

Wintering Bird Survey

Final Report

*International Advanced
Manufacturing Plant (IAMP)*

North of Nissan, Sunderland

May 2019






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WINTERING BIRD SURVEY REPORT
International Advanced Manufacturing Plant (IAMP)
MAY 2019

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1.0 EXECUTIVE SUMMARY

- 1.0.1 Durham Wildlife Services was commissioned by IAMP LLP in September 2018 to undertake a desk-based study and wintering bird survey at an area of land north of Nissan Car Manufacturing Plant, in Sunderland. The approximate National Grid Reference for the centre of the site is NZ331594. The area covered by the site is proposed for development of a new International Advanced Manufacturing Park (IAMP), and includes a large Ecological and Landscape Mitigation Area (ELMA). This joint venture between Sunderland City Council and South Tyneside Council will deliver a nationally significant infrastructure project to create a new hub for advanced manufacturing, automotive and technology business within the area.
- 1.0.2 The principal objectives of the wintering bird survey are to establish the avian interest and identify key areas across the site during the winter period (September – March). The results will be used to determine the conservation status of component species and to derive an overall assessment of the importance of the site for wintering birds.
- 1.0.3 Surveys were undertaken each month between September 2018 – March 2019 (inclusive). Surveys were largely undertaken in the diurnal period; however, consideration was given for crepuscular species. All surveys were conducted in suitable weather conditions, between the hours of 7:30am and 4:00pm (adjusted accordingly for daylight changes). Days of inclement weather were avoided and there were no significant limitations to the survey. The dates and weather conditions during these surveys are detailed in Table 1.
- 1.0.4 In summary, a total of 74 species have been recorded over the course of the surveys carried out between September 2018 and March 2019. Incidental records from other site visits during this time period include European stonechat *Saxicola rubicola*, pink-footed goose *Anser brachyrhynchus*, common snipe *Gallinago gallinago*, Eurasian siskin *Spinus spinus*, Eurasian teal *Anas crecca*, European golden plover *Pluvialis apricaria*, peregrine falcon *Falco peregrinus*, marsh harrier *Circus aeruginosus*, long-eared owl *Asio otus*, and tawny owl *Strix aluco*. **Including the additional incidental species, a total of 79 species have been observed across the site.**
- 1.0.5 In line with previous assessment by both WYG and Dendra and using the CIEEM and Fuller (1980) criteria, the site is considered to fall within County level of importance.

2.0 INTRODUCTION

2.1 Background

2.1.1 Durham Wildlife Services was commissioned by IAMP LLP in September 2018 to undertake a desk-based study and wintering bird survey at an area of land north of Nissan Car Manufacturing Plant, in Sunderland. The approximate National Grid Reference for the centre of the site is NZ331594. The area covered by the site is proposed for development of a new International Advanced Manufacturing Park (IAMP), and includes a large Ecological and Landscape Mitigation Area (ELMA). This joint venture between Sunderland City Council and South Tyneside Council will deliver a nationally significant infrastructure project to create a new hub for advanced manufacturing, automotive and technology business within the area.

2.2 Site Description

2.2.1 The site is a mixture of arable and pasture farmland, with small pockets of woodland, located to the north of the Nissan Car Manufacturing Plant, in Sunderland. Two watercourses flow across site, the River Don and into the River Don flows the Usworth Burn. The site also includes a number of farm steadings, and cottages. The A19 borders the site to the east, with housing beyond this. Nissan CMP lies immediately south and further farmland to the north and east. Habitats on site are mostly common and widespread, with large areas of the site made up of arable land and improved grassland. A small number of semi-improved grasslands are present, with the most diverse present around North Moor Farm which falls within the IAMP 1 Ecological and Landscape Mitigation Area (ELMA). Two areas of unimproved grassland were recorded, one near Make-Me-Rich farm by the A19, and the second was a pasture to the north of Usworth Cottages. There are a number of small woodlands present across the site, a mixture of plantation and semi-natural. Those to the north, near to Elliscope Farm and Hylton Grove fall into the latter category and a large number of veteran trees are present within these woodlands (some of these woodlands also fall within an LWS). Woodland is an important habitat and should be retained as much as possible (Figure 1, Appendix A).

The habitats identified on site during the Extended Phase 1 survey (DWS, 2018) are as follows:

- Arable

- Hard Standing / Bare Ground
- Semi-improved Grassland
- Poor Semi-Improved Grassland
- Unimproved Neutral Grassland
- Amenity Grassland
- Improved Grassland
- Marshy Grassland
- Tall Ruderal
- Scattered Trees
- Scattered Scrub
- Scrub
- Semi-Natural Broadleaved Woodland
- Plantation Broadleaved Woodland
- Built Structure
- Introduced Shrubs
- Intact Hedgerow
- Defunct Hedgerow
- Species Rich Hedgerow
- Hedgerow with Trees
- Ditch
- Wall
- Running Water
- Standing Water

2.3 Survey Objectives

- 2.3.1 The principal objective of the wintering bird survey is to establish the avian interest and identify key areas across the site during the winter period (September – March). The results will be used to determine the conservation status of component species and to derive an overall assessment of the importance of the site for wintering birds.

2.4 Legislation

2.4.1 The Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 (WCA 1981) (as amended) under Section 1, makes it an offence to intentionally kill, injure or take any wild bird, nest or egg. The possession of any of these is an offence of strict liability. The act also covers special

protection for Schedule 1 species. Part 1 of Schedule 1 lists 79 rare, endangered, declining or vulnerable bird species which are protected by special penalties at all times, including the offence of disturbance.

2.4.2 **Natural Environment and Rural Communities (NERC) Act (2006)**

Section 41 (S41) of this Act (the 'England Biodiversity List') requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

The S41 list replaces the list published under Section 74 of the Countryside and Rights of Way (CRoW) Act 2000.

2.4.3 **IUCN Birds of nature Conservation Concern**

In addition to statutory protection, some bird species are classified according to their conservation status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK (Eaton et al. 2009):

- Red list (high conservation concern) species are those that are Globally Threatened according to IUCN criteria; those whose population has declined rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber list (medium conservation concern) species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Green list (low conservation concern) species fulfil none of the above criteria.

2.4.4 **National Planning Policy Framework**

The NPPF outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed over using land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

2.4.5 **Durham Biodiversity Action Plan (DBAP)**

The DBAP contains action plans for species of particular importance to the biodiversity of the area.

3.0 METHODOLOGY

3.1 Desk Based Study

3.1.1 A request was issued to Environmental Records Information Centre NE (ERIC) for any information regarding protected species on, or in the direct vicinity of the site (2km radius). A request for data was also sent to Durham Bird Club for all bird species within 2km of the site. The Magic website was searched for the details of Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR) within 2km of the site.

3.2 Field Survey

3.2.1 The survey methodology adapted and combined the 'Common Bird Census' (CBC) and 'Winter Farmland Bird Survey' devised by the British Trust for Ornithology (BTO) based on Bibby (2000). This technique records the location and movements of individual birds present within a defined survey area. The surveys were carried out in the autumn and winter period to ensure that both resident wintering birds and migrant wintering birds were recorded.

3.2.2 Surveys were undertaken each month between September 2018 – March 2019 (inclusive). Surveys were largely undertaken in the diurnal period; however, consideration was given for crepuscular species. All surveys were conducted in suitable weather conditions, between the hours of 7:30am and 4:00pm (adjusted accordingly for daylight changes). Days of inclement weather were avoided and there were no significant limitations to the survey. The dates and weather conditions during these surveys are detailed in Table 1.

Table 1: Wintering Bird Survey dates and weather conditions.

Survey Date	Weather Conditions
17/09/18	Light breeze, 40% cloud cover, 17oC/15oC, dry. 7:30am-12pm
24/09/18	Light breeze, clear, 7oC/3oC, dry. 7:30am-1:30pm
17/10/18	Light breeze, 90% cloud cover, 12oC/16oC, dry. 9:00am-1:30pm
19/10/18	Light breeze, 60% cloud cover, 8oC/12oC. 9:00am-2:00pm
27/11/18	Mod breeze, 50% cloud cover, 6oC. 10:15am – 4:30pm
30/11/18	Mod breeze, 80% cloud cover, 8oC/7oC. 10:00am – 3:00pm
14/12/18	Very light breeze, 10% cloud cover, 4oC. 10:00am – 15:30pm

19/12/18	Light breeze, 30% cloud cover, 5oC. 9:30am – 14:45pm
18/01/19	Light breeze, 20% cloud cover, -1.5oC. 8:30am – 16:00pm
24/01/19	Very light breeze, 90% cloud cover, -2oC/1.5oC. 9:00am - 11:00am
11/02/19	Light breeze, 20% cloud cover, 4oC. 8:30am – 15:00pm
12/02/19	Breezy, 70% cloud cover, 8oC. 9:00am – 15:00pm
18/03/19	Light moderate breeze, 20% cloud cover, 5oC/10oC. 8:45am - 13:45pm
19/03/19	Light breeze, 70% cloud cover, 8oC/13oC. 9:00am – 14:00pm

3.2.3 A pre-determined transect route was walked throughout the survey area when possible. In addition, a suitable buffer zone was also surveyed around the survey area boundary. The surveys were conducted by experienced ornithological surveyors and assistants on every occasion including Sacha Elliott (Ecologist DWS) and Kevin O'Hara (Freelance Ecologist, Kevin O'Hara Ecology).

3.3 Valuation Methods

3.3.1 The assessment methodology for this report follows the guidelines developed by the Chartered Institute of Ecology and Environmental Management (CIEEM 2006). Accordingly, this report considers the geographic frame of reference; site designations and features; biodiversity value; large populations or important assemblages of species; potential value, secondary or supporting value; social/community value and economic value.

3.3.2 Table 2: CIEEM Evaluation Criteria

Conservation Value	Examples of Selection Criteria
International	<ul style="list-style-type: none"> A species which is part of the cited interest of an SPA and which regularly occurs in internationally or nationally important numbers. A species present in internationally important numbers (>1% of international population).
National	<ul style="list-style-type: none"> A species which is part of the cited interest of a SSSI and which regularly

	<p>occurs in nationally or regionally important numbers.</p> <ul style="list-style-type: none"> • A nationally important assemblage of breeding or over-wintering species. • A species present in nationally important numbers (>1% UK population). Rare breeding species.
Regional	<ul style="list-style-type: none"> • Species of principle importance under S41 of the NERC Act, which are not covered above, and which regularly occur in regionally important numbers. • Species present in regionally important numbers (>1% of regional population). • Sustainable populations of rare or scarce species within a region. • Species on the BoCC Red List and which regularly occurs in regionally important numbers.
County	<ul style="list-style-type: none"> • Species of principle importance under S41 of the NERC Act, which are not covered above, and which regularly occur in county important numbers. • Species present in county important numbers (>1% of county population). Sustainable populations of rare or scarce species within a county or listed in a county BAP. • A site designated for its county important assemblage of birds (e.g. a SINC Site).

	<ul style="list-style-type: none"> Species on the BoCC Red List and which regularly occur in county important numbers.
District	<ul style="list-style-type: none"> Species of principle importance under S41 of the NERC Act, which are not covered above, and are rare in the locality or in the relevant Natural Area profile. Species present in numbers just short of county importance. Sustainable populations of rare or scarce species within the locality. A site whose designation falls just short for inclusion for its county important assemblage of birds (e.g. a SINC Site). Other species on the BoCC Red List and which are considered to regularly occur in district important numbers.
Local	<ul style="list-style-type: none"> Other species of conservation interest (e.g. all other species of principle importance under S41 of the NERC Act and on the BoCC Red and Amber lists which are not covered above) regularly occurring in locally sustainable populations.
Site	<ul style="list-style-type: none"> All other BoCC Green-listed common and widespread species.

3.3.3 To aid with assessment of ornithological importance, the methods developed by Fuller (1980) are used. The methodology uses the number of species recorded (species richness) during the surveys to assign importance to a site.

- 3.3.4 Where possible comparisons could be made, previous survey findings (e.g. WYG, 2015; ARUP, 2017; Dendra, 2018) were reviewed and compared against the current data set.
- 3.3.5 In addition, survey findings were compared against their respective entries in The Birds of Durham (Bowey and Newsome, 2012), to provide an assessment of the individual species distribution within the county. As bird numbers fluctuate, a level of professional judgement, based on current county bird trends, was made when analysing survey findings against this publication.

4.0 SURVEY RESULTS

4.1 Desk Based Study

4.1.1 The results obtained from the MAGIC search revealed 20 Local Nature Reserves (LNR), 21 Sites of Special Scientific Interest (SSSI), one Ramsar site, one Special Protected Area (SPA) and one Special Area of Conservation (SAC) are all located within 10km of the site. The site is situated within a SSSI impact zone but given the proposals on site it is not deemed necessary to consult with Natural England (magic.gov.uk).

4.1.2 ERIC NE provided 27 records of non-statutory designated sites within a 2km radius of the site; all sites are designated Local Wildlife Sites (LWS's). Two of these sites fall within the site boundary, River Don East House, and Elliscope Farm East/Hylton Bridge. **For full consultation details, the IAMP Survey Report (Durham Wildlife Services, 2018) should be read in conjunction with this report.**

4.1.3 ERIC provided 23209 records of bird species within 2km of the site dating between 2006 – 2017. The full list of records relates to 187 species, with the vast majority of records associated with Washington Wetland Centre (WWT). Approximately 4700 bird records are associated with the site and the wider IAMP area. Most records relate to common and widespread species for the county; however, several Schedule 1 species are also listed. The site provides some suitable wintering grounds for the following listed Schedule 1 species: brambling *Fringilla montifringilla*, whooper swan *Cygnus cygnus*, bewick's swan *Cygnus columbianus*, barn owl *Tyto alba*, kingfisher *Alcedo atthis*, hen harrier *Circus cyaneus*, Mediterranean gull *Ichthyaetus melanocephalus*, common crossbill *Loxia curvirostra*, red kite *Milvus milvus*, common firecrest *Regulus ignicapilla*, redwing *Turdus iliacus*, fieldfare *Turdus pilaris*, and goshawk *Accipiter gentilis*.

4.2 Field Survey

4.2.1 In summary, a total of 74 species have been recorded over the course of the surveys carried out between September 2018 and November 2019.

Incidental records from other site visits during this time period include European stonechat *Saxicola rubicola*, pink-footed goose *Anser brachyrhynchus*, common snipe *Gallinago gallinago*, Eurasian teal *Anas crecca*, Eurasian siskin *Spinus spinus*, European golden plover *Pluvialis apricaria*, peregrine falcon *Falco peregrinus*, marsh harrier *Circus aeruginosus*, long-eared owl *Asio otus*, and tawny owl *Strix aluco*.

4.2.2 Table 3: Survey Results September 2018 – March 2019

Common	Scientific Name	Status	Aggregated Totals (Site Wide)						Peak Count	Combined Total	
			Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19			Mar-19
Curlew	<i>Numenius arquata</i>	Red UKBAP NERC LBAP	0	23	0	6	12	0	0	23	41
Fieldfare	<i>Turdus pilaris</i>	Red Sch 1	0	2	32	407	50	0	0	70	491
Herring Gull	<i>Larus argentatus</i>	Red UKBAP NERC	38	3	9	8	21	3	8	4	90
House Sparrow	<i>Passer domesticus</i>	Red UKBAP NERC LBAP	5	0	0	10	40	4	2	5	61
Northern Lapwing	<i>Vanellus vanellus</i>	Red UKBAP NERC LBAP	39	21	0	35	0	56	18	16	169
Northern Linnet	<i>Linaria cannabina</i>	Red UKBAP NERC LBAP	15	39	44	51	1	34	15	39	199
Mistle Thrush	<i>Turdus viscivorus</i>	Red LBAP	0	1	1	4	6	7	2	2	21
Grey Partridge	<i>Perdix perdix</i>	Red UKBAP LBAP NERC	26	16	4	26	14	7	9	12	102
Grey Wagtail	<i>Motacilla cinerea</i>	Red LBAP	0	0	0	0	1	0	0	1	1

Redwing	<i>Turdus iliacus</i>	Red Sch 1	0	46	65	291	5	8	1	32	416
Eurasian Skylark	<i>Alauda arvensis</i>	Red UKBAP NERC LBAP	17	10	7	22	26	9	26	4	117
European Starling	<i>Sturnus vulgaris</i>	Red UKBAP NERC LBAP	57	4	2	28	7	23	153	109	274
Song Thrush	<i>Turdus philomelos</i>	Red UKBAP NERC LBAP	0	5	2	8	3	2	6	3	26
Eurasian Tree Sparrow	<i>Passer montanus</i>	Red UKBAP NERC LBAP	19	26	2	6	0	0	9	8	62
Whinchat	<i>Saxicola rubetra</i>	Red	1	0	0	0	0	0	0	1	1
Eurasian Woodcock	<i>Scolopax rusticola</i>	Red	0	0	0	1	0	0	1	1	2
Willow Tit	<i>Poecile montanus</i>	Red UKBAP NERC LBAP	0	1	0	4	1	0	2	1	8
Yellowhammer	<i>Emberiza citrinella</i>	Red UKBAP NERC LBAP	5	17	7	48	15	23	22	6	137
Eurasian Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber UKBAP NERC	4	2	11	7	6	1	1	3	32
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Amber	17	25	0	0	0	0	0	5	42
Common Gull	<i>Larus canus</i>	Amber	0	3	0	0	1	0	5	1	9

Dunnoek	<i>Prunella modularis</i>	Amber UKBAP NERC	3	1	5	10	4	3	11	2	37
Great Black-backed Gull	<i>Larus marinus</i>	Amber	0	0	0	0	1	0	0	1	1
Greylag Goose	<i>Anser anser</i>	Amber	0	26	0	0	7	0	0	26	33
Common Kestrel	<i>Falco tinnunculus</i>	Amber LBAP	10	9	2	7	6	4	5	2	43
Mallard	<i>Anas platyrhynchos</i>	Amber	0	0	0	0	0	0	3	3	3
Meadow Pipit	<i>Anthus pratensis</i>	Amber	9	2	0	6	1	5	19	6	42
Mute Swan	<i>Cygnus olor</i>	Amber	0	0	1	0	0	0	0	1	1
Eurasian Oystercatcher	<i>Haematopus ostralegus</i>	Amber	1	0	0	0	0	3	0	3	4
Pink-footed Goose	<i>Anser brachyrhynchus</i>	Amber	0	0	0	0	0	35	0	35	35
Common Reed Bunting	<i>Emberiza schoeniclus</i>	Amber UKBAP NERC LBAP	1	8	6	13	2	0	9	2	39
Stock Dove	<i>Columba oenas</i>	Amber	1	3	0	5	1	0	8	8	18
Common Snipe	<i>Gallinago gallinago</i>	Amber LBAP	0	0	0	1	0	0	0	1	1
White-throated Dipper	<i>Cinclus cinclus</i>	Amber	0	0	0	0	0	0	1	1	1
Common Blackbird	<i>Turdus merula</i>	Green	6	12	26	66	32	20	14	4	176
Eurasian Blackcap	<i>Sylvia atricapilla</i>	Green	0	0	0	0	0	1	1	1	2
Brambling	<i>Fringilla montifringilla</i>	Green Sch 1	0	0	0	1	0	0	0	1	0
Barn Owl	<i>Tyto alba</i>	Green Sch 1 LBAP	0	1	1	4	0	0	0	1	6
Eurasian Blue Tit	<i>Cyanistes caeruleus</i>	Green	20	18	12	22	22	25	37	4	156

Common Buzzard	<i>Buteo buteo</i>	Green	6	2	3	1	7	4	2	2	25
Carrion Crow	<i>Corvus corone</i>	Green	7	13	10	27	14	16	7	15	94
Common Chiffchaff	<i>Phylloscopus collybita</i>	Green	2	0	0	0	0	0	4	1	6
Collared Dove	<i>Streptopelia decaocto</i>	Green	3	1	0	11	3	1	6	2	25
Canada Goose	<i>Branta canadensis</i>	Green	0	0	0	1	0	0	0	1	1
Common Chaffinch	<i>Fringilla coelebs</i>	Green	11	16	10	26	5	7	24	6	99
Eurasian Coot	<i>Fulica atra</i>	Green	0	0	0	0	1	1	0	1	2
Coal Tit	<i>Parus ater</i>	Green	1	1	0	1	0	2	0	1	5
Feral Pigeon	<i>Columba livia domestica</i>	Green	4	27	33	0	0	0	0	16	64
Green Woodpecker	<i>Picus viridis</i>	Green	0	0	0	0	0	1	0	1	1
Goldcrest	<i>Regulus regulus</i>	Green	0	0	0	0	0	0	2	1	2
Goldfinch	<i>Carduelis carduelis</i>	Green	56	22	14	47	39	73	43	38	294
European Golden Plover	<i>Pluvialis apricaria</i>	Green LBAP	0	0	0	10	14	0	1	14	25
European Greenfinch	<i>Chloris chloris</i>	Green	0	0	0	15	6	0	10	4	31
Great Spotted Woodpecker	<i>Dendrocopos major</i>	Green	0	3	1	1	2	0	2	1	9
Great Tit	<i>Parus major</i>	Green	4	7	2	20	7	22	28	3	90
Grey Heron	<i>Ardea cinerea</i>	Green	1	1	1	4	1	1	0	1	9
Eurasian Jay	<i>Garrulus glandarius</i>	Green	0	1	1	0	2	2	1	2	7
Western Jackdaw	<i>Corvus monedula</i>	Green	7	8	9	21	3	4	8	6	60
Long-eared Owl	<i>Asio otus</i>	Green	0	0	0	1	0	0	0	1	1
Little Owl	<i>Athene noctua</i>	Green	0	1	2	0	0	1	0	2	4
Long-tailed Tit	<i>Aegithalos caudatus</i>	Green	0	5	0	35	10	16	3	5	69
Eurasian Magpie	<i>Pica pica</i>	Green	29	36	25	22	21	13	22	4	168

Common Moorhen	<i>Gallinula chloropus</i>	Green	0	0	0	3	0	0	0	1	3	
Ring-necked Pheasant	<i>Phasianus colchicus</i>	Green	4	5	8	27	4	14	7	2	69	
Pied Wagtail	<i>Motacilla alba</i>	Green	6	0	2	0	0	1	7	2	16	
Red-legged Partridge	<i>Alectoris rufa</i>	Green	0	0	0	0	4	0	0	4	4	
European Robin	<i>Erithacus rubecula</i>	Green	23	9	8	28	8	8	18	2	102	
Rook	<i>Corvus frugilegus</i>	Green	0	2	0	6	1	7	8	2	24	
European Stonechat	<i>Saxicola rubicola</i>	Green	0	1	0	6	0	0	0	2	6	
Eurasian Sparrowhawk	<i>Accipiter nisus</i>	Green	1	1	0	1	1	0	1	1	5	
Barn Swallow	<i>Hirundo rustica</i>	Green LBAP	11	0	0	0	0	0	0	3	11	
Eurasian Treecreeper	<i>Certhia familiaris</i>	Green	0	0	0	0	2	0	0	1	2	
Common Wood Pigeon	<i>Columba palumbus</i>	Green	129	104	85	402	63	168	126	68	1077	
Eurasian Wren	<i>Troglodytes troglodytes</i>	Green	2	8	0	10	21	6	19	1	66	
Species Richness		74								Total	5375	

5.0 DISCUSSION

5.1 Constraints

5.1.1 Due to access and permission issues, some areas of the site were only surveyed using distant vantage point techniques, and as a result, some species may have been under recorded on occasion. This was particularly relevant for the surveys conducted in November 2018 when a landowner revoked permission to the northern section mid-survey. Where possible, vantage points were used to cover land without access permissions; however, this technique is very limited when covering vast areas and lead to under recording of bird species.

5.2 Wintering Bird Species

5.2.1 In summary, a total of 74 species have been recorded over the course of the surveys carried out between September 2018 and March 2019.

Incidental records from other site visits during this time period include European stonechat (individual sighting), pink-footed goose (number of birds unknown), common snipe (individual sighting), Eurasian teal (two birds flying over), Siskin (small number in with linnet flock), European golden plover (number of birds unknown), peregrine falcon (individual sighting), marsh harrier (individual sighting), long-eared owl (at least two birds), and tawny owl (one bird heard calling).

Including the additional incidental species, a total of 79 species have been observed across the site.

5.2.2 Table 4: County status for each identified wintering species (including incidental sightings) as listed in The Birds of Durham publication

Common Name	County Status (Bovey and Newsome, 2012)
	<p><i>Extremely rare</i> – fewer than 5 occurrences ever. <i>Rare</i> – between 5 - 25 in total. <i>Scarce</i> - fewer than 10 birds occurring per annum. <i>Uncommon</i> – 10 - 100 birds occurring per annum. <i>Common</i> – 101 - 1000 birds occurring per annum. <i>Very common</i> – 1001 - 10000 birds occurring per annum. <i>Abundant</i> - 10000+ birds occurring per annum.</p>
Common Linnet	Very common and well distributed resident and passage migrant.
Eurasian Curlew	Common resident, passage migrant and winter visitor in large numbers.

Eurasian Skylark	An abundant resident and common passage migrant that has shown some local declines in recent years.
Eurasian Woodcock	Common migrant and winter visitor, and locally resident breeding species.
European Starling	An abundant resident and winter visitor.
Fieldfare	Common winter visitor and passage migrant.
Grey Partridge	A widespread resident which remains quite common.
Grey Wagtail	A widespread and common resident, though restricted due to habitat preference. Widespread winter visitor and passage migrant.
Herring Gull	An abundant passage and winter visitor, and a common breeding species at an increasing number of locations, both coastal and inland.
House Sparrow	An abundant but, in recent years, rapidly declining resident.
Mistle Thrush	Fairly common and widespread resident and small-scale passage migrant.
Northern Lapwing	An abundant passage and winter visitor, and very common breeder.
Redwing	Very common winter visitor and passage migrant.
Song Thrush	Very common but declining resident, passage migrant and winter visitor.
Tree Sparrow	A locally common but sparsely distributed resident - no longer widespread.
Whinchat	A widespread but uncommon and declining summer visitor and passage migrant.
Willow Tit	Increasingly uncommon and local resident.
Yellowhammer	Widespread and resident in the lowland areas; much more local in the west of the county.
Black-headed Gull	An abundant and widespread winter visitor and passage migrant; also, locally common breeder.
Common gull	An abundant passage and winter visitor, and occasional scarce breeder.
Common Kestrel	Common resident breeder and an uncommon passage visitor.
Dipper	A common resident and occasional passage migrant.
Duncock	An abundant resident and passage migrant.

Eurasian Bullfinch	A widespread, common resident, with small numbers of passage birds occurring.
Eurasian Teal	An uncommon resident, but abundant passage and winter visitor.
Great black-backed gull	Very common winter visitor, with non-breeders present during summer.
Greylag Goose	Common feral resident and winter and passage visitor in considerable numbers.
Mallard	Very common resident and winter visitor.
Marsh Harrier	An uncommon summer and passage visitor.
Meadow Pipit	An abundant resident breeder and passage migrant. Much less abundant in winter after autumn passage.
Mute Swan	Widespread resident but scarce breeding species. Limited passage migrant.
Oystercatcher	Very common passage and winter visitor, and locally common breeding species.
Pink-footed goose	Very common passage and winter visitor.
Reed Bunting	Common but local resident breeder; also passage migrant and winter visitor.
Snipe	Very common passage and winter visitor, and locally common breeding species.
Stock Dove	A common resident.
Tawny Owl	A common and widespread resident.
Blackbird	An abundant resident, passage migrant and winter visitor.
Barn Owl	A widespread though relatively uncommon breeding resident. Numbers impacted by winter conditions.
Barn Swallow	Very common summer visitor and passage migrant.
Blackcap	Very common breeding summer visitor and passage migrant. Uncommon in winter.
Blue Tit	An abundant and widespread breeding resident.
Brambling	A common winter visitor and passage migrant in variable numbers.
Canada Goose	A very common feral resident.
Carrion Crow	Common and widespread resident.

Coal Tit	An abundant and widespread breeding resident.
Collared Dove	Very common resident, mainly found in sub-urban areas.
Common Buzzard	An uncommon resident, passage and winter visitor.
Common Chaffinch	An abundant resident, very common winter visitor and passage migrant.
Common Chiffchaff	Very common breeding summer visitor and passage migrant. Uncommon in winter.
Common Pheasant	Common resident supplemented by released birds.
Coot	A very common resident.
Eurasian Jay	A widely distributed and common breeding species.
Eurasian Magpie	A very widespread and common breeding resident.
Eurasian Siskin	Common passage migrant and winter visitor; scarce local breeder.
Eurasian Sparrowhawk	A widespread and relatively common breeding species, passage migrant and winter visitor.
Eurasian Wren	An abundant resident and apparently rare passage migrant.
European Goldfinch	Very common and widely distributed resident and passage migrant.
European Greenfinch	Very common and well distributed resident, passage migrant and winter visitor.
European Robin	An abundant resident, passage migrant and winter visitor.
Feral Pigeon	Very common resident.
Goldcrest	Very common resident and passage migrant.
Golden Plover	An abundant passage and winter visitor, and common breeding species in the uplands.
Great Spotted Woodpecker	Common and widely distributed resident, passage migrant and winter visitor (numbers uncertain).
Great Tit	An abundant and widespread breeding resident.
Green Woodpecker	An uncommon localised resident.
Grey Heron	Common and widespread resident and winter visitor.
Little Owl	A widespread and fairly common resident.

Long-eared Owl	An uncommon winter visitor and scarce breeder.
Long-tailed Tit	Common breeding resident.
Moorhen	A very common resident.
Peregrine Falcon	An uncommon but increasing passage and winter visitor and rare breeder.
Pied Wagtail	Common resident and passage migrant and winter visitor.
Red-legged Partridge	A common local resident, supplemented by releases.
Rook	An abundant and widespread resident.
Stonechat	An uncommon winter visitor and passage migrant and scarce breeding species.
Treecreeper	A common and widespread breeding resident.
Western Jackdaw	An abundant and widespread resident.
Wood Pigeon	An abundant resident and winter visitor.

5.3 Site Evaluation

5.3.1 A total of 18 BoCC Red listed species (24%), 16 BoCC Amber listed species (22%) species, which gives a combined total of 34 notably listed species (46%). In addition, 40 BoCC Green listed species (54%) have been identified across the site during the surveys.

5.3.2 Of the identified species, 15 are listed under UKBAP and NERC and 19 species are listed on the Local Biodiversity Action Plan for Durham under the following action plan categories:

- Barn Owl
- Farmland Birds
- Urban and Garden Wildlife
- Rivers and Streams
- Woodland and Scrub

5.3.3 The following Schedule 1 species, which are afforded higher protection during the breeding period, have been identified during the surveys to date: barn owl, brambling, redwing, and fieldfare. While barn owl has been recorded breeding on site, both

- redwing and fieldfare are only potential breeding species in the Scottish Highlands (rare).
- 5.3.4 In comparison, the WYG (2015) surveys identified six Schedule 1 species and a combined total of 36 BoCC Red and Amber listed species. More recently, Dendra (2018) recorded one Schedule 1 species and a combined total of 22 BoCC Red and Amber listed species.
- 5.3.5 Overall, 24% of the species recorded (including incidental sightings) are classified as Abundant, 25% are classified as Very Common, 38% are classified as Common, and 13% are classified as Uncommon within County Durham (Bowey and Newsome, 2012).
- 5.3.6 As expected, and in line with previous surveys, the majority of species recorded are associated with features, such as, hedgerows, scrub, woodland, grassland/rank vegetation, cover crops/stubble, water bodies, and in addition, a small number of species are associated with man-made structures.
- 5.3.7 Where the development has begun at IAMP 1, a noticeable decline in ground dwelling/foraging species has been noted. Grey partridge has been absent on or around the development area since October, when previously, they could be found in relatively moderate sized groups within the fields. Foraging finch flocks have also begun to desert the area as the development has progressed. Reduced activity in the surrounding field boundary vegetation may also be attributed to the more advanced stage of the development.
- 5.3.8 While some displacement of species was noted within the development area, as the winter period progressed into early breeding season, species such as skylark and lapwing were observed displaying above the works area and appeared to be tolerating aspects of the development to a certain degree.
- 5.3.9 In line with previous assessment by both WYG and Dendra and using the CIEEM and Fuller (1980) criteria, the site is considered to fall within County level of importance (see Section 3.3).

5.4 Recommendations and mitigation

- 5.4.1 Recommendations for mitigation have been discussed at length with Karen Devenney (Principal Ecologist, DWS) who is developing the ELMA reports. Proposals have been

diligently detailed within the ELMA reports; however, it is yet to be finalised and the most appropriate mitigation design is still in development.

- 5.4.2 Overall, mitigation proposals should seek to maintain the current identified species assemblage and abundance before mitigating to produce a net gain in species richness for the site. Approximately 46% of the identified species (2018-2019 data) are either red or amber listed birds of conservation concern; therefore, protecting these populations from decline is of significant conservation importance, both locally and regionally.
- 5.4.3 Due to the scale of the development area and the amount of habitat to be lost, species specific action plans, targeting at least the BAP and red listed species, should be developed to evaluate the impacts on these species and ensure appropriate mitigation measures are instigated.
- 5.4.4 The site is known to hold breeding and wintering populations of owls. These species are susceptible to displacement if vital habitat is lost or intolerable disturbance occurs. This can cause birds to leave the area entirely and leave territories unoccupied for several years or more. As a result, it is imperative that built structures and scrub/tree habitats have pre-works checks in both the breeding and wintering period.
- 5.4.5 Where possible, retention of built structures (e.g. outbuildings at Elliscope Farm) would be beneficial for the owl species (barn owl and little owl) currently using them, as adequately mitigating the loss of these features within the landscape will likely be difficult.
- 5.4.6 Typically, guidelines relating to barn owl do not recommend the installation of artificial features (nest boxes) within 1km of busy roads, particularly those with articulated lorry traffic. However, as the species is already present within the landscape and appears to be coping with the presence of main roads, the installation of nest boxes may be necessary to provide suitable mitigation for features lost during the development. The placement of these features should be considered, and they should be as far away from busy roads as possible.

- 5.4.7 Bird friendly farming practices should be encouraged within the ELMA areas. Consideration should be given to crop choice and harvesting times to benefit ground nesting species and the typical farm bird assemblages currently present on site. The RSPB and Game & Wildlife Trust advice sheets (available freely online) provide useful guidance on managing both the arable and grazed landscape for an array of species.
- 5.4.8 It is recommended that monitoring is undertaken for 10 years upon completion of ELMA to determine the success of the ELMA on the site's bird populations.

6.0 REFERENCES

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
WYG (2015) Wintering Bird Survey

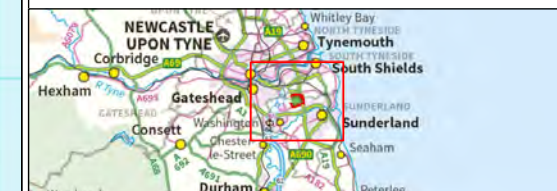
APPENDIX A

Figures

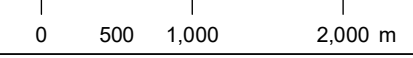


Map Legend

 Site boundary



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DWS
ECOLOGY

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DH4 6PU.
Tel: 01388 488885

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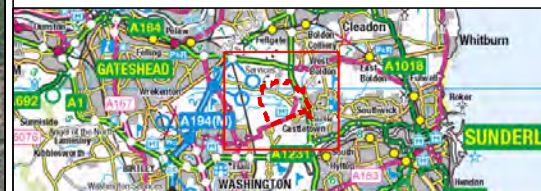
Figure 1: Site Location Plan

Date	Reviewer	Version	Scale	Size
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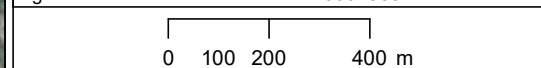


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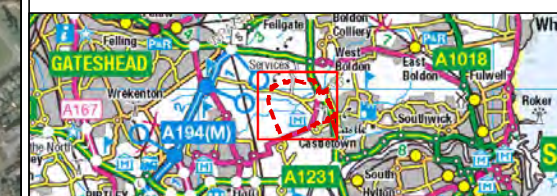
Figure 2: Site in Location to Surrounding Habitats

Date	Reviewer	Version	Scale	Size
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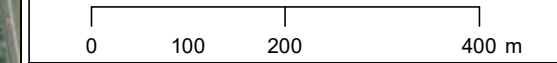


Map Legend

Site boundary



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Figure 3: Survey Extent

Date	Reviewer	Version	Scale	Size
21/01/19	SE	1.0	1:7,800	A3



Map Legend

- Site boundary
- Bird(s) - BoCC red listed species
- Bird(s) - BoCC amber listed species
- Bird(s) - BoCC green listed species

Additional Information:
 Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.
 Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

- BTO Species Codes and BoCC Classification:**
- | | |
|--|--|
| <p>BoCC Red</p> <ul style="list-style-type: none"> CU - Curlew FF - Fieldfare HG - Herring Gull HS - House Sparrow L - Lapwing LI - Linnet M - Mistle Thrush P - Grey Partridge RE - Redwing | <ul style="list-style-type: none"> S - Skylark SG - Starling ST - Song Thrush TS - Tree Sparrow WC - Whinchat WK - Woodcock WT - Willow Tit Y - Yellowhammer |
|--|--|

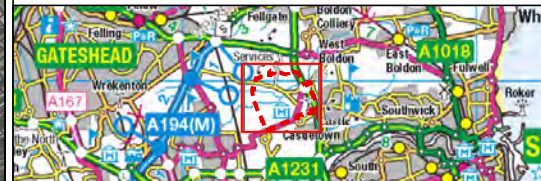
- | | |
|---|---|
| <p>BoCC Amber</p> <ul style="list-style-type: none"> BF - Bullfinch BH - Black-headed Gull D - Dunnock GB - Great Black-backed Gull GJ - Greylag Goose K - Kestrel MA - Mallard | <ul style="list-style-type: none"> MP - Meadow Pipit MS - Mute Swan PG - Pink-footed Goose RB - Reed Bunting SD - Stock Dove SN - Snipe |
|---|---|

- | | |
|--|--|
| <p>BoCC Green</p> <ul style="list-style-type: none"> B - Blackbird BC - Blackcap BL - Brambling BO - Barn Owl BT - Blue Tit BZ - Buzzard C - Carrion Crow CC - Chiffchaff CD - Collared Dove CG - Canada Goose CH - Chaffinch CO - Coot CT - Coal Tit DI - Dipper FP - Feral Pigeon G - Green Woodpecker GC - Goldcrest GO - Goldfinch GP - Golden Plover GR - Greenfinch | <ul style="list-style-type: none"> GS - Great Spotted Woodpecker GT - Great Tit H - Grey Heron J - Jay JD - Jackdaw LE - Long-eared Owl LO - Little Owl LT - Long-tailed Tit MG - Magpie MH - Moorhen PH - Pheasant PW - Pied Wagtail R - Robin RO - Rook SC - Stonechat SH - Sparrowhawk SL - Swallow TC - Treecreeper WP - Wood Pigeon WR - Wren |
|--|--|

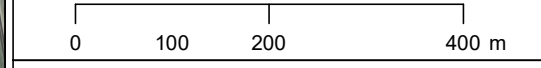
Survey Information:

September Visit 1
 Date - 17/09/18
 Survey period - 07:30 - 12:00
 Weather - Light breeze, 40% cloud cover, 17°C/15°C, dry.

September Visit 2
 Date - 24/09/18
 Survey period - 07:30 - 13:30
 Weather - Light breeze, clear, 7°C/3°C, dry.



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Figure 4:A Wintering Bird Survey Results - September 2018

Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3



Map Legend

- Site boundary
- Bird(s) - BoCC red listed species
- Bird(s) - BoCC amber listed species
- Bird(s) - BoCC green listed species

Additional Information:
 Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.

Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

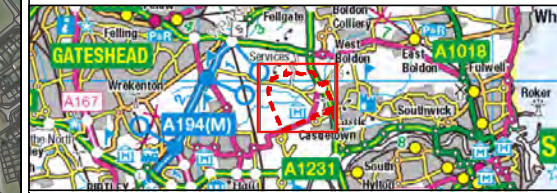
BTO Species Codes and BoCC Classification:

- | | |
|---|---|
| <p>BoCC Red</p> <ul style="list-style-type: none"> CU - Curlew FF - Fieldfare HG - Herring Gull HS - House Sparrow L - Lapwing LI - Linnet M - Mistle Thrush P - Grey Partridge RE - Redwing | <ul style="list-style-type: none"> S. - Skylark SG - Starling ST - Song Thrush TS - Tree Sparrow WC - Whinchat WK - Woodcock WT - Willow Tit Y. - Yellowhammer |
| <p>BoCC Amber</p> <ul style="list-style-type: none"> BF - Bullfinch BH - Black-headed Gull D. - Dunnock GB - Great Black-backed Gull GJ - Greylag Goose K - Kestrel MA - Mallard | <ul style="list-style-type: none"> MP - Meadow Pipit MS - Mute Swan PG - Pink-footed Goose RB - Reed Bunting SD - Stock Dove SN - Snipe |
| <p>BoCC Green</p> <ul style="list-style-type: none"> B. - Blackbird BC - Blackcap BL - Brambling BO - Barn Owl BT - Blue Tit BZ - Buzzard C. - Carrion Crow CC - Chiffchaff CD - Collared Dove CG - Canada Goose CH - Chaffinch CO - Coot CT - Coal Tit DI - Dipper FP - Feral Pigeon G. - Green Woodpecker GC - Goldcrest GO - Goldfinch GP - Golden Plover GR - Greenfinch | <ul style="list-style-type: none"> GS - Great Spotted Woodpecker GT - Great Tit H. - Grey Heron J. - Jay JD - Jackdaw LE - Long-eared Owl LO - Little Owl LT - Long-tailed Tit MG - Magpie MH - Moorhen PH - Pheasant PW - Pied Wagtail R. - Robin RO - Rook SC - Stonechat SH - Sparrowhawk SL - Swallow TC - Treecreeper WP - Wood Pigeon WR - Wren |

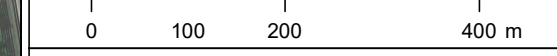
Survey Information:

October Visit 1
 Date - 17/10/18
 Survey period - 09:00 - 13:30
 Weather - Light breeze, 90% cloud cover, 12°C/16°C, dry.

October Visit 2
 Date - 19/10/18
 Survey period - 09:00 - 14:00
 Weather - Light breeze, 60% cloud cover, 8°C/12°C.



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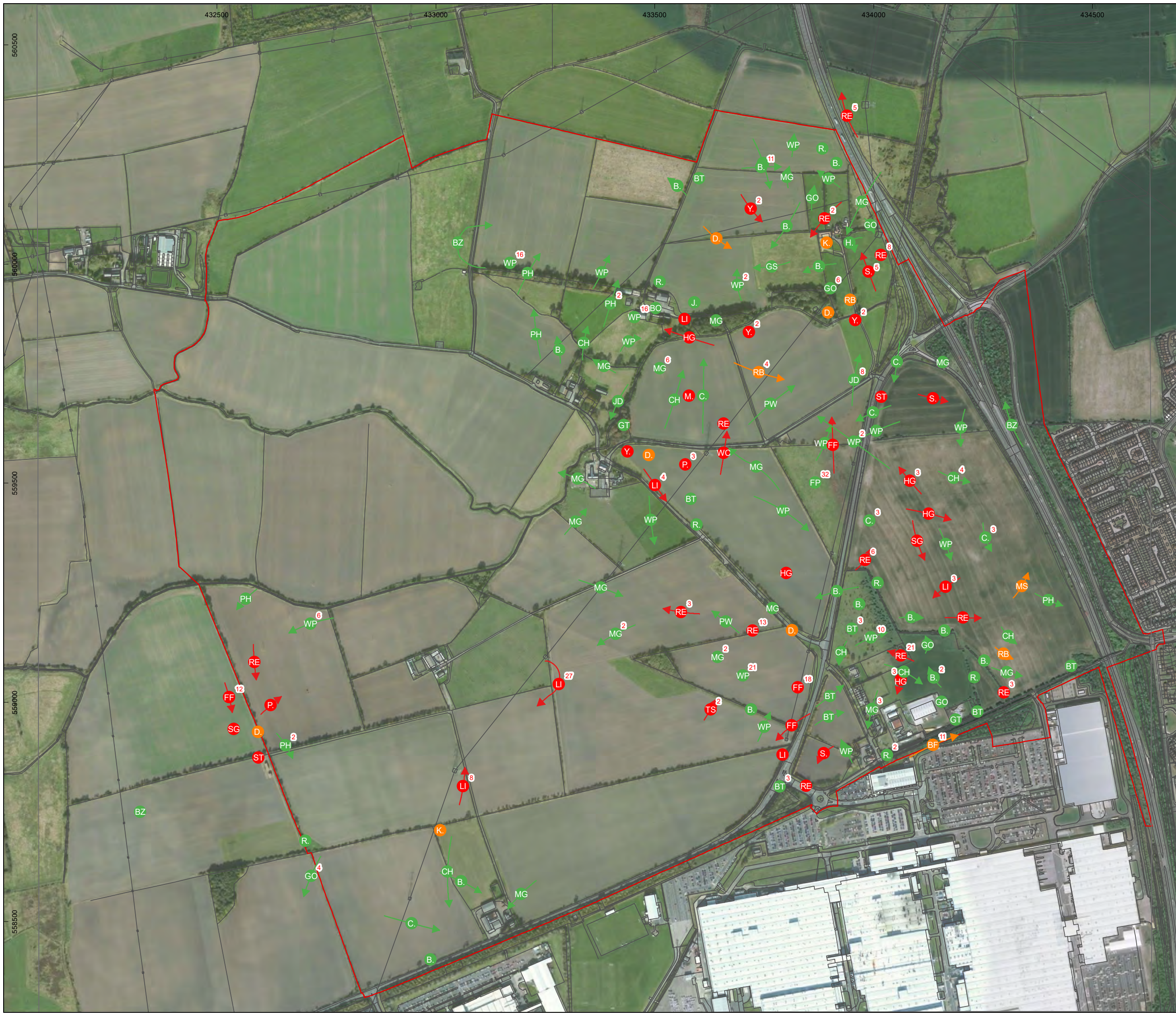


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Project INTERNATIONAL ADVANCED MANUFACTURING PARK

Figure 4:B Wintering Bird Survey Results - October 2018

Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3



Map Legend

- Site boundary
- Bird(s) - BoCC red listed species
- Bird(s) - BoCC amber listed species
- Bird(s) - BoCC green listed species

Additional Information:
Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.

Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

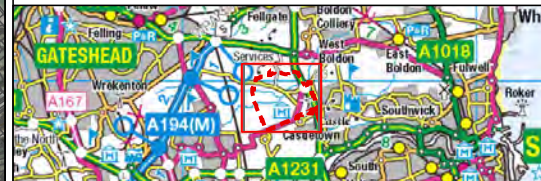
BTO Species Codes and BoCC Classification:

- | | |
|------------------------------|-------------------------------|
| BoCC Red | |
| CU - Curlew | S. - Skylark |
| FF - Fieldfare | SG - Starling |
| HG - Herring Gull | ST - Song Thrush |
| HS - House Sparrow | TS - Tree Sparrow |
| L. - Lapwing | WC - Whinchat |
| LI - Linnet | WK - Woodcock |
| M. - Mistle Thrush | WT - Willow Tit |
| P. - Grey Partridge | Y. - Yellowhammer |
| RE - Redwing | |
| BoCC Amber | |
| BF - Bullfinch | MP - Meadow Pipit |
| BH - Black-headed Gull | MS - Mute Swan |
| D. - Dunnock | PG - Pink-footed Goose |
| GB - Great Black-backed Gull | RB - Reed Bunting |
| GJ - Greylag Goose | SD - Stock Dove |
| K. - Kestrel | SN - Snipe |
| MA - Mallard | |
| BoCC Green | |
| B. - Blackbird | GS - Great Spotted Woodpecker |
| BC - Blackcap | GT - Great Tit |
| BL - Brambling | H. - Grey Heron |
| BO - Barn Owl | J. - Jay |
| BT - Blue Tit | JD - Jackdaw |
| BZ - Buzzard | LE - Long-eared Owl |
| C. - Carrion Crow | LO - Little Owl |
| CC - Chiffchaff | LT - Long-tailed Tit |
| CD - Collared Dove | MG - Magpie |
| CG - Canada Goose | MH - Moorhen |
| CH - Chaffinch | PH - Pheasant |
| CO - Coot | PW - Pied Wagtail |
| CT - Coal Tit | R. - Robin |
| DI - Dipper | RO - Rook |
| FP - Feral Pigeon | SC - Stonechat |
| G. - Green Woodpecker | SH - Sparrowhawk |
| GC - Goldcrest | SL - Swallow |
| GO - Goldfinch | TC - Treecreeper |
| GP - Golden Plover | WP - Wood Pigeon |
| GR - Greenfinch | WR - Wren |

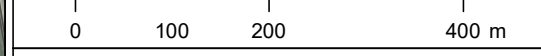
Survey Information:

November Visit 1
Date - 27/11/18
Survey period - 10:15 - 16:30
Weather - Mod breeze, 50% cloud cover, 6°C.

November Visit 2
Date - 30/11/18
Survey period - 10:00 - 15:00
Weather - Mod breeze, 80% cloud cover, 8°C/7°C.



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Figure 4:C Wintering Bird Survey Results - November 2018

Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3



Map Legend

	Site boundary
	Bird(s) - BoCC red listed species
	Bird(s) - BoCC amber listed species
	Bird(s) - BoCC green listed species

Additional Information:
Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.

Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

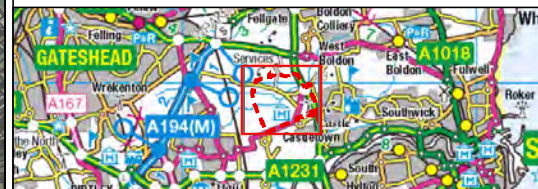
BTO Species Codes and BoCC Classification:

BoCC Red	
CU - Curlew	S. - Skylark
FF - Fieldfare	SG - Starling
HG - Herring Gull	ST - Song Thrush
HS - House Sparrow	TS - Tree Sparrow
L. - Lapwing	WC - Whinchat
LI - Linnet	WK - Woodcock
M. - Mistle Thrush	WT - Willow Tit
P. - Grey Partridge	Y. - Yellowhammer
RE - Redwing	
BoCC Amber	
BF - Bullfinch	MP - Meadow Pipit
BH - Black-headed Gull	MS - Mute Swan
D. - Dunnock	PG - Pink-footed Goose
GB - Great Black-backed Gull	RB - Reed Bunting
GJ - Greylag Goose	SD - Stock Dove
K. - Kestrel	SN - Snipe
MA - Mallard	
BoCC Green	
B. - Blackbird	GS - Great Spotted Woodpecker
BC - Blackcap	GT - Great Tit
BL - Brambling	H. - Grey Heron
BO - Barn Owl	J. - Jay
BT - Blue Tit	JD - Jackdaw
BZ - Buzzard	LE - Long-eared Owl
C. - Carrion Crow	LO - Little Owl
CC - Chiffchaff	LT - Long-tailed Tit
CD - Collared Dove	MG - Magpie
CG - Canada Goose	MH - Moorhen
CH - Chaffinch	PH - Pheasant
CO - Coot	PW - Pied Wagtail
CT - Coal Tit	R. - Robin
DI - Dipper	RO - Rook
FP - Feral Pigeon	SC - Stonechat
G. - Green Woodpecker	SH - Sparrowhawk
GC - Goldcrest	SL - Swallow
GO - Goldfinch	TC - Treecreeper
GP - Golden Plover	WP - Wood Pigeon
GR - Greenfinch	WR - Wren

Survey Information:

December Visit 1
Date - 14/12/18
Survey period - 10:00 - 15:30
Weather - Very light breeze, 10% cloud cover, 4°C.

December Visit 2
Date - 19/12/18
Survey period - 09:30 - 14:45
Weather - Light breeze, 30% cloud cover, 5°C.



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Rainton Meadows,
Chilton Moor,
Houghton-le-Spring,
Tyne and Wear.
DH4 6PU.
Tel: 01388 488885

Project	INTERNATIONAL ADVANCED MANUFACTURING PARK			
Figure	4:D Wintering Bird Survey Results - December 2018			
Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3



Map Legend

[Red Line]	Site boundary
[Red Arrow]	Bird(s) - BoCC red listed species
[Orange Arrow]	Bird(s) - BoCC amber listed species
[Green Arrow]	Bird(s) - BoCC green listed species

Additional Information:
 Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.

Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

BTO Species Codes and BoCC Classification:

BoCC Red	S. - Skylark
CU - Curlew	SG - Starling
FF - Fieldfare	ST - Song Thrush
HG - Herring Gull	TS - Tree Sparrow
HS - House Sparrow	WC - Whinchat
L. - Lapwing	WK - Woodcock
LI - Linnet	WT - Willow Tit
M. - Mistle Thrush	Y. - Yellowhammer
P. - Grey Partridge	
RE - Redwing	

BoCC Amber

BF - Bullfinch	MP - Meadow Pipit
BH - Black-headed Gull	MS - Mute Swan
D. - Dunnock	PG - Pink-footed Goose
GB - Great Black-backed Gull	RB - Reed Bunting
GJ - Greylag Goose	SD - Stock Dove
K. - Kestrel	SN - Snipe
MA - Mallard	

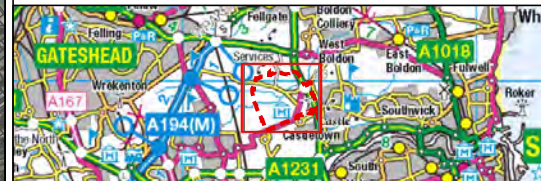
BoCC Green

B. - Blackbird	GS - Great Spotted Woodpecker
BC - Blackcap	GT - Great Tit
BL - Brambling	H. - Grey Heron
BO - Barn Owl	J. - Jay
BT - Blue Tit	JD - Jackdaw
BZ - Buzzard	LE - Long-eared Owl
C. - Carrion Crow	LO - Little Owl
CC - Chiffchaff	LT - Long-tailed Tit
CD - Collared Dove	MG - Magpie
CG - Canada Goose	MH - Moorhen
CH - Chaffinch	PH - Pheasant
CO - Coot	PW - Pied Wagtail
CT - Coal Tit	R. - Robin
DI - Dipper	RO - Rook
FP - Feral Pigeon	SC - Stonechat
G. - Green Woodpecker	SH - Sparrowhawk
GC - Goldcrest	SL - Swallow
GO - Goldfinch	TC - Treecreeper
GP - Golden Plover	WP - Wood Pigeon
GR - Greenfinch	WR - Wren

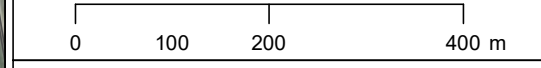
Survey Information:

January Visit 1
 Date - 18/01/19
 Survey period - 08:30 - 16:00
 Weather - Light breeze, 20% cloud cover, -1.5°C.

January Visit 2
 Date - 24/01/09
 Survey period - 09:00 - 11:00
 Weather - Very light breeze, 90% cloud cover, -2°C/1.5°C.



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DWS ECOLOGY
 Rainton Meadows,
 Chilton Moor,
 Houghton-le-Spring,
 Tyne and Wear,
 DH4 6PU.
 Tel: 01388 488885

Project INTERNATIONAL ADVANCED MANUFACTURING PARK

Figure 4:E Wintering Bird Survey Results - January 2019

Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3



Map Legend

- Site boundary
- Bird(s) - BoCC red listed species
- Bird(s) - BoCC amber listed species
- Bird(s) - BoCC green listed species

Additional Information:
 Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.
 Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

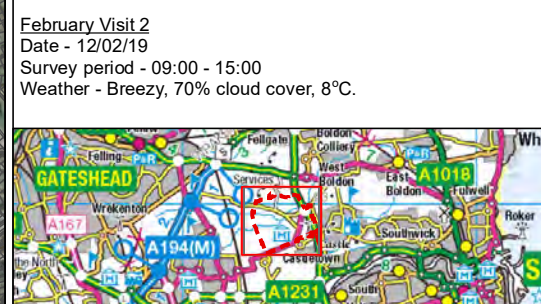
BTO Species Codes and BoCC Classification:

<p>BoCC Red</p> <ul style="list-style-type: none"> CU - Curlew FF - Fieldfare HG - Herring Gull HS - House Sparrow L - Lapwing LI - Linnet M - Mistle Thrush P - Grey Partridge RE - Redwing <p>BoCC Amber</p> <ul style="list-style-type: none"> BF - Bullfinch BH - Black-headed Gull D - Dunnock GB - Great Black-backed Gull GJ - Greylag Goose K - Kestrel MA - Mallard <p>BoCC Green</p> <ul style="list-style-type: none"> B - Blackbird BC - Blackcap BL - Brambling BO - Barn Owl BT - Blue Tit BZ - Buzzard C - Carrion Crow CC - Chiffchaff CD - Collared Dove CG - Canada Goose CH - Chaffinch CO - Coot CT - Coal Tit DI - Dipper FP - Feral Pigeon G - Green Woodpecker GC - Goldcrest GO - Goldfinch GP - Golden Plover GR - Greenfinch 	<ul style="list-style-type: none"> S - Skylark SG - Starling ST - Song Thrush TS - Tree Sparrow WC - Whinchat WK - Woodcock WT - Willow Tit Y - Yellowhammer <ul style="list-style-type: none"> MP - Meadow Pipit MS - Mute Swan PG - Pink-footed Goose RB - Reed Bunting SD - Stock Dove SN - Snipe <ul style="list-style-type: none"> GS - Great Spotted Woodpecker GT - Great Tit H - Grey Heron J - Jay JD - Jackdaw LE - Long-eared Owl LO - Little Owl LT - Long-tailed Tit MG - Magpie MH - Moorhen PH - Pheasant PW - Pied Wagtail R - Robin RO - Rook SC - Stonechat SH - Sparrowhawk SL - Swallow TC - Treecreeper WP - Wood Pigeon WR - Wren
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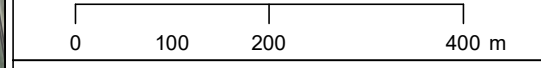
Survey Information:

February Visit 1
 Date - 11/02/19
 Survey period - 08:30 - 15:00
 Weather - Light breeze, 20% cloud cover, 4°C.

February Visit 2
 Date - 12/02/19
 Survey period - 09:00 - 15:00
 Weather - Breezy, 70% cloud cover, 8°C.



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DWS ECOLOGY
 Rainton Meadows,
 Chilton Moor,
 Houghton-le-Spring,
 Tyne and Wear.
 DH4 6PU.
 Tel: 01388 488885

Project	INTERNATIONAL ADVANCED MANUFACTURING PARK			
Figure	4:F Wintering Bird Survey Results - February 2019			
Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3



Map Legend

- Site boundary
- Bird(s) - BoCC red listed species
- Bird(s) - BoCC amber listed species
- Bird(s) - BoCC green listed species

Additional Information:
Letter codes within each circle refer to the corresponding BTO reference code and coloured according to their status.

Where more than one bird is observed then the size of the flock is indicated in red text alongside the record.

BTO Species Codes and BoCC Classification:

- | | |
|---------------------|-------------------|
| BoCC Red | S. - Skylark |
| CU - Curlew | SG - Starling |
| FF - Fieldfare | ST - Song Thrush |
| HG - Herring Gull | TS - Tree Sparrow |
| HS - House Sparrow | WC - Whinchat |
| L. - Lapwing | WK - Woodcock |
| LI - Linnet | WT - Willow Tit |
| M. - Mistle Thrush | Y. - Yellowhammer |
| P. - Grey Partridge | |
| RE - Redwing | |

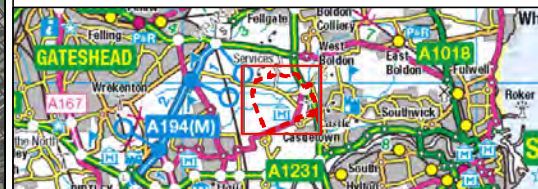
- | | |
|------------------------------|------------------------|
| BoCC Amber | MP - Meadow Pipit |
| BF - Bullfinch | MS - Mute Swan |
| BH - Black-headed Gull | PG - Pink-footed Goose |
| D. - Duncock | RB - Reed Bunting |
| GB - Great Black-backed Gull | SD - Stock Dove |
| GJ - Greylag Goose | SN - Snipe |
| K. - Kestrel | |
| MA - Mallard | |

- | | |
|-----------------------|-------------------------------|
| BoCC Green | GS - Great Spotted Woodpecker |
| B. - Blackbird | GT - Great Tit |
| BC - Blackcap | H. - Grey Heron |
| BL - Brambling | J. - Jay |
| BO - Barn Owl | JD - Jackdaw |
| BT - Blue Tit | LE - Long-eared Owl |
| BZ - Buzzard | LO - Little Owl |
| C. - Carrion Crow | LT - Long-tailed Tit |
| CC - Chiffchaff | MG - Magpie |
| CD - Collared Dove | MH - Moorhen |
| CG - Canada Goose | PH - Pheasant |
| CH - Chaffinch | PW - Pied Wagtail |
| CO - Coot | R. - Robin |
| CT - Coal Tit | RO - Rook |
| DI - Dipper | SC - Stonechat |
| F. - Feral Pigeon | SH - Sparrowhawk |
| G. - Green Woodpecker | SL - Swallow |
| GC - Goldcrest | TC - Treecreeper |
| GO - Goldfinch | WP - Wood Pigeon |
| GP - Golden Plover | WR - Wren |
| GR - Greenfinch | |

Survey Information:

March Visit 1
Date - 18/03/19
Survey period - 08:45 - 13:45
Weather - Light moderate breeze, 20% cloud cover, 5°C/10°C, dry.

March Visit 2
Date - 19/03/19
Survey period - 09:00 - 14:00
Weather - Light breeze, 70% cloud cover, 8°C/13°C, dry.



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Project	INTERNATIONAL ADVANCED MANUFACTURING PARK			
Figure	4:G Wintering Bird Survey Results - March 2019			
Date	Reviewer	Version	Scale	Size
02/05/19	SE	1.3	1:7,800	A3

APPENDIX B
Report Conditions

Durham Wildlife Services

REPORT CONDITIONS IAMP

This report is produced solely for the benefit of IAMP LLP and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Durham Wildlife Services. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Durham Wildlife Services using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary, and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted, and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to Durham Wildlife Services by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted, or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design

and specifications and the quality of workmanship and compliance with the specifications on site during construction. Durham Wildlife Services accept no liability for issues with performance arising from such factors

February 2008