

Site:	Old Street, Stubbington
Client:	Fareham Land LLP and Bargate Homes
Job Number:	A117387
Survey Type(s):	Winter Bird Mitigation Strategy
File Location:	I:\Projects\Projects A117000 on\A117387 Land West of Newgate Lane\Reports

1.0 Introduction

WYG were commissioned by Fareham Land LLP and Bargate Homes to prepare a Winter Bird Mitigation Strategy, covering the proposed creation of a Winter Bird Mitigation area at Old Street, Stubbington. The purpose of this is to provide compensation for the partial loss of F15, a Low Use site within the Solent Wader and Brent Goose strategy which has been used historically by lapwing *Vanellus*.

The ownership and long-term management and monitoring of the Winter Bird Mitigation Area as shown in Figure 1, will be secured via legal agreement in perpetuity (defined as 125 years) or the lifetime of the associated developments (whichever is longer).

1.1 Site Location

The site is located on land to the west of Old Street in the village Stubbington, Hampshire and is centred at Ordnance Survey National Grid Reference: SU 54133 02880. The survey area, hereafter referred to as 'the site', is shown on Figure 1 and comprises of two fields; the northern field is horse-grazed with semi-improved grassland, and the southern field is an abandoned arable field with tall ruderal vegetation and grassland, also grazed. Both fields have borders that are partially lined with trees and hedgerows.

1.2 Development Proposals

The proposals are to create a Winter Bird Mitigation Area measuring 5.0 ha maintained in perpetuity, to compensate for the loss of 11.84 ha of F15 across the proposed developments at Newgate Lane East, Land at Newgate Lane (South) and Land at Newgate Lane (North). Following these three developments, there would be 13.26 ha of F15 remaining.

2.0 Baseline

The site was subject to a series of ecological surveys and assessments as part of a proposed planning application (and subsequent appeal which was dismissed) in 2018 (ref: P/17/1451/OA). These were undertaken by Hampshire Ecological Services (HES) and WYG and comprise:

- Land west of Old Street, Stubbington: Ecological Appraisal Report (HES, 2017)
- Land west of Old Street, Stubbington: Wintering Bird Survey Report (HES, 2017)
- Land west of Old Street, Stubbington: Breeding Bird Survey Report (HES, 2017)
- Old Street, Stubbington: Bat Activity Report (WYG, 2017)
- Old Street, Stubbington: Bat Tree Assessment Report (WYG, 2017)
- Old Street, Stubbington: Dormouse Presence / Likely Absence Report (WYG, 2017)

Winter Bird Mitigation Strategy



- Old Street, Stubbington: Reptile Presence / Likely Absence Report (WYG, 2017)

A summary of the ecological baseline is given in Table 1.

Table 1: Survey completed and month conducted

Survey Type	Month Survey Conducted	Summary of Results
Ecological Appraisal	13 th April 2016	<p>The site consisted of two agricultural fields separated by hedgerows and a track (Marsh Lane). The northern field comprised horse-grazed semi-improved grassland while the southern field was arable land. The northern boundary of the site were agricultural fields; the eastern and southern boundaries were residential housing; and the western boundary was Titchfield Haven National Nature Reserve (NNR).</p> <p>The Ecological Appraisal also identified an active badger sett consisting of 9 holes at the western site boundary of the southern field.</p>
Wintering Bird Survey	Ten wintering bird survey visits were carried out between the 22 nd December 2015 and 30 th March 2016.	<p>A total of 34 bird species were recorded during the surveys within the site. Six amber list Birds of Conservation Concern, one of which (bullfinch) is also a UK BAP species were noted. The remaining amber list species are black-headed gull, common gull, dunnock, great black-backed gull and stock dove. eight red listed species were noted, of which five were UK BAP species (herring gull, house sparrow, lapwing, song thrush and starling). Other red list species include fieldfare, mistle thrush and redwing.</p> <p>The majority of the species recorded at the site were typical of farmland and improved grassland habitat. No significant numbers of wintering birds were recorded during the surveys and all species occurring on site are either common or fairly common within Hampshire and the surrounding area.</p>
Breeding Bird Survey	Five breeding bird survey visits were carried out between 26 th April and 24 th June 2016.	<p>A total of 37 bird species were recorded during the surveys within the site. Three amber list species (Dunnock, Reed Bunting and Stock Dove) and seven red list species (Cuckoo, House Sparrow, Lapwing, Linnet, Mistle Thrush, Skylark and Starling) were thought to likely be breeding on site. However, no birds were confirmed to be breeding on site during the surveys.</p>



		<p>One Schedule 1 species was recorded (Cetti's Warbler) during the surveys. The species was noted along the western boundary hedgerow.</p> <p>The majority of the species present are typical of semi-improved grassland and farmland habitat.</p> <p>No significant numbers of notable species were recorded during the surveys.</p>
Bat Activity Surveys	Activity surveys were conducted on the following days - 12 th July, 31 st August 4 th October 2017.	At least six, but up to 7 species of bat were recorded using the habitats across the site during the surveys. The site was considered to be of importance of up to <i>District, local or parish level</i> for foraging and commuting bats.
Bat Tree Assessment	11 th September 2017	All trees present within the site boundaries were assessed as providing negligible or low suitability to support roosting bats.
Dormouse Presence / Likely Absence	27 th July, 16 th August, 8 th September and 6 th October 2017.	During the survey conducted on 6 th October, a dormouse and dormouse nest was recorded within a nest tube located within the northern hedgerow boundary of the northern field.
Reptile Presence/ Likely Absence Survey	8 ^h September – 26 th September 2017	A low population of slow worms, grass snake and common lizard were recorded on-site, distributed around the boundaries of the southern field.

An updated site visit on 28th October 2020 confirmed that there had been no significant change in the site conditions since the surveys undertaken in 2017. The northern field remains horse grazed. The southern field remains a partially overgrown arable field which is not subject to grazing by horses. Therefore it is considered that there will be no significant change to the populations of notable and protected species identified on site and, taking into account the proposals for the site, these conclusions remain valid for the purposes of assessing potential impacts.

3.0 Proposed Mitigation

The purpose of the mitigation is to compensate for the loss of loss of 11.84 ha of Low Use Site (F15) identified in the Solent Wader and Brent Goose Strategy (SWBGS) (Solent WBGS, 2019). The SWBGS identifies a network of sites which lie outside the coastal European sites but which support the functionality and integrity of these sites (for example through providing high-tide foraging habitat). F15 is identified as a Low Use Site for supporting at least 13 lapwing during winter of 2014-15. It is part of the network of functionally linked habitat for the Solent and Southampton Water Special Protection Area (SPA) and Ramsar Site which is designated for supporting populations of European importance of breeding terns and overwintering waterfowl. As detailed in the SWBGS, Low Use Sites are those with the potential to be used by waders or brent geese and provide alternative options and resilience for the network.



As per the strategy, while Low Use sites have records of birds the numbers involved are low enough to ensure there is only a negligible risk of not successfully offsetting the loss of a Low Use site through enhancements of the wider network. Nevertheless, all Low Use sites have the potential to be used by waders and brent geese and the unmitigated loss of these sites would in combination negatively affect the long term resilience of the network.

Typically, mitigation for the loss of Low Use Sites is through the payment of a financial contribution of £35,610 which is secured via Section 106 agreement to enhance, manage and monitor the wider Solent Wader and Brent Goose Network. This funding is to be managed by the respective local authority and used to support schemes across the network, including in neighbouring authorities. Due to the lack of an established strategy within Fareham Borough, Natural England have requested further information to demonstrate a clear link between impact and mitigation, i.e. detail of how the financial contribution would be used to enhance the wider network.

This strategy sets out the creation and management of a Winter Bird Mitigation Area which will enhance the wader and brent goose network, and provide a buffer to Titchfield Haven NNR (part of the Solent and Southampton Water SPA).

3.1 Objectives

Based on the findings of the previously undertaken bird surveys, and the impact of the associated developments, objectives are:

- To create suitable foraging habitat for overwintering waders (in particular) lapwing; and
- To provide secondary biodiversity benefits such as for breeding farmland birds including lapwing.

3.2 Site Selection

Following the surveys in 2016 and 2017, it was concluded that the site had negligible importance for wintering birds (substantiated by the fact it is not currently included within the wader and brent goose network), therefore the provision of habitat in this location would constitute enhancement of the wader and brent goose network.

The proposed mitigation area will measure 5.0 ha and is larger than many existing Low Use sites within the wader and brent goose network in Fareham Borough. For example, F06, F12, F17J, F23, F29, F32, F48J, F79, F80 and F81 all measure less than 5.0 ha and are similarly bounded by mature tree and hedgerow margins.

The location of the mitigation area is appropriate, lying immediately adjacent to the SPA. Furthermore, two lapwing were recorded on site in March 2016 within the proposed mitigation area during surveys in support of application P/17/1451/OA (Hampshire Ecological Services, 2017). This gives high confidence that with the provision of suitable habitat the mitigation area will be used.



3.3 Management Principles

According to Sheldon *et al.* (2004)¹ a study of lapwing found 50% of birds and flocks during winter were found on crops, stubble and bare tillage, compared to 25% on pasture. Primarily foraging takes place at night for earthworms, with a resulting need for clear foraging areas. However, according to Edwards and Bohlen (1996)², on average permanent pasture supports the highest earthworm density, with lower densities in winter cereals. It is theorised by Gillings (2003)³ that foraging density may therefore be higher in arable cropped fields because a greater foraging effort is required. Taking this together with other potential environmental effects (in particular the need to minimise impacts from nitrogen outputs from the land), is proposed that the mitigation area is managed primarily as permanent pasture.

Lapwing require areas of bare ground or short vegetation from mid-March to June and will nest in grassland. There is also the potential for the grassland area to be used by other SPA qualifying species such as dark-bellied brent geese *Branta bernicla bernicla*.

Therefore, the mitigation area will be established with a grass mix of hard-wearing grasses suitable for grazing geese (including perennial rye grass *Lolium perenne*) with a high proportion of white clover *Trifolium repens*. The addition of clover into the mix will remove any need for artificial fertiliser as clover acts to fix nitrogen within the soil, and also helps to support a rich invertebrate biomass. Grassland will be managed through twice-yearly cuts with the final cut in September to make sure of a suitably short sward for winter foraging.

A 6m uncultivated margin will be maintained around the periphery of the grassland areas. This will provide potential nesting and foraging habitat for birds during summer, and provide habitat for invertebrates and reptiles (recorded on site). The provision of this margin will also avoid potential damage or disturbance of boundary woodland and hedgerow habitats which are known to support reptiles, hazel dormice, bats and badgers.

3.4 Impacts to On-Site Biodiversity

As set out in Section 2, the site predominately supports semi-improved grassland and arable habitats with non-significant populations of wintering and breeding birds, foraging and commuting activity by up to six species of bat, presence of hazel dormice within site boundary hedgerows and a low population of reptiles. It is predicted that the proposed management will result in a qualitative gain for on-site biodiversity as discussed in Table 2.

¹ Sheldon, R., Bolton, M., Gillings, S. and Wilson, A. (2004), Conservation management of Lapwing *Vanellus* on lowland arable farmland in the UK. *Ibis*, **146**: 41-49.

² Edwards, C.A. & Bohlen, P.J. (1996). *Biology and Ecology of Earthworms*, 3rd edn. London: Chapman & Hall.

³ Gillings, S. (2003). Diurnal and nocturnal ecology of Golden Plovers *Pluvialis apricaria* and Lapwings *Vanellus vanellus* wintering on arable farmland. PhD Thesis, University of East Anglia, Norwich.

Winter Bird Mitigation Strategy



Table 2: Impacts to On-site Biodiversity

Feature	Impact	Rationale
Wintering Birds	Beneficial	The primary aim of the proposals is to create overwintering foraging habitat for wading birds (in particular lapwing). In addition to waders, the provision of short pasture, scrapes and uncultivated margins will provide foraging opportunities for other farmland birds.
Breeding Birds	Beneficial	The majority of the potential breeding birds identified were associated with boundary features which will be unaffected by the proposals. In addition the proposed grassland will provide potential habitat for ground nesting birds, although it is acknowledged that the mature tree boundaries may limit uptake. The uncultivated margins will provide foraging habitat for a wide range of farmland species in the form of seeds and invertebrates.
Bats	Beneficial	It is anticipated that the proposals, in particular the provision of uncultivated (but managed) field margins will increase the availability of invertebrate prey for bats.
Badger	Neutral	A badger sett is present at the western boundary of the site. The provision of a 6m uncultivated margin will avoid damage to the sett during management operations. Badgers currently forage within the southern field and the provision of uncultivated margins will maintain suitable foraging habitat (in addition to the managed fields).
Hazel dormice	Neutral	The provision of a 6m uncultivated margin will protect hazel dormouse habitat from damage or disturbance during management operations.
Reptiles	Beneficial	The provision of a 6m uncultivated field margin (which will be managed) will increase habitat suitability for reptiles by providing habitat variation for refuge, basking and foraging.

Consideration has also been given to quantitative biodiversity gain using the Biodiversity Metric 2.0. Pre and post-development habitats have been quantified in accordance with the Biodiversity Metric 2.0 Calculation Tool and Technical Supplement⁴.

⁴ Natural England, (2019). The Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement Beta Edition



The proposals will result in the loss of 1.39 ha of grassland (modified grassland) from the northern field and 3.14 ha of cropland (cereal crops other) from the southern field. Modified grassland is the UKHab equivalent to poor semi-improved grassland (as assessed in the Ecological Appraisal). Cereal crops other has been selected to represent the southern field which is former arable land which has not been recently cultivated (and is now grazed). This is considered appropriate as all cropland habitats (with the exception of those managed specifically for wildlife such as under a stewardship scheme, or traditional orchards) are assigned low distinctiveness. Alternatively, the field could be assessed as sparsely vegetated land (ruderal/ephemeral), however this too is of low distinctiveness.

In accordance with the Technical Supplement, both habitats are assigned a condition score of 1 (poor) with no condition assessment required. Both also score 1 for connectivity (due to low distinctiveness) and 1 for strategic significance.

These habitats therefore have a value of 9.06 biodiversity units, all of which will be lost.

The proposals will result in the creation of 3.82 ha of grassland (modified grassland) and 0.71 ha of cropland (arable field margins tussocky). Modified grassland is low and the margins medium distinctiveness and in accordance with the Technical Supplement, both habitats are assigned a condition score of 1 (poor) with no condition assessment required. Both also score 1 for connectivity (due to low distinctiveness), 1 for strategic significance, 0.965 for time to target condition (1 year) and 1 for difficulty of creation.

This results in a post-development value of 10.11 biodiversity units, a gain of 1.05 units or 11.62%.

4.0 Management Actions

There will be three sets of management actions, covering the central grassland, wader scrapes and management of uncultivated margins. It should be noted that specific timings for operations such as sowing and cutting will be subject to weather and growing conditions. These areas are shown in Figure 1.

It is important that the management regime is adaptive to account for future changes in the feature bird populations, climate change etc. Therefore, either in response to external data or monitoring results, the management body is permitted to make alterations to the management actions if agreed by the LPA and Natural England.

4.1 Grassland

The fields within the mitigation area will be flailed to ground-level to remove existing vegetation and dead growth. This will be using a tractor-mounted flail. These areas will then be prepared for seeding using a disc harrow to a maximum of 150 mm depth to prevent fertile soil being moved below root depth. If necessary, a chain harrow will be used to remove arisings from flailing and prevent smothering of seedlings (this will also help seed-to-soil contact).

The seed mix to be sown will be a suitable grazing mix dominated by hard-wearing grasses (e.g. perennial rye grass *Lolium perenne*) and a minimum of 10% white clover *Trifolium repens*. Seeding will take place by broadcast at a density of approximately 18 kg/ha. Seed should be sown within 10 mm of the soil surface. Due to the inclusion of a high density of white clover in the seed mix, it is not considered necessary to include artificial fertiliser application.



Following sowing, the seed bed will be rolled. This will improve seed-to-soil contact, moisture retention and will minimise establishment of pest species.

Every 10 years, the grassland will be supplemented if necessary by additional overseeding using the same seed mix. Overseeding will be preceded by a light harrow, or chain harrow, to prepare the seedbed without causing significant damage to the established grassland. This will refresh the seed bank and make sure that perennial rye grass and white clover remain the dominant species within the sward.

Management will predominately be through cutting for hay or silage. This will comprise a first cut in late July / August (following majority of breeding bird activity) and a second cut in late September (to achieve a winter sward height of 50-60mm). Alternatively, low-intensity grazing could be conducted.

4.2 Wader Scrapes

To improve the habitat suitability for other wading birds (either qualifying species for the SPA or part of the qualifying assemblage) three wader scrapes will be created within the mitigation area. These will be of irregular shape with an average area of 50m². To create a range of conditions and support different species the scrapes will be of variable depth with shallow margins and a deeper centre of 0.5m depth. Water supply for the scrapes will come from rainfall and surface water runoff.

The primary objective is to hold perched water during the winter, but it is anticipated that deeper areas will also hold water for part of the summer and provide an enhancement for breeding birds. The deeper central section of the scrape will occupy approximately 50% of the total area to maximise the likelihood of water retention. Scrapes will be created using an excavator with arisings piled adjacent to the margins to improve water retention and provide bare ground areas suitable for invertebrates.

Locations of scrapes will be chosen by the developers ecologist by observing ground conditions during winter monitoring surveys, but will be located close to the north western boundary of the site where levels are lower. The developers ecologist will then supervise the scrape construction. If necessary following observations of water perching, the scrapes will be constructed with a compacted clay liner to aid water retention.

Scrape banks will be strimmed to ground level every three years in late September / early October to prevent scrub or ruderal species from becoming established.

During this clearance period scrapes will also be inspected for silt build-up and to make sure they still hold water. If necessary, additional excavation will be undertaken to remove material. Additional lining material will be added if necessary to aid water retention.

4.3 Margins

Margins of 6m width will be maintained around the periphery of the grassed areas. These will be maintained in accordance with RSPB stewardship guidance for rough grass margins.

After Year 1, margins will be cut no more than once every five years in autumn. To maintain habitat variation, cuts of the margins in the northern and southern fields will be separated by one year.

Winter Bird Mitigation Strategy



The 3m of the margin adjacent to the grassed areas will be cut annually in autumn to maintain diversity within each area for invertebrates and reptiles.

Spraying or fertilising must be avoided within the margins to avoid dominance of undesirable species such as thistles and docks.

4.4 Monitoring

Long-term monitoring is proposed which is proportionate to the impact (partial loss of a Low Use site) and takes into account the negligible risk of not successfully offsetting the loss of a Low Use site through enhancements of the wider network (per the Solent Wader and Brent Goose Strategy).

It is proposed that long-term monitoring is undertaken using remote camera surveys. These will take place annually for Years 1 – 5 followed by every 10 years from Years 10 to 120. Two cameras will be deployed for a period of five days each month from October to March, one in the north of the mitigation area and one in the south. Cameras will be set to take photographs at 30 minute intervals. These will subsequently be checked by an ornithologist to confirm the presence or absence of SPA qualifying bird species. Results will be reported to the Owner and LPA.

This will be supplemented by monitoring of the implementation of the above management operations. This will comprise annual site visits during winter in Years 1-10 followed by visits every 5 years from Years 10 – 120 to monitor compliance.

Results will be reported to the Owner and LPA. Should remote camera monitoring determine that corrective action is required, this will be undertaken and a further period of manual monitoring may be required to monitor its effectiveness. This will be agreed with the LPA.

Timing of Actions

Table 4 sets out the timing of on-site management and monitoring operations.

Table 4: Timing of operations

Timing	Operation	Year
Mid-February / Mid-March	Prepare seedbed (plough or harrow to 120-200mm).	Year 1
	Broadcast sow ryegrass and clover ley (c. 18kg/ha).	Year 1
	Overseed ryegrass and clover ley (c. 18kg/ha) if necessary.	Years 10, 20 etc.
	Consolidate seed bed via rolling if required.	Year 1 then years 10, 20 etc.
	Create wader scrapes	Year 1
Late July / August	Cut grassland to 150 mm in height.	Annually
	Introduce grazing at low density if required.	

Winter Bird Mitigation Strategy



Late September	Cut grassland to 60 mm in height.	Annually.
Late September	Cut 3m of margin adjacent to grassland to 150 mm in height.	Annually
Late September	Cut entire northern field margin to 150 mm in height.	Years 5, 10, 15 etc.
Late September	Cut entire southern field margin to 150 mm in height.	Years 6, 11, 16 etc.
Late September / Early October	Strim banks of wader scrapes for scrub encroachment. Inspect sediment build-up and remove if necessary.	Years 3, 6, 9 etc.
October to March	Site visit to monitor compliance.	Years 1-10 then 15, 20, 25 etc.
October to March	Remote camera monitoring (5 days per month).	Years 1-5 then 10, 20, 30 etc.

Quality Control

Version:

1

FINAL

Prepared by:

John Simper MCIEEM

Senior Ecologist

Checked and Verified By:

David West CEnv MCIEEM

Associate Ecologist

Version:	Date:	Updated by:	Verified by:	Description of changes:
2	November 20	J. Simper	D. West	Altered long-term management from arable to grassland following discussions with Natural England.
3	November 20	J. Simper	D. West	Extended monitoring period to be consistent with legal agreement.
4	February 21	J. Simper	D. West	Updated maintenance frequency.
5	February 21	J. Simper	D. West	Remove references to crops/arable in management proposals.

WYG Environment Planning Transport Ltd. accept no responsibility or liability for the use which is made of this document other than by the Client for the purpose for which it was originally commissioned and prepared.



Figure 1: Winter Bird Mitigation Plan



Rev	Date	Notes
A	17/11/20	Initial map production

Legend

- Mitigation area
- Grassland managed for waders
- Broadleaved woodland boundary
- Uncultivated margin
- Wader scrape

0 20 40 80 Metres



Winter Bird Mitigation Area

**Newgate Lane North and South, Fareham
Fareham Land LP and Bargate Homes**

Scale at A3: 1:1,600	Project No: A117387	Drawing No: Figure 1	Revision: A
-------------------------	------------------------	-------------------------	----------------

Drawn by: Ben Blowers	Drawn date: 17/11/2020	Approved by: David West
--------------------------	---------------------------	----------------------------

Contains Ordnance Survey Data © Crown copyright and database right 2019. © Northern Ireland Environment Agency
Open Government Data reproduced contains public sector information licensed under the Open Government Licence v3.0
Other Credits: World Imagery; Mapbox; Microsoft

C:\temp\blowers\WYG\ecology_GIS - Projects\A117387 - Landowners\Newgate Lane\02\A117387_Land\Ward\Newgate Lane.docx