avoid the offence and due diligence was exercised.