

A417 Missing Link  
TR010056

6.4 Environmental Statement  
Appendix 8.11 Wintering Bird Survey  
Report

Planning Act 2008

APFP Regulation 5(2)(a)  
Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009

Volume 6

May 2021

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms  
and Procedure) Regulations 2009**

**A417 Missing Link**

Development Consent Order 202[x]

---

**6.4 Environmental Statement  
Appendix 8.11 Wintering Bird Survey Report**

---

<b>Regulation Number:</b>	5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010056
<b>Application Document Reference</b>	6.4
<b>Author:</b>	A417 Missing Link

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
C01	May 2021	Application Submission

---

## Table of contents

Executive summary	
1. Introduction	1
1.1. Background	1
1.2. Scheme Proposal	1
1.3. Scope of Report	3
Appendices	4
Appendix A A417 Wintering Bird Survey Report	5

## Figures

Figure 1.1: A417 The Missing Link Scheme Location Plan	1
Figure 1.2: A417 The Missing Link Option 30 Location Plan	3

---

## Executive Summary

The proposed A417 Missing Link scheme (hereafter referred to as ‘the scheme’) aims to provide a dual carriageway to a stretch of single carriageway between the Cowley roundabout and Crickley Hill in Gloucestershire; the 5.5km section is the only remaining section of single carriageway. The scheme would increase capacity by creating a free-flowing link between the Brockworth Bypass and Cowley roundabout and remove the at-grade junction with the A436, resulting in a continuous flow between the M4 Junction 15 (Swindon) and the M5 Junction 11a (Gloucester/Cheltenham).

Wintering bird surveys have been undertaken by ECOSA between October 2018 and February 2019 in order to establish the usage of the site, and adjacent habitat by wintering bird species.

The southern arm of the survey area comprises large arable fields on the Cotswold plateau, with hedgerows and small belts and copses of woodland. The western arm of the survey area includes woodland, pasture and calcareous grassland on the Cotswold scarp.

The large arable fields in the south of the survey area attract lapwing, wintering gulls, predominantly common gull, and a regular wintering flock of up to 178 golden plover.

The arable fields and their margins attract seed eating species including skylark and yellowhammer. Field and woodland edges with berry-bearing shrubs support sizeable flocks of fieldfare, redwing and starling.

The scheme alignment avoids land take of areas currently supporting lapwing and golden plover. However, loss of open fields, and field boundaries is likely and therefore impacts on other wintering birds will occur through land take and disturbance, although much similar habitat exists in the wider area.

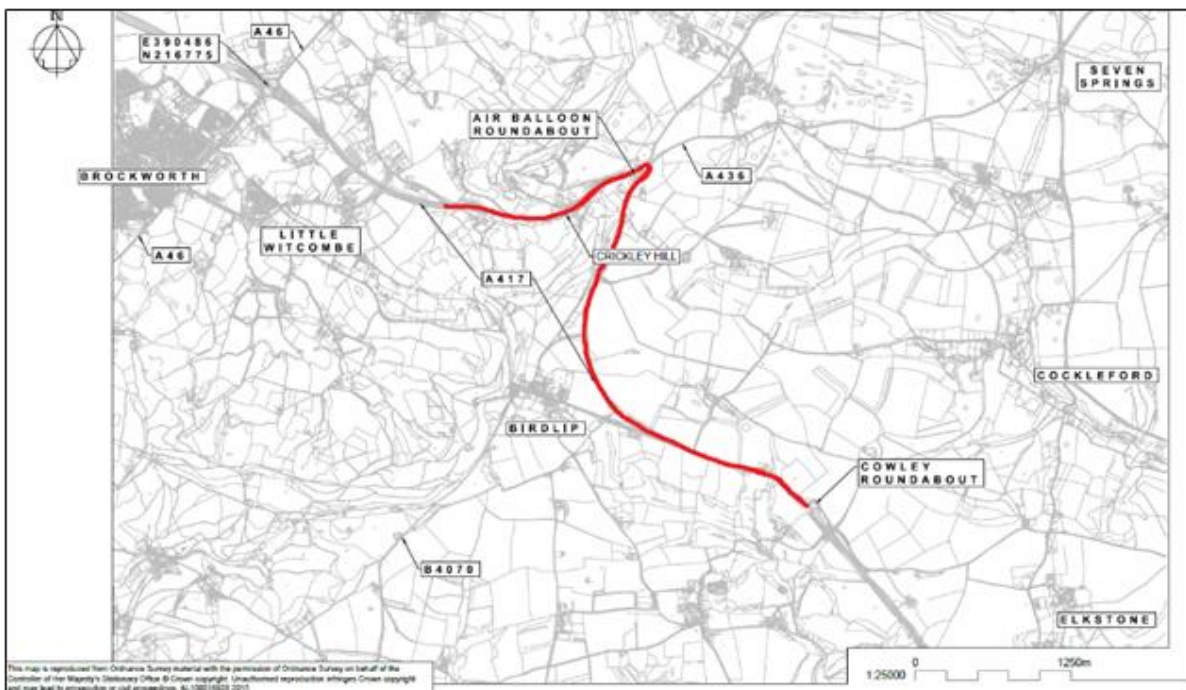
It is recommended that the road improvement scheme design seeks to minimise effects on wintering birds through avoidance and mitigation of visual, noise and lighting disturbance. Opportunities exist for improving and reconnecting habitats associated with sections of the existing A417 that may no longer be required for use by road traffic.

# 1. Introduction

## 1.1. Background

- 1.1.1. The A417/A419 provides an important link between the Midlands/North and South of England, between Gloucester and Swindon, and as an alternative to the M5/M4 route via Bristol. The section of the A417 near Birdlip, known as the 'missing link', forms the only section of single carriageway along the route, with an at-grade junction located at the 'Air Balloon' public house. The single carriageway is located between the Cowley roundabout and the base of Crickley Hill, a 5.5km stretch shown on Figure 1.1 below.

Figure 1.1: A417 Missing Link Scheme Location Plan



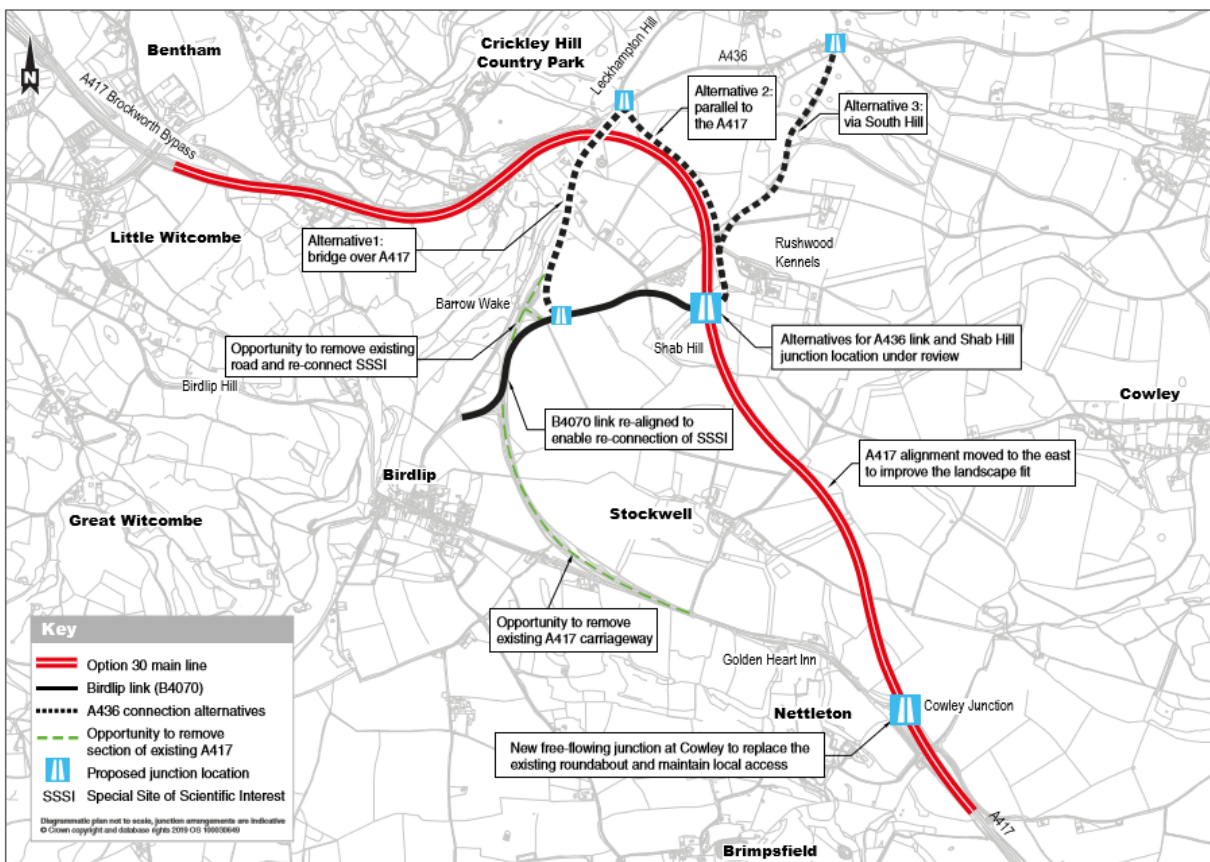
Source: GiGi GIS Portal. Crown Copyright 2016 100030649

## 1.2. Scheme Proposal

- 1.2.1. The proposed scheme would provide a dual carriageway to improve the current Missing Link section of single carriageway of the A417 between Cowley roundabout and Crickley Hill. Any proposed scheme would aim to increase capacity by creating a free-flowing link between the Brockworth Bypass and the Cowley roundabout and remove the at-grade junction with the A436 (Air Balloon roundabout). This Missing Link will provide a free-flowing journey between Swindon (M4 Junction 15) and Gloucester / Cheltenham (M5 Junction 11).

- 1.2.1 The preferred route for the Scheme was confirmed as Option 30 by the Secretary of State in March 2019 (see Figure 2.1 below). The Scheme comprises the construction of a new dual carriageway to replace the existing single carriageway section between Brockworth bypass and Cowley Roundabout. It is predominately an “offline” Scheme but approximately a third of the route follows the existing A417 route corridor at Crickley Hill.
- 1.2.2 A new link road would be built between the slip road junction at Shab Hill and the existing A417 to connect traffic to and from Birdlip and the A436 with the new A417. This new link road would end in a new roundabout near Barrow Wake.

Figure 1.2: A417 Preferred Route Announcement



- 1.2.3 Figure 1.2 above shows the three A436 link road alternative connections. Alternative 2, parallel to the A417, was the option taken forward for assessment in the Environmental Statement.

### **1.3. Scope of Report**

- 1.3.1. Ecological Survey & Assessment Limited (ECOSA) were contracted by Mott MacDonald Sweco Joint Venture (MMSJV) to undertake wintering bird surveys to inform ecological assessment of the scheme. Details of these surveys, including methods and results, are provided in the Wintering Bird Survey Report in Appendix A.

---

# Appendices



# **Appendix A A417 Wintering Bird Survey Report (ECOSA 2019)**

**A417 ROAD IMPROVEMENT SCHEME, BIRDLIP,  
GLOUCESTERSHIRE**

**WINTERING BIRD SURVEY**

**Final Document**

November 2019

---

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans  
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

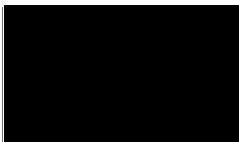
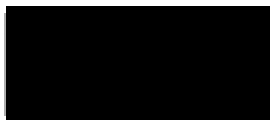
ECOSA, Ten Hogs House, Manor Farm Offices, Flexford Road, North Baddesley, Hampshire, SO52 9DF  
Tel: 02380 261065 Email: [info@ecosa.co.uk](mailto:info@ecosa.co.uk) Web: [www.ecosa.co.uk](http://www.ecosa.co.uk)

Registered Office: 3-4 Eastwood Court, Romsey, Hampshire, SO51 8JJ Registered in England No: 6129868  
Ecological Survey & Assessment Limited is a Trinity Consultants Company



## ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The report has been prepared in line with current best practice guidance and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

<b>Description:</b>	Wintering Bird Survey
<b>Produced For:</b>	Mott MacDonald Sweco Joint Venture (MMSJV)
<b>Issue:</b>	Final
<b>Report Reference:</b>	4265.DO
<b>Date of Issue:</b>	13 <sup>th</sup> November 2019
<b>Date of Survey Works:</b>	October 2018 - February 2019
<b>Author:</b>	 <b>Graeme Down BSc PhD MCIEEM</b> Senior Ecologist
<b>Checked and Reviewed by:</b>	 <b>Simon Colenutt BSc (Hons) MCIEEM CEnv</b> Managing Principal Ecologist

### DISCLAIMER

This is a technical report which does not represent legal advice. You may wish to seek legal advice if this is required.

This report may or may not be suitable to support a planning application. Should this report contain recommendations for further survey work or assessment, the results of this would be required in order to support a planning application.

### COPYRIGHT

© This report is the copyright of ECOSA Ltd. Any unauthorised reproduction or usage by any person is prohibited.

**A417 ROAD IMPROVEMENT SCHEME, BIRDIP,  
GLOUCESTERSHIRE**

**WINTERING BIRD SURVEY**

**Table of Contents**

<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
1.2 The Site .....	2
1.3 Aims and Scope of Report .....	2
<b>2.0 PLANNING POLICY CONTEXT</b> .....	<b>4</b>
2.1 Introduction .....	4
2.2 Planning Policy .....	4
2.2.1 <i>National Policy</i> .....	4
2.2.2 <i>Highways England policy</i> .....	6
2.2.3 <i>Local Policy</i> .....	6
<b>3.0 METHODS</b> .....	<b>8</b>
3.1 Introduction .....	8
3.2 Survey Methodology .....	8
3.3 Survey Details .....	8
<b>4.0 RESULTS</b> .....	<b>10</b>
4.1 Introduction .....	10
4.2 Wintering Birds .....	10
<b>5.0 EVALUATION, IMPACTS AND RECOMMENDATIONS</b> .....	<b>13</b>
5.1 Introduction .....	13
5.2 Site Evaluation .....	13
5.3 Potential Impacts of Development .....	13
5.4 Recommendations .....	15
<b>6.0 REFERENCES</b> .....	<b>16</b>
<b>Map 1</b> Survey Area and Transect Route	
<b>Map 2</b> October 2018 Survey Results	
<b>Map 3</b> November 2018 Survey Results	
<b>Map 4</b> December 2018 Survey Results	
<b>Map 5</b> January 2019 Survey Results	
<b>Map 6</b> February 2019 Survey Results	

## **EXECUTIVE SUMMARY**

ECOSA were commissioned by Mott MacDonald Sweco Joint Venture (MMSJV) to carry out a wintering bird survey to inform the A417 Birdlip Road Improvement Scheme. The main findings are:

- Wintering bird surveys have been undertaken by ECOSA between October 2018 and February 2019 in order to establish the usage of the site, and adjacent habitat by wintering bird species.
- The southern arm of the survey area comprises large arable fields on the Cotswold plateau, with hedgerows and small belts and copses of woodland. The western arm of the survey area includes woodland, pasture and calcareous grassland on the Cotswold scarp.
- The large arable fields in the south of the survey area attract lapwing, wintering gulls, predominantly common gull, and a regular wintering flock of up to 178 golden plover.
- The arable fields and their margins attract seed eating species including skylark and yellowhammer. Field and woodland edges with berry-bearing shrubs support sizeable flocks of fieldfare, redwing and starling.
- The preferred scheme alignment avoids land take of areas currently supporting lapwing and golden plover. However, loss of open fields, and field boundaries is likely and therefore impacts on other wintering birds will occur through land take and disturbance, although much similar habitat exists in the wider area.
- It is recommended that the road improvement scheme design seeks to minimise effects on wintering birds through avoidance and mitigation of visual, noise and lighting disturbance. Opportunities exist for improving and reconnecting habitats associated with sections of the existing A417 that may no longer be required for use by road traffic.

## 1.0 INTRODUCTION

### 1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been contracted by Mott MacDonald Sweco Joint Venture (MMSJV) to undertake wintering bird surveys to inform the proposed route of a road improvement scheme for the A417 at Birdlip, Gloucestershire.

### 1.2 The Site

The survey area extends southward and westward in two ‘arms’ from approximately 500 metres north of the Air Balloon roundabout on the A417, following two branches of the A417. The area covered is approximately 2.5 kilometres from west to east and north to south and encompasses the existing road corridor and the proposed route of the road improvement scheme. The extent of the survey area is shown on **Map 1**. The surveyed area was based on the route alignment at the time of survey. The final route alignment and redline boundary may result in additional areas lying outside of the survey boundary. However, due to the similarity on habitats, these areas are likely to support similar assemblages of wintering birds.

The survey area covers 475 hectares and is characterised by arable farmland with large fields bisected by hedgerows, rural roads, and areas of calcareous grassland and broadleaved woodland. The majority of the site is on the Cotswold plateau, but in the west of the survey area, the land falls away steeply to the west.

The wider landscape consists of further areas of farmland, woodland copses and small villages. The towns of Cheltenham and Gloucester lie approximately four kilometres to the north and west respectively.

### 1.3 Aims and Scope of Report

Wintering bird surveys were undertaken by ECOSA between October 2018 and February 2019 in order to establish the usage of the site by bird species associated primarily with open farmland and grassland such as lapwing *Vanellus vanellus* and golden plover *Pluvialis apricaria* as well as other protected and notable (Schedule 1<sup>1</sup> and Red<sup>2</sup> and Amber<sup>3</sup> Listed Birds of Conservation Concern (BoCC)).

---

<sup>1</sup> **Schedule 1:** Birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) are afforded additional protection making it an offence to: intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or; intentionally or recklessly disturb the dependent young of any such bird.

<sup>2</sup> **Birds of Conservation Concern Red List:** The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority and include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over the last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over the last 25 years, or longer-term period.

<sup>3</sup> **Birds of Conservation Concern Amber List:** Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over the last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over the last 25 years, or

This report presents the findings of the wintering bird surveys carried out by ECOSA between October 2018 and February 2019.

#### **1.4 Site Proposals**

Proposals for the site are for the re-routing of the existing A417 road, and associated infrastructure.

The planning application is expected to be submitted in early 2020.

---

the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in the UK .

## **2.0 PLANNING POLICY CONTEXT**

### **2.1 Introduction**

This section summarises the planning policy in relation to ecology and biodiversity within the Tewkesbury and Cotswold Council administrative areas. The west of the survey area lies within Tewkesbury, whilst the east is within Cotswold.

### **2.2 Planning Policy**

#### **2.2.1 National Policy**

The National Policy Statement for National Networks (NPSNN) sets out the need for, and government's policies to deliver Nationally Significant Infrastructure Projects on the national road network in England.

Chapter 3 of the NPSNN identifies that in order to be sustainable and to improve people's quality of life, the need for development must be seen in the context of the Government's wider policies on economic performance, environment, safety, technology, sustainable transport and accessibility, as well as journey reliability and the experience of road - rail users. Wider policies relate to:

- Environmental and social impacts – national road networks should be designed to minimise social and environmental impacts and improve quality of life. In delivering new schemes, the Government expects applicants to avoid and mitigate environmental and social impacts in line with the principles set out in the National Planning Policy Framework (NPPF) and the Government's planning guidance.

Chapter 5 of the NPSNN outlines the possible impacts that would be relevant to any type of national networks infrastructure and sets out how these impacts should be considered. The sections include consideration of biodiversity.

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the revised NPPF published in July 2018. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 177 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate*



*assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site<sup>4</sup>.*

The general impetus of the NPPF in relation to ecology and biodiversity is for development proposals to not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 170 states that the planning system should contribute to and enhance the natural environment by “...*minimising impacts on biodiversity and providing net gains in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*”.

A number of principles are set out in Paragraph 175, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats<sup>5</sup>. Where loss to irreplaceable habitats occur planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph 175 also states “*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*”. Protection of sites proposed as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites or acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states “*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*”. Whilst paragraph 99 states “*it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted*”.

---

<sup>4</sup> The NPPF defines a habitats site as “*Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.*”

<sup>5</sup> The NPPF defines irreplaceable habitats as “*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.*”

## 2.2.2 **Highways England policy**

### *Highways England Biodiversity Plan*

Highways England's Biodiversity Plan (BAP) identifies its approach to meeting the key performance indicator identified within the Roads Investment Strategy (RIS) of "no net loss of biodiversity by 2020" and that "by 2040 it must deliver a net gain in biodiversity". Biodiversity is required to be fully considered during the building of any new roads and opportunities sought to work with stakeholders and enhance the network for wildlife.

## 2.2.3 **Local Policy**

A single policy within the Cotswold District Local Plan (2011-2031) refers to ecology and biodiversity:

- **Policy EN8:** Biodiversity and Geodiversity: Features, Habitats and Species. Development will be permitted that conserves and enhances biodiversity and geodiversity, providing net gains where possible. Proposals that would result in significant habitat fragmentation and loss of ecological connectivity will not be permitted. Proposals that reverse habitat fragmentation and promote creation, restoration and beneficial management of ecological networks, habitats and features will be permitted, particularly in areas subject to landscape-scale biodiversity initiatives. Developer contributions may be sought in this regard. Development with a detrimental impact on protected species and species and habitats "of principal importance for the purpose of conserving biodiversity" will not be permitted unless adequate provision can be made to ensure the conservation of the species or habitat.

The Joint Core Strategy for Gloucester, Cheltenham and Tewkesbury (2011-2031) also considers biodiversity through policy:

- **Policy SD9** (Biodiversity and Geodiversity): The biodiversity and geological resource of the JCS area will be protected and enhanced in order to establish and reinforce ecological networks that are resilient to current and future pressures. This will be achieved by ensuring that European Protected Species and National Protected Species are safeguarded in accordance with the law; encouraging new development to contribute positively to biodiversity and geodiversity whilst linking with wider networks of green infrastructure; encouraging the creation, restoration and beneficial management of priority landscapes, priority habitats and populations of priority species. Where there is a risk of harm as a consequence of development, this should be mitigated by integrating enhancements into the scheme that are appropriate to the location

and satisfactory to the local planning authority. If harm cannot be mitigated onsite then, exceptionally, compensatory enhancements off-site may be acceptable.

### 3.0 METHODS

#### 3.1 Introduction

This section details the methods used during the wintering bird surveys undertaken at the A417 site between October 2018 and February 2019.

#### 3.2 Survey Methodology

A walked transect survey allowing observation of all major habitat areas was undertaken monthly between October 2018 and February 2019 inclusive, to determine the usage of the area by wintering birds (**Map 1**).

The survey largely consisted of the surveyors scanning the site using binoculars to identify the bird species utilising the survey area. The surveys aimed to determine the presence and numbers of notable or protected wintering bird species.

#### 3.3 Survey Details

A total of six survey visits were undertaken between October 2018 and February 2019. In December, January and February the survey was undertaken by one surveyor on a single day. In October the same surveyor undertook the survey over two consecutive days. In November, two surveyors were present on one single date. **Table 1** provides details of each survey visit.

**Table 1:** Wintering bird surveys details

Survey Date	Duration	Weather Conditions
26 <sup>th</sup> October 2018	08:00-13:30	Dry, 10°C, 75% cloud cover, light northerly breeze
27 <sup>th</sup> October 2018	08:00-12:45	Dry, 6°C, 75% cloud cover, light southerly breeze
21 <sup>st</sup> November 2018	10:15-12:30	Snow showers, 1°C, 100% cloud cover, light north-westerly breeze
21 <sup>st</sup> December 2018	09:30-13:30	Dry, 12°C, 75-100% cloud cover, moderate south-westerly breeze
28 <sup>th</sup> January 2019	10:00-13:45	Sunny, 3°C, 25-50% cloud cover, moderate north-westerly breeze
22 <sup>nd</sup> February 2019	07:30-14:00	Sunny, 14°C, 0-25% cloud cover, light south-westerly breeze

The wintering bird surveys were carried out by experienced ornithologist Simon Colenutt of ECOSA, with Graeme Down, also an experienced ornithologist of ECOSA present and covering half of the transect route on 21<sup>st</sup> November 2018. During the survey the surveyors were equipped with 10x42 Leica or Swarovski binoculars and a detailed plan of the site. Bird observations were plotted on the plan using British Trust for Ornithology codes. Particular attention was paid to identifying birds actively using the survey area, rather than just flying over.

### **3.4 Survey Limitations**

Access around Crickley Hill Farm was restricted to Public Rights of Way, however, given the nature of the habitat which consists largely of a cycletrack, hedgerows and improved pasture it was considered unlikely that significant numbers of wintering birds would have been present and overlooked during the current survey.

The surveys were undertaken across the entirety of the wintering bird survey season from October through to February and spaced across evenly across the season. Therefore, it is considered that a robust assessment of the wintering bird activity at the survey area has been undertaken across the 2018 to 2019 winter.

## 4.0 RESULTS

### 4.1 Introduction

This section details the results of the wintering bird surveys undertaken at the A417 site between October 2018 and February 2019.

### 4.2 Wintering Birds

A summary of notable species recorded within survey area and their respective maximum counts are provided in **Table 2**. Full survey data is presented in **Table 3**. A total of 53 species were recorded during the winter bird surveys. The survey visits are mapped on **Map 2, Map 3 Map 4 Map 5** and **Map 6**.

**Table 2:** Summary of notable bird species recorded from survey area

Species	Maximum Count	Schedule 1	Red List	Amber List
Black-headed gull <i>Chroicocephalus ridibundus</i>	67			X
Bullfinch <i>Pyrrhula pyrrhula</i>	8			X
Common gull <i>Larus canus</i>	184			X
Dunnock <i>Prunella modularis</i>	6			X
Fieldfare <i>Turdus pilaris</i>	557		X	
Golden plover** <i>Pluvialis apricaria</i>	178			
Goshawk <i>Accipiter gentilis</i>	1*	X		
Grey wagtail <i>Motacilla cinerea</i>	2			X
Herring gull <i>Larus argentatus</i>	20*		X	
Kestrel <i>Falco tinnunculus</i>	4			X
Lapwing <i>Vanellus vanellus</i>	72		X	
Lesser black-backed gull <i>Larus fuscus</i>	1			X
Linnet <i>Linaria cannabina</i>	12		X	
Marsh tit <i>Poecile palustris</i>	6		X	
Meadow pipit <i>Anthus pratensis</i>	4			X
Mistle thrush <i>Turdus viscivorus</i>	4		X	
Red kite <i>Milvus milvus</i>	2*	X		
Redshank <i>Tringa totanus</i>	4		X	
Redwing <i>Turdus iliacus</i>	412		X	
Skylark <i>Alauda arvensis</i>	63		X	
Song thrush <i>Turdus philomelos</i>	8		X	
Starling <i>Sturnus vulgaris</i>	135		X	
Stock dove <i>Columba oenas</i>	10			X
Woodcock <i>Scolopax rusticola</i>	1		X	
Yellowhammer <i>Emberiza citrinella</i>	18		X	

\* Recorded flying over the site only

\*\* Although not a Schedule 1 species or Red or Amber listed, golden plover are listed on Annex 1 of the EC Birds Directive

Common and widespread (introduced species and BoCC Green Listed Species) species were also recorded as part of the survey work and included blackbird *Turdus*

*merula*, blue tit *Cyanistes caeruleus*, buzzard *Buteo buteo*, carrion crow *Corvus corone*, chaffinch *Fringilla coelebs*, coal tit *Periparus ater*, collared dove *Streptopelia decaocto*, cormorant *Phalacrocorax carbo*, goldcrest *Regulus regulus*, goldfinch *Carduelis carduelis*, great spotted woodpecker *Dendrocopos major*, great tit *Parus major*, green woodpecker *Picus viridis*, jackdaw *Corvus monedula*, jay *Garrulus glandarius*, long-tailed tit *Aegithalos caudatus*, magpie *Pica pica*, nuthatch *Sitta europaea*, pied wagtail *Motacilla alba*, pheasant *Phasianus colchicus*, raven *Corvus corax*, red-legged partridge *Alectoris rufa*, robin *Erithacus rubecula*, rook *Corvus frugilegus*, sparrowhawk *Accipiter nisus*, woodpigeon *Columba palumbus* and wren *Troglodytes troglodytes*.

**Table 3: 2018 / 2019 notable wintering bird records (Maximum Counts in Green)**

Date	26th and 27 <sup>th</sup> October 2018		21st November 2018		21st December 2018		28th January 2019		22nd February 2019		Maximum Count On Site
	On Site	Flying Over	On Site	Flying Over	On Site	Flying Over	On Site	Flying Over	On Site	Flying Over	
Black-headed gull	67	0	18	0	17	0	14	0	15	0	67
Bullfinch	8	0	3	0	0	0	2	0	4	0	8
Common gull	78	0	47	2	20	0	184	8	159	0	184
Dunnock	4	0	4	0	0	0	4	0	6	0	6
Fieldfare	2	0	56	21	557	5	290	30	143	0	557
Golden plover**	0	0	0	43	178	0	65	0	75	0	178
Goshawk	0	0	0	0	0	0	0	1	0	0	1*
Grey wagtail	0	0	0	0	2	0	1	0	1	0	2
Herring gull	0	0	0	0	0	0	0	6	0	20	20*
Kestrel	1	0	4	0	0	0	1	1	1	1	4
Lapwing	0	0	0	0	72	0	0	0	0	0	72
Lesser black-backed gull	0	0	0	0	0	0	1	0	0	0	1
Linnet	4	2	0	0	0	0	7	0	12	0	12
Marsh tit	1	0	2	0	5	0	5	0	6	0	6
Meadow pipit	2	0	0	0	4	0	0	0	0	0	4
Mistle thrush	0	0	0	0	4	0	4	0	2	0	4
Red kite	0	2	0	0	0	0	0	0	0	0	2*
Redshank	0	0	0	0	4	0	0	0	0	0	4
Redwing	37	0	150	6	412	15	100	0	194	0	412
Skylark	37	0	34	3	48	0	24	0	63	0	63
Song thrush	1	0	8	0	1	0	7	0	7	0	8
Starling	48	87	75	0	135	0	19	1	0	0	135
Stock dove	1	0	0	0	0	8	8	0	10	0	10
Woodcock	0	0	0	0	0	0	1	0	0	0	1
Yellowhammer	10	0	0	0	18	0	0	0	6	0	18

\* Recorded flying over the site only

\*\* Although not a Schedule 1 species or Red or Amber listed, golden plover are listed on Annex 1 of the EC Birds Directive



## 5.0 EVALUATION, IMPACTS AND RECOMMENDATIONS

### 5.1 Introduction

This section presents the conclusions of the assessment and wintering bird survey. It provides an initial assessment of the likely ecological constraints to the proposed development in relation to wintering birds and detailed recommendations for any further survey work or mitigation measures considered necessary.

### 5.2 Site Evaluation

The southern arm of the survey area is composed of large arable fields located on the Cotswold plateau, interspersed with small copses and belts of woodland. The western arm is steeply sloped with greater woodland cover and with a greater proportion of calcareous grassland in open areas as opposed to arable land.

On 21<sup>st</sup> December 2018, a flock of 72 lapwing *Vanellus vanellus* was present in the large arable fields in the south of the survey area. Golden plover were also found to be using these fields from November-February. Although not currently considered a species of conservation concern (Hayhow *et al.*, 2017), it is notable that a flock of up to 178 birds was regularly recorded.

The network of open fields and hedgerows also attracts wintering flocks of seed-eating species in particular skylark *Alauda arvensis*, where up to 63 birds were recorded and yellowhammer *Emberiza citrinella*, with a maximum of 18 present.

The fields also attract gulls, mainly common gull *Larus canus*, numbers of which peaked in January and February 2019, with greatest numbers occurring in fields also used by golden plover and lapwing, but with flocks also present in fields further north.

Large numbers of berry-feeding species – fieldfare *Turdus pilaris*, redwing *Turdus iliacus* and starling *Sturnus vulgaris* - were recorded throughout the winter with a combined total of over 1,000 birds on 21<sup>st</sup> December 2018. These species are frequenting field and woodland edges where shrubs are located.

Overall the diversity and numbers of birds recorded over a large survey area is considered typical of farmland, grassland and woodland habitats present within the site. These habitats are not uncommon in the wider area.

### 5.3 Potential Impacts of Development

Full details of ecological mitigation measures will be included within the ecology and nature conservation chapter of the Environmental Statement for the project. Mitigation measures relevant to breeding birds should include any effects identified from:

- Habitat loss;

- Destruction of active nests during the breeding period;
- Visual disturbance;
- Noise; and
- Lighting.

Positive measures should be considered that may offer benefits to breeding birds, including habitat reconnection and enhancement.

#### **5.4 Recommendations**

The detailed design of the road improvement scheme should consider options to minimise visual and noise disturbance of birds during construction and operation. These considerations should include visually screening the route from surrounding fields and where elevated noise levels are predicted, the use of vegetation or fencing to present sound barriers. Lighting of the construction and operational phases of the scheme will also need to be carefully considered to ensure no light spill from the development to retained wintering bird habitat.

It is recommended that a Construction Environmental Management Plan (CEMP) be implemented during the construction phase of the scheme in order to minimise potential disturbance to over wintering birds.

Where the existing A417 can be removed from operation, it is recommended that opportunities are explored to maximise the reconnection of habitats currently severed by the road – in particular tree lines and hedgerows.

The impact assessment will be updated once the design of the scheme is finalised.

## 6.0 REFERENCES

CIEEM, 2017. Chartered Institute of Ecology and Environmental Management Website.  
[Online]

Available at: [www.cieem.net](http://www.cieem.net)

CIEEM, 2017. *Guidelines for Ecological Report Writing*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

Hayhow DB, Ausden MA, Bradbury RB, Burnell D, Copeland AI, Crick HQP, Eaton MA, Frost T, Grice PV, Hall C, Harris SJ, Morecroft MD, Noble DG, Pearce-Higgins JW, Watts O, Williams JM, 2017. *The State of the UK's Birds*. The RSPB, BTO, WWT, DAERA, JNCC, NE and NRW, Sandy, Bedfordshire.

## **Map 1** Survey Area and Transect Route

**A417 ROAD IMPROVEMENT SCHEME,  
BIRDLIP, GLOUCESTERSHIRE**

**WINTERING BIRD SURVEY**

Map 1 - Survey Area and Transect Route

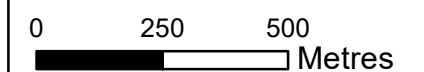
Client:	Mott MacDonald Sweco Joint Venture
Date:	November 2019
Status:	Final

**KEY**

- Site Boundary
- Wintering Bird Survey Transect Route

N.B. A total of six survey visits were undertaken between October 2018 and February 2019.

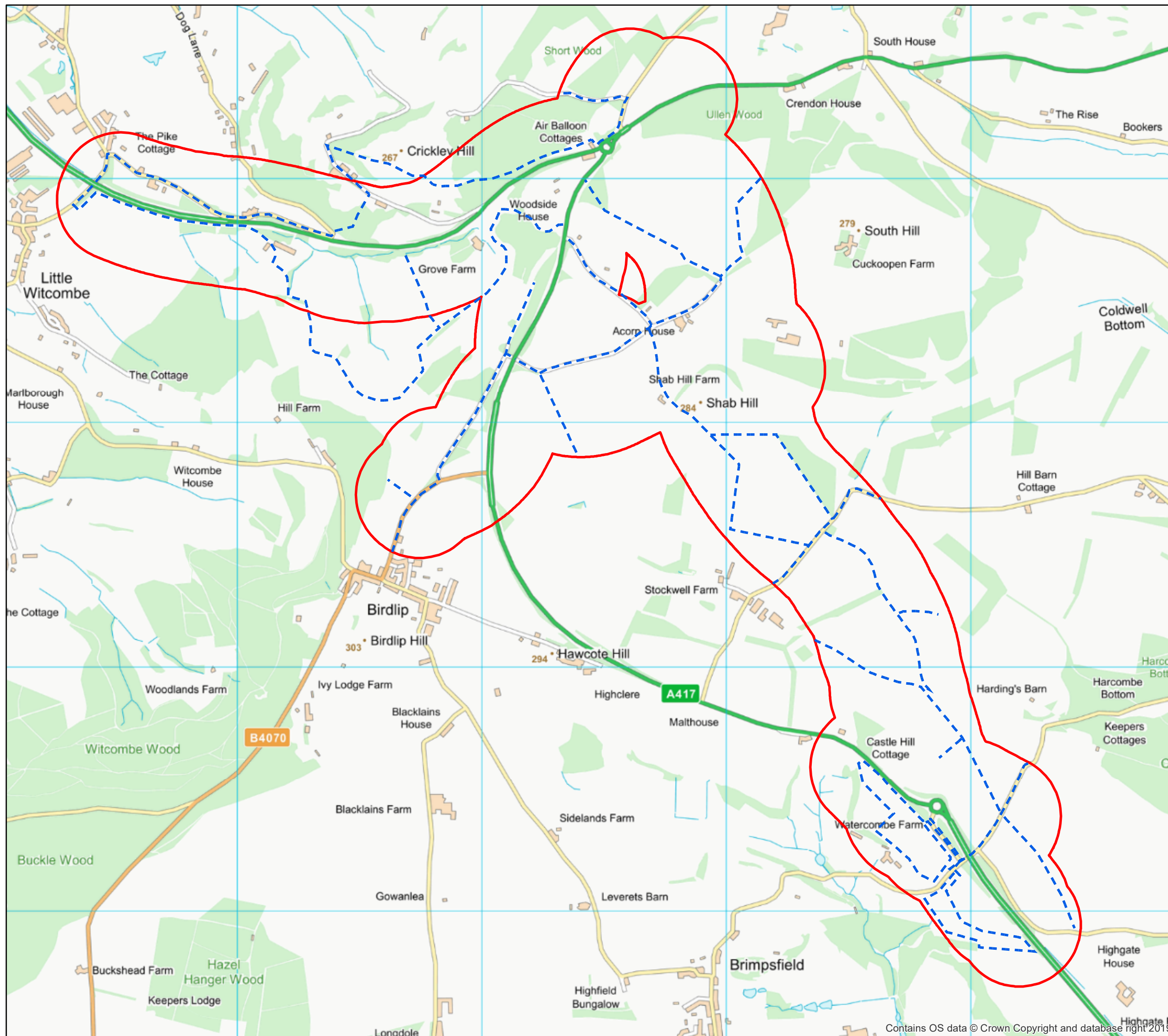
Scale at A3: 1:15,000



Ecological Survey & Assessment  
A Trinity Consultants Company

ECOSA Ltd., Ten Hogs House, Manor Farm Offices,  
Flexford Road, North Baddesley, Hampshire SO52 9DF  
Telephone: 02380 261065 Email: info@ecosa.co.uk  
Web: www.ecosa.co.uk

© This map is the copyright of Ecological Survey & Assessment Ltd.  
Any unauthorised reproduction or usage by any person is prohibited.



## **Map 2** October 2018 Survey Results



**A417 ROAD IMPROVEMENT SCHEME,  
BIRDLIP, GLOUCESTERSHIRE**

**WINTERING BIRD SURVEY**

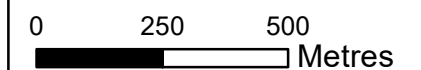
**Map 2 - October 2018 Survey Results**

Client:	Mott MacDonald Sweco Joint Venture
Date:	November 2019
Status:	Final

**KEY**

- Site Boundary
- Direction of flight (where bird species seen in flight)
- BH Black-headed Gull
- BF Bullfinch
- CM Common Gull
- D Dunnock
- FF Fieldfare
- K Kestrel
- LI Linnet
- MT Marsh Tit
- MP Meadow Pipit
- KT Red Kite
- RE Redwing
- S Skylark
- ST Song Thrush
- SG Starling
- SD Stock Dove
- Y Yellowhammer
- #BH Number of birds and species recorded

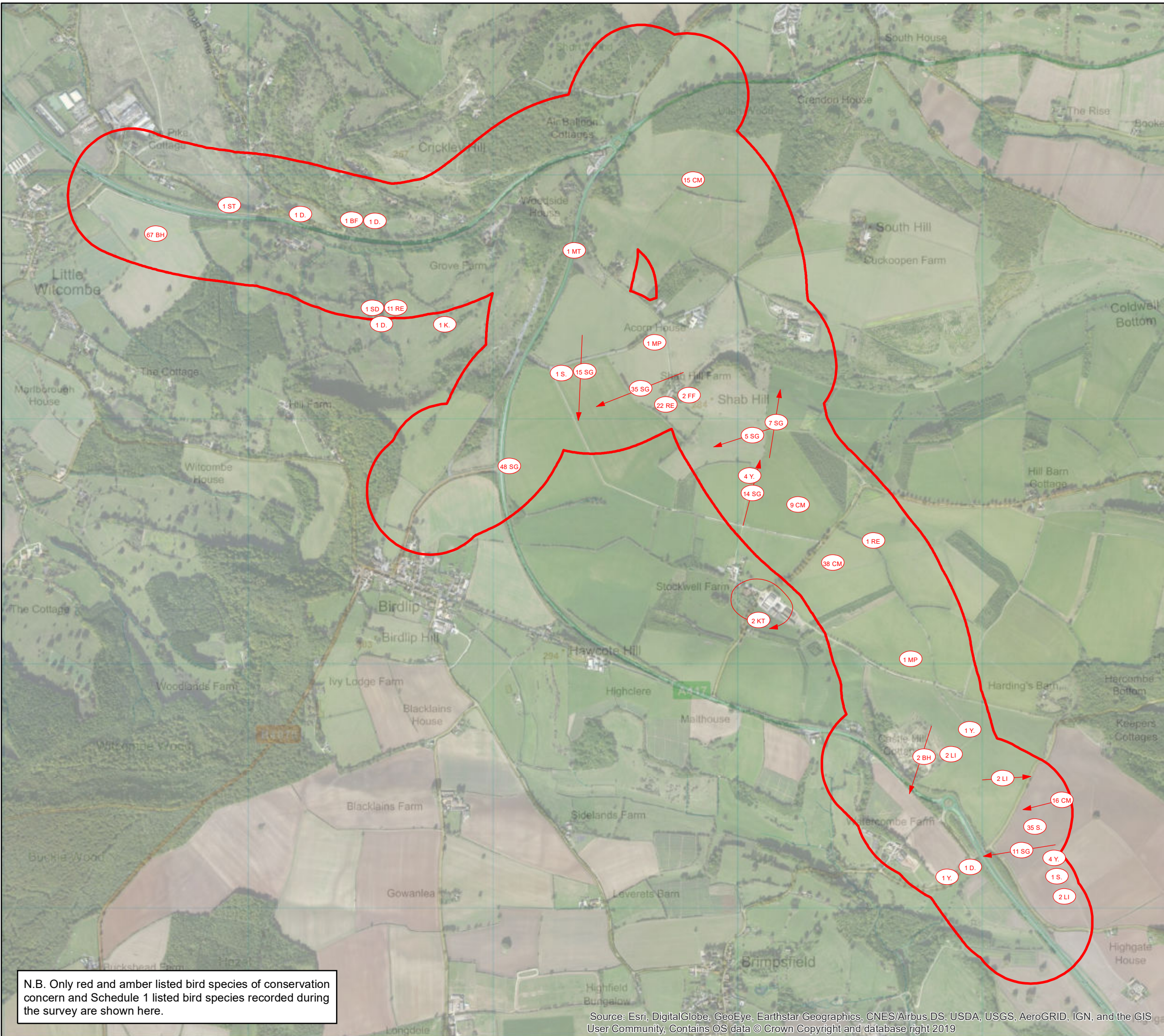
Scale at A3: 1:15,000



A Trinity Consultants Company

ECOSA Ltd., Ten Hogs House, Manor Farm Offices,  
Flexford Road, North Baddesley, Hampshire SO52 9DF  
Telephone: 02380 261065 Email: info@ecosa.co.uk  
Web: www.ecosa.co.uk

© This map is the copyright of Ecological Survey & Assessment Ltd.  
Any unauthorised reproduction or usage by any person is prohibited.



N.B. Only red and amber listed bird species of conservation concern and Schedule 1 listed bird species recorded during the survey are shown here.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Contains OS data © Crown Copyright and database right 2019



### **Map 3** November 2018 Survey Results



**A417 ROAD IMPROVEMENT SCHEME,  
BIRDLIP, GLOUCESTERSHIRE**

WINTERING BIRD SURVEY

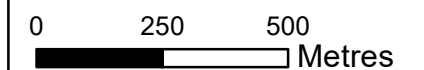
Map 3 - November 2018 Survey Results

Client:	Mott MacDonald Sweco Joint Venture
Date:	November 2019
Status:	Final

**KEY**

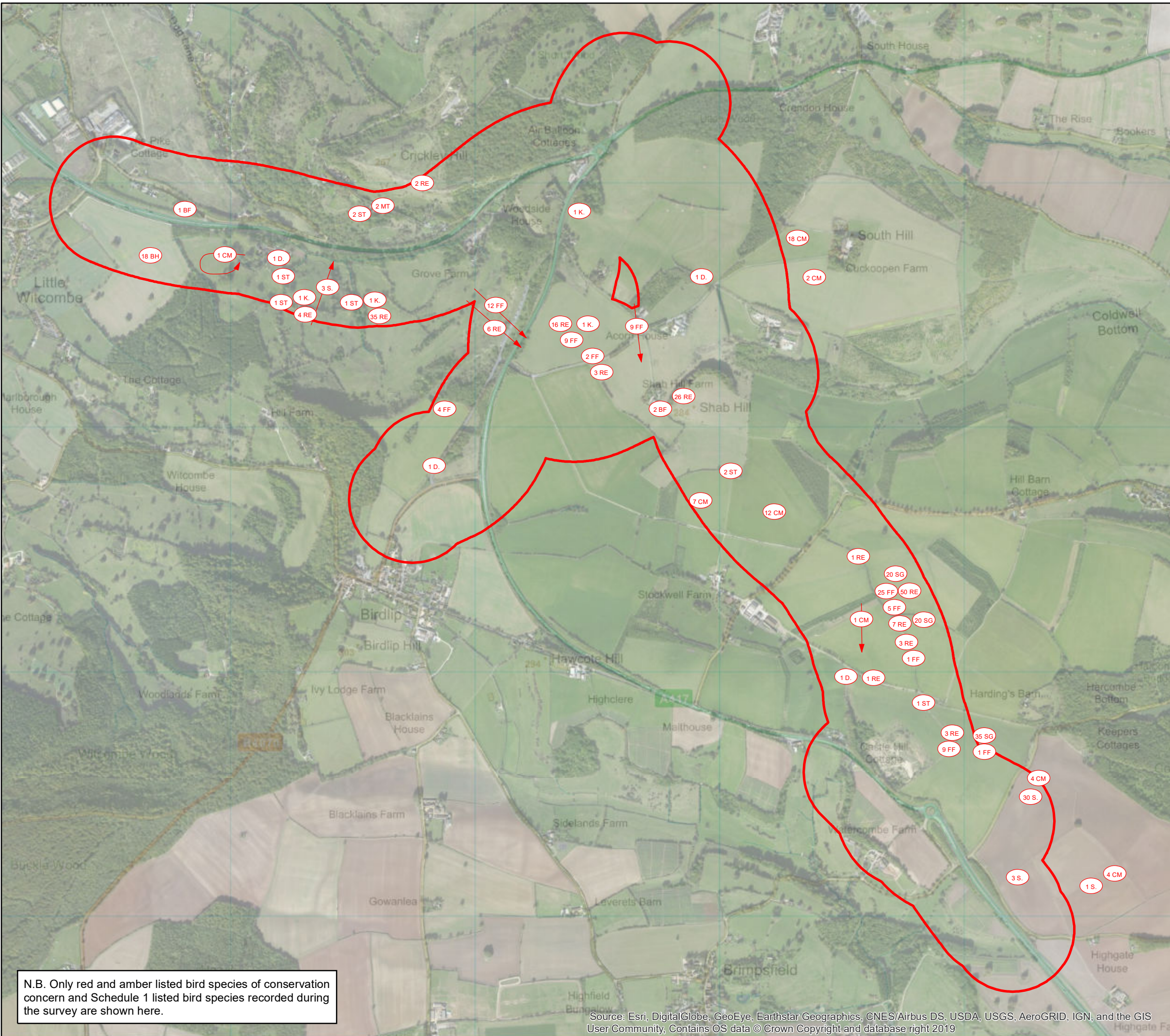
- Site Boundary
- Direction of flight (where bird species seen in flight)
- BH Black-headed Gull
- BF Bullfinch
- CM Common Gull
- D Dunnock
- FF Fieldfare
- K Kestrel
- MT Marsh Tit
- RE Redwing
- S Skylark
- ST Song Thrush
- SG Starling
- #BH Number of birds and species recorded

Scale at A3: 1:15,000



*A Trinity Consultants Company*  
 ECOSA Ltd., Ten Hogs House, Manor Farm Offices,  
 Flexford Road, North Baddesley, Hampshire SO52 9DF  
 Telephone: 02380 261065 Email: info@ecosa.co.uk  
 Web: www.ecosa.co.uk

N.B. Only red and amber listed bird species of conservation concern and Schedule 1 listed bird species recorded during the survey are shown here.





**Map 4** December 2018 Survey Results



**A417 ROAD IMPROVEMENT SCHEME, BIRDLIP, GLOUCESTERSHIRE**

WINTERING BIRD SURVEY

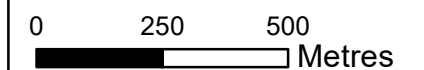
Map 4 - December 2018 Survey Results

Client:	Mott MacDonald Sweco Joint Venture
Date:	November 2019
Status:	Final

**KEY**

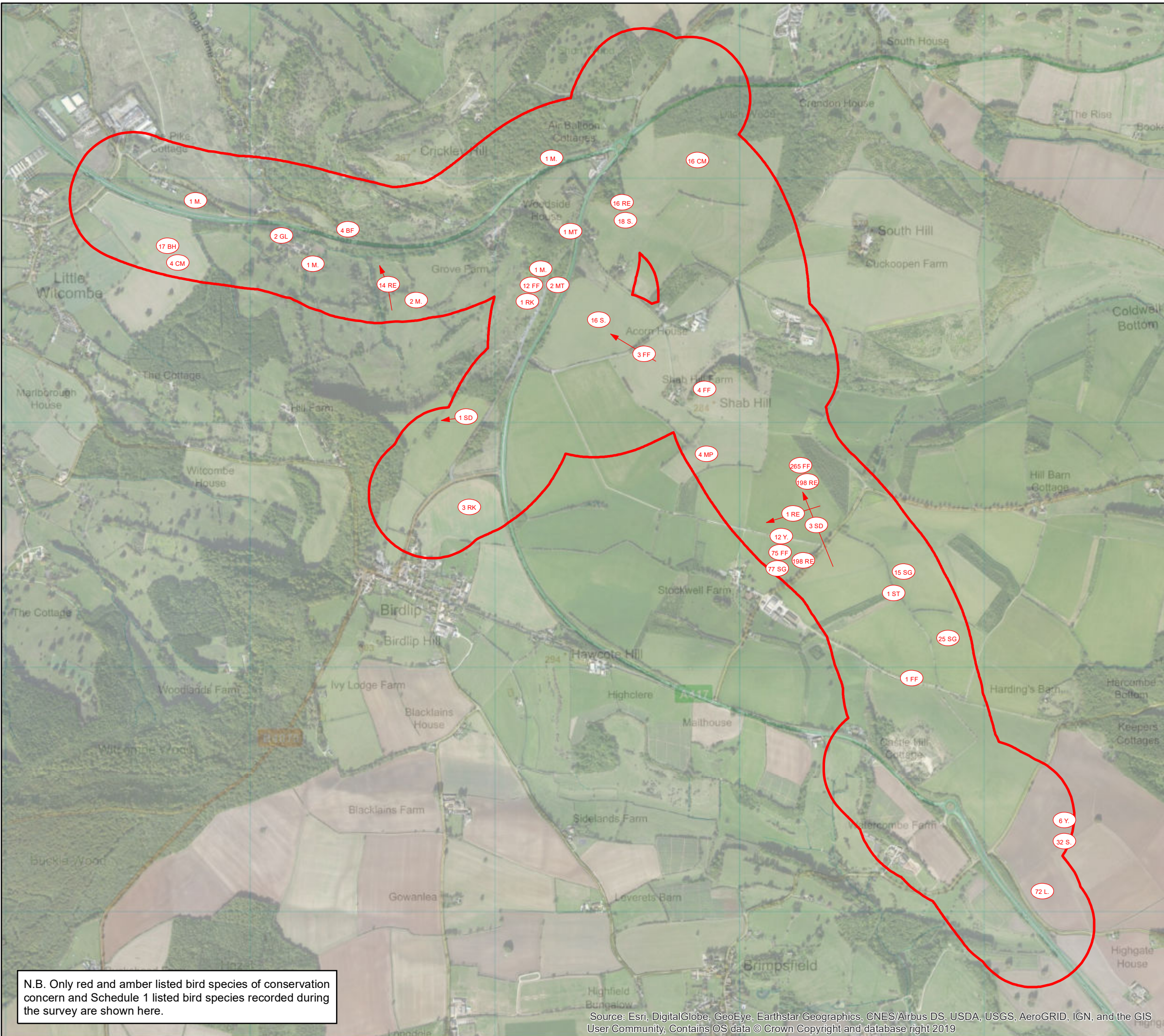
- Site Boundary
- Direction of flight (where bird species seen in flight)
- BH Black-headed Gull
- BF Bullfinch
- CM Common Gull
- FF Fieldfare
- GL Grey Wagtail
- L Lapwing
- MT Marsh Tit
- MP Meadow Pipit
- M Mistle Thrush
- RK Redshank
- RE Redwing
- S Skylark
- ST Song Thrush
- SG Starling
- SD Stock Dove
- Y Yellowhammer
- #BH Number of birds and species recorded

Scale at A3: 1:15,000



ECOSA Ltd., Ten Hogs House, Manor Farm Offices,  
 Flexford Road, North Baddesley, Hampshire SO52 9DF  
 Telephone: 02380 261065 Email: info@ecosa.co.uk  
 Web: www.ecosa.co.uk

© This map is the copyright of Ecological Survey & Assessment Ltd.  
 Any unauthorised reproduction or usage by any person is prohibited.



N.B. Only red and amber listed bird species of conservation concern and Schedule 1 listed bird species recorded during the survey are shown here.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Contains OS data © Crown Copyright and database right 2019



**Map 5** January 2019 Survey Results



**A417 ROAD IMPROVEMENT SCHEME, BIRDLIP, GLOUCESTERSHIRE**

**WINTERING BIRD SURVEY**

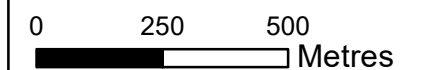
**Map 5 - January 2019 Survey Results**

Client:	Mott MacDonald Sweco Joint Venture
Date:	November 2019
Status:	Final

**KEY**

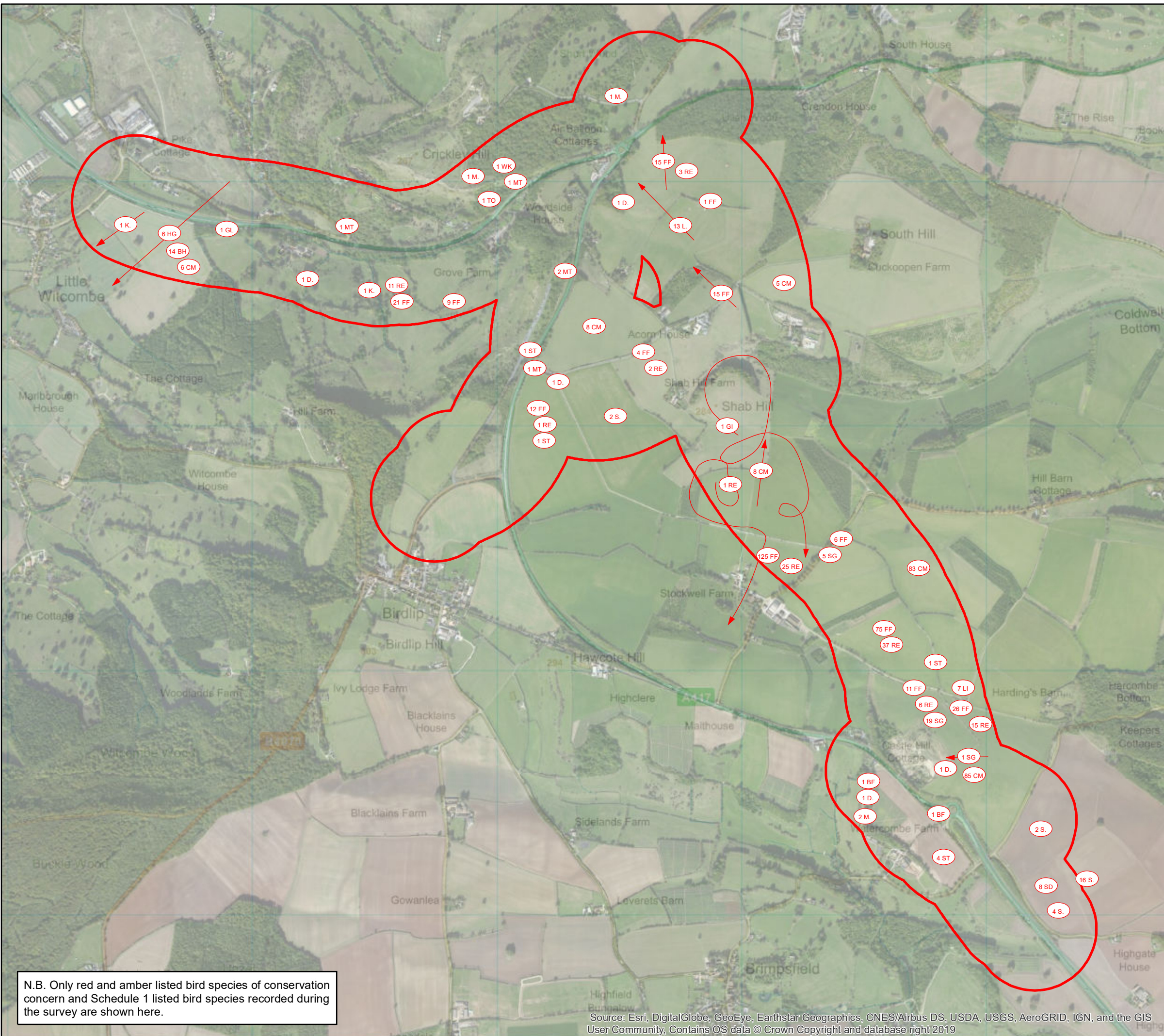
- Site Boundary
- Direction of flight (where bird species seen in flight)
- BH Black-headed Gull
- BF Bullfinch
- CM Common Gull
- D Dunnock
- FF Fieldfare
- GI Goshawk
- GL Grey Wagtail
- HG Herring Gull
- K Kestrel
- L Lapwing
- LI Linnet
- MT Marsh Tit
- M Mistle Thrush
- RE Redwing
- S Skylark
- ST Song Thrush
- SG Starling
- SD Stock Dove
- TO Tawny Owl
- WK Woodcock
- #BH Number of birds and species recorded

Scale at A3: 1:15,000



*A Trinity Consultants Company*  
 ECOSA Ltd., Ten Hogs House, Manor Farm Offices,  
 Flexford Road, North Baddesley, Hampshire SO52 9DF  
 Telephone: 02380 261065 Email: info@ecosa.co.uk  
 Web: www.ecosa.co.uk

© This map is the copyright of Ecological Survey & Assessment Ltd.  
 Any unauthorised reproduction or usage by any person is prohibited.



N.B. Only red and amber listed bird species of conservation concern and Schedule 1 listed bird species recorded during the survey are shown here.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Contains OS data © Crown Copyright and database right 2019



**Map 6** February 2019 Survey Results



**A417 ROAD IMPROVEMENT SCHEME,  
BIRDLIP, GLOUCESTERSHIRE**

**WINTERING BIRD SURVEY**

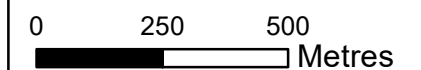
**Map 6 - February 2019 Survey Results**

Client:	Mott MacDonald Sweco Joint Venture
Date:	Novmeber 2019
Status:	Final

**KEY**

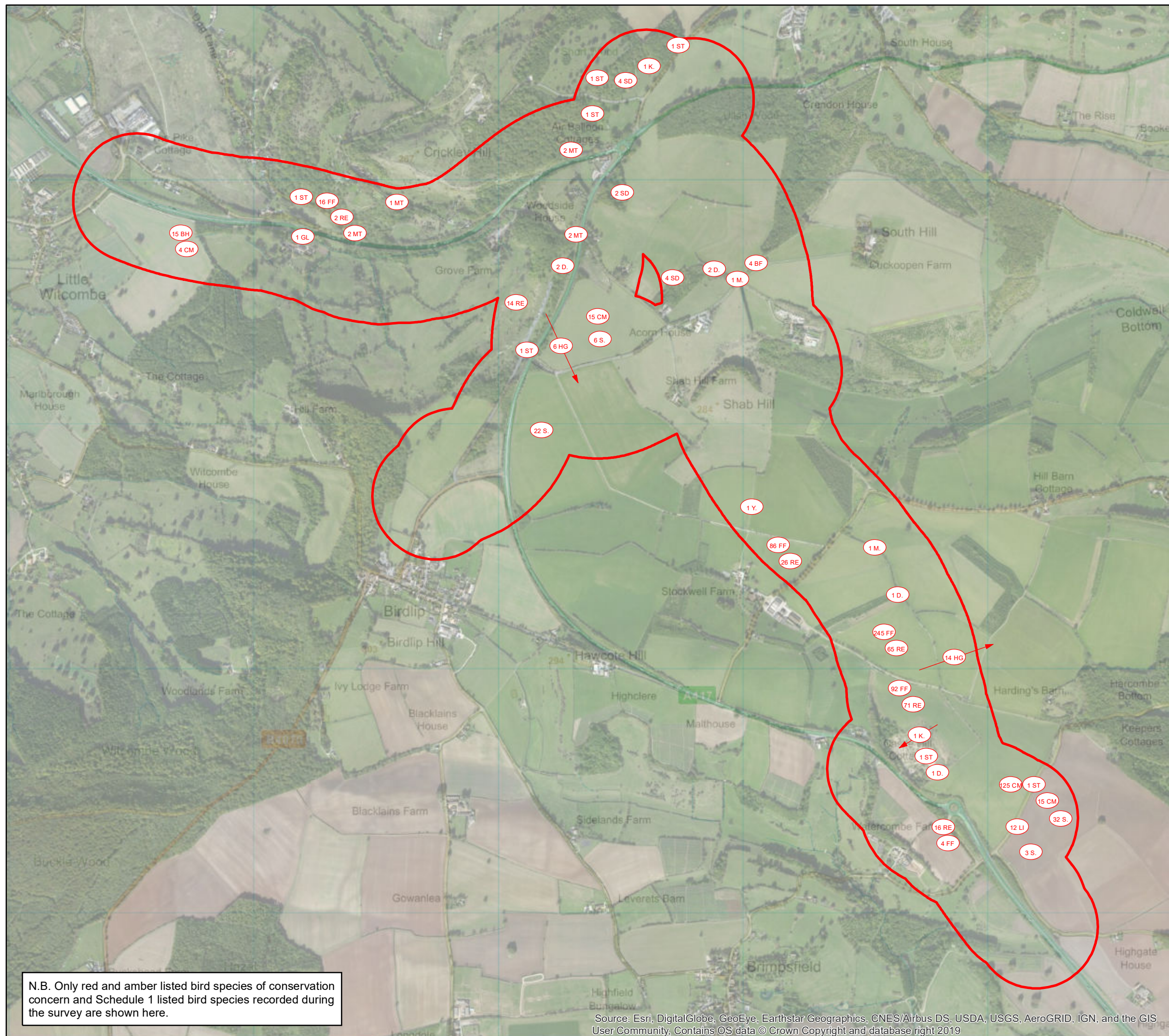
- Site Boundary
- Direction of flight (where bird species seen in flight)
- BH Black-headed Gull
- BF Bullfinch
- CM Common Gull
- D Dunnock
- FF Fieldfare
- GL Grey Wagtail
- HG Herring Gull
- K Kestrel
- LI Linnet
- MT Marsh Tit
- M Mistle Thrush
- RE Redwing
- S Skylark
- ST Song Thrush
- SD Stock Dove
- Y Yellowhammer
- # BH Number of birds and species recorded

Scale at A3: 1:15,000



*A Trinity Consultants Company*  
 ECOSA Ltd., Ten Hogs House, Manor Farm Offices,  
 Flexford Road, North Baddesley, Hampshire SO52 9DF  
 Telephone: 02380 261065 Email: info@ecosa.co.uk  
 Web: www.ecosa.co.uk

© This map is the copyright of Ecological Survey & Assessment Ltd.  
 Any unauthorised reproduction or usage by any person is prohibited.



N.B. Only red and amber listed bird species of conservation concern and Schedule 1 listed bird species recorded during the survey are shown here.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Contains OS data © Crown Copyright and database right 2019