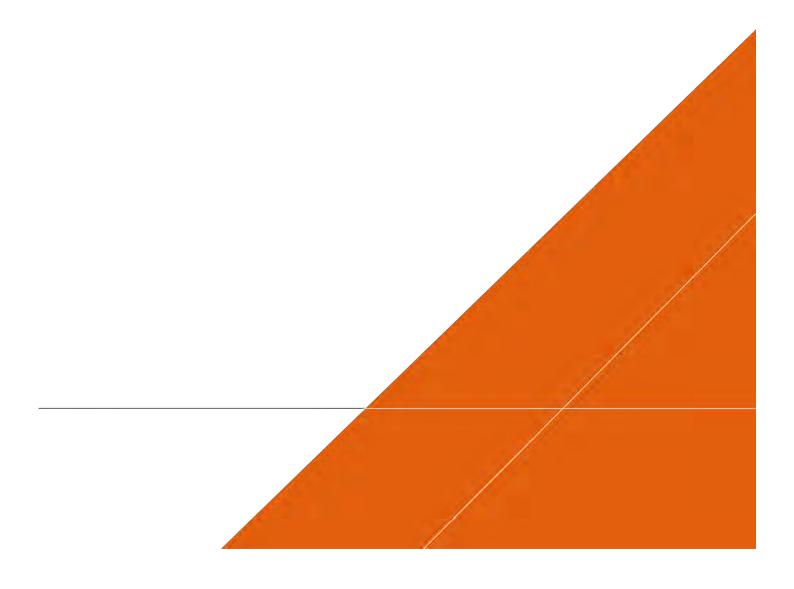


OTTERPOOL PARK

Environmental Statement (ES) Appendix 7.16: Wintering Bird Survey Report – Update to include 2019 and 2020 Survey Data

MARCH 2022



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APPENDICES

APPENDIX A: WINTERING BIRD SURVEY VISIT DETAILS

APPENDIX B: WINTERING BIRD SURVEYS - RESULTS

APPENDIX C: BTO CODES UTILISED IN MAPPING

APPENDIX D: PEN PORTRAITS OF KEY SURVEYORS

Executive Summary

Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake surveys for wintering bird species to inform an Environmental Impact Assessment (EIA) for a proposed new development and accompany an outline planning application. The proposed development is 'Otterpool Park', a garden settlement located within Folkestone, Kent. The development area has been identified as an 'area of search'; hereafter, the area of search is referred to as "the site".

The site is located within Folkestone, Kent within the administrative boundary of Folkestone and Hythe District Council (F&HDC) and spans a large area located immediately south of Junction 11 of the M20. The site is largely agricultural in nature with the majority of the site comprising arable and pasture fields, a disused horseracing course with an artificial lake ('Folkestone Racecourse Lake'), areas modified from historical use (airfields), existing historic settlements and relatively new industrial areas. The site area encompasses the proposed Otterpool Park Area Development application site and is approximately 589 ha.

This report presents the results of habitat assessments conducted between 2016 and 2021 and wintering bird surveys undertaken by Arcadis over the winter season of 2016/2017, with an additional visit in November 2019 and update surveys in 2020. It also outlines the ecological constraints and opportunities associated with the site with regards to legislation and policy and provides mitigation and enhancement opportunities to be included within the masterplan and informs the associated EIA and mitigation proposals.

Wintering bird surveys were undertaken on a monthly basis in the winter season of 2016 and 2017. These revealed that the site supported a varied assemblage of wintering birds, a total of 69 species were recorded. Thirty of these were considered notable. On average, around 2,500 birds were recorded on each of the eight surveys. The assemblage of birds recorded was not overly notable, it was largely what would be expected on a farmland site such as the proposed Otterpool Park site.

An additional survey was undertaken in November 2019, to update the validity of the survey. This recorded 49 species, of which 22 were notable with one species (raven) that had not been recorded in the previous surveys, bringing the total number of recorded species during all surveys to 70.

The habitat assessment conducted in 2019 identified no significant changes likely to greatly impact upon the populations of birds supported by the site (when compared to the 2016 and 2018 assessments). This was supported by the results of the surveys, which did not identify any additional notable species (one extra species, raven was identified, which is not considered notable).

Update surveys over two days in December 2020 recorded a total of 59 species, 32 of these were considered notable. Five additional species were recorded that had not been identified during previous surveys: firecrest, cormorant, little grebe, lapwing and pochard, these are all notable with the exception of firecrest. Three species recorded peak counts higher than previous surveys: skylark, stock dove and kestrel. The 2020 surveys brought the total number of species recorded over all surveys to 77.

Habitat assessment carried out in 2020 did not record any significant changes when compared to previous years' assessments.

Overall, the results of the 2019 and 2020 update surveys resulted in the conclusion that:

- No further breeding bird surveys are required to inform a 2021 resubmission of the ES;
- The valuations utilised in the 2019 submission are considered to be valid, with no evidence of any species or groups increasing in value.

i

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Overall, it is considered that impacts on some wintering bird species would be mitigated within the proposed development. A variety of valuable features would be retained within the masterplan, and new features of value to wintering birds would be created.

However, impacts on wintering farmland birds, gulls, thrushes and barn owls cannot be mitigated fully within the development. There is scope to adequately mitigate for these species through off-site mitigation. A proposal for the implementation of the off-site mitigation has been provided; this should be reviewed and modified to suit policy and likely practical implementation at the detailed design stage.

1 Introduction

1.1 Overview

- 1.1.1 Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake surveys for wintering bird species to inform an Environmental Impact Assessment (EIA) for the proposed new development and accompany an outline planning application. The proposed development is 'Otterpool Park', a garden settlement located within Folkestone, Kent. The development area has been identified as an 'area of search'; hereafter, the area of search is referred to as "the site".
- 1.1.2 This report presents the results of habitat assessments conducted between 2016 and 2021 and wintering bird surveys undertaken by Arcadis over the winter season of 2016/2017, with an additional visit in November 2019 and update surveys in 2020. It also outlines the ecological constraints and opportunities associated with the site with regards to legislation and policy and provides mitigation and enhancement opportunities to be included within the masterplan and informs the associated EIA and mitigation proposals.

1.2 Site Location & Setting

- 1.2.1 The site is located within Folkestone, Kent within the administrative boundary of Folkestone and Hythe District Council (F&HDC) and spans a large area located immediately south of Junction 11 of the M20. The site is largely agricultural in nature with the majority of the site comprising arable and pasture fields, a disused horseracing course with an artificial lake ('Folkestone Racecourse Lake'), areas modified from historical use (airfields), existing historic settlements and relatively new industrial areas.
- 1.2.2 The M20 motorway, Channel Tunnel Rail Link and Westenhanger Station are located to the north of the site, beyond which lie the villages of Stanford and Postling within a largely rural setting including the Kent Downs Area of Outstanding Natural Beauty (AONB). This AONB extends to the east, beyond which lies the town of Hythe, and to the south where it includes Lympne village. The site also includes the settlements of Barrowhill, Sellindge, Westenhanger and Newingreen. Lympne Industrial Park and some areas of woodland are located immediately south of the site. In addition, East Stour River flows through the site in a north-east to west direction. The site is centred on Ordnance Survey Grid Reference (OSGR) TR 111 363.
- 1.2.3 An aerial image illustrating the site surveyed is presented in Image 1.



Image 1: Aerial imagery of the site

1.3 Proposed Development

1.3.1 The proposed Otterpool Park Area Development is located on approximately 589 ha of land as shown in Figure 1. The planning application seeks permission for a new garden settlement accommodating up to 8,500 homes (Use Classes C2 and C3) and Use Class E, F, B2, C1, Sui Generis development, including use of retained buildings as identified, with related infrastructure, highway works, green and blue infrastructure, with access, appearance, landscaping, layout and scale matters to be reserved. A summary of the maximum floorspace areas for each land use type is provided in Chapter 4 of the Environmental Statement (ES).

1.4 Overview of Bird Biology

- 1.4.1 Within the UK, it is estimated that 247 bird species are regularly recorded and are assessed within the Birds of Conservation Concern (BoCC) surveys and assessments. However, the biology of these species varies greatly, and these species can be split into four broad categories:
 - Resident birds, which spend the entire year within the UK;
 - Summer visitors who usually breed within the UK;
 - Winter visitors, who breed elsewhere and migrate to the UK for winter;
 - Passage migrants, which visit at certain times of year, particularly, spring and autumn.
- 1.4.2 However, it must be noted that the assemblage of birds within areas of the UK varies, dependent upon the habitats present and climate.
- 1.4.3 In addition, the habitats utilised by different bird species vary greatly, dependent upon the breeding habits, feeding resources utilised and lifecycle of each species. Considering the habitats present within the site, the key bird groups which were considered and surveyed were:
 - Breeding farmland birds (reported in a separate report);
 - Breeding woodland birds (reported in a separate report);
 - Breeding birds associated with the riparian and other aquatic areas of the site (reported in a separate report);
 - Wintering birds foraging on the farmland and present within the woodland;
 - Wintering birds associated with the aquatic features on the site.
- 1.4.4 For details of the breeding bird surveys conducted on the site, please refer to the associated report (ES Appendix 7.15).

1.5 Applicable Bird Legislation and Policy

- 1.5.1 The following legislation is concerning bird species is relevant to this breeding bird baseline:
- 1.5.2 In the UK, all wild bird species and their eggs are protected when nesting by law under Section 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended) (HMSO 1981). In addition, there are several pieces of legislation or policy which afford certain species extra legal protection, or emphasise their conservation importance, as outlined below:
 - Species that have additional protections when breeding under Schedule 1 Part 1 of the WCA.
 - Species of Principal Importance listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act (HMSO 2006)

1.6 Conservation Status

General bird conservation

- 1.6.1 It is difficult to place an overall trend on bird conservation status, as the large number of species within the UK each have varying requirements and whilst some are adversely impacted by changes in management, development and climate change, others benefit. However, reviewing the overall status of the UK's birds can be achieved by reviewing the BoCC list gives an indication of the status of birds known to be resident in the UK (the 2015 list is most relevant to this report, Eaton et al 2015).
- 1.6.2 Species that are of high nature conservation concern, listed as 'Red-List' and 'Amber-list' on the Royal Society for the Protection of Birds (RSPB) list of Birds of Conservation Concern (BoCC). This non-legislative system was derived from the review of the population status of bird species that are regularly found breeding within the United Kingdom, using data from national monitoring schemes by the leading governmental and non-governmental conservation organisations in the UK. A brief outline of the traffic light criteria (Red, Amber, Green) is given below in Table 1.

Table 1: Outline of BoCC traffic light criteria

Criteria	Status
	Globally threatened
Red	Historical population decline in UK during 1800–1995
	Rapid (> or =50%) decline in UK breeding population over last 25 years Rapid (> or =50%) contraction of UK breeding range over last 25 years
	Moderate (25-49%) decline in UK breeding population over last 25 years
	Moderate (25-49%) contraction of UK breeding range over last 25 years
	Moderate (25-49%) decline in UK non-breeding population over last 25 years
	Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern)
Amber	Five-year mean of 1–300 breeding pairs in UK
	> or =50% of UK breeding population in 10 or fewer sites, but not rare breeders
	> or =50% of UK non-breeding population in 10 or fewer sites
	> or =20% of European breeding population in UK
	> or =20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in UK
Green	No identified threat to the population's status

1.6.3 In 2015, of the 247 species considered, 67 species were on the red list, 96 were on the amber list and were on the green list (for an explanation of the categories refer to Table 1). Overall, although there was an increase of birds species on the 'green list', there was also an increase in species on the 'red list' (an increase of 15 species since 2009). This is indicative of an overall negative trend in the status of bird populations overall in the UK. This trend appears to be a continuous trend since the first survey was conducted in 1996.

Farmland bird conservation

- 1.6.4 Farmland birds have undergone a significant decline in numbers since 1950. The RSPB farmland bird indicator (RSPB 2018) suggests that farmland bird numbers may have declined by 48 percent between 1970 and 2007 and declined by 9% between 2010 and 2015. The turtle dove (*Streptopelia turtur*), grey partridge (*Perdix perdix*), corn bunting (*Emberiza calandra*) and tree sparrow (*Passer montanus*) have declined by more than 80%
- 1.6.5 It is considered that this decline is not solely due to loss of farmland, but primarily due to intensification of farming, loss of hedgerows and changes in farming practices (such as the loss of field margins and increasing planting of winter sown crops, which reduce the availability of feeding resources over winter).

Woodland bird conservation

1.6.6 Woodland birds are calculated to have declined by up to 23% between 1970 and 2015 (Haydow et al 2017). There are more birds of woodland habitats on the BoCC red list than of any other habitat. There are potentially multiple causes for this decline, from a loss of habitat, climate change and changes in management within woodlands.

Water and wetland bird conservation

1.6.7 Wetland bird populations overall are estimated to have declined by 8% between 1975 and 2015. The causes of this decline are many and varied, largely due to the extremely variable nature of the biology of the individual species in this group. Causes of decline may result from persecution across the species range (particularly for migratory species), changes in habitats (from different management, climate change, development) and changes in availability of feeding resources. Overall, it appears that generalist species (i.e. those which do not have specific habitat or feeding resources are not declining or declining less than more specialist species. There is also potential that declines may be accounted for by fewer species migrating to the UK due to climate change.

2 Approach and Methodology

2.1 Survey Proportionality and Design

- 2.1.1 The purpose of the wintering bird surveys was multifaceted namely to:
 - Inform design so that impacts to birds could be minimised;
 - Inform the requirement for habitats and features specifically required for birds to be incorporated within the masterplan;
 - Allow suitable buffer areas to be identified within the masterplan.
- 2.1.2 In addition, the surveys were conducted to inform the EIA for the Otterpool Park project. The surveys were designed to:
 - Allow the value of the wintering bird assemblage on site and associated with the site to be assessed;
 - Determine the requirement for mitigation to be specified with the EIA;
 - Determine the likely impact upon the wintering bird assemblage and population (once the mitigation proposed is applied);
 - Determine the likelihood of the site being associated as 'functionally linked land' with nearby designated sites;
 - Calculate any requirement for off-site mitigation / offsetting.
- 2.1.3 Initial wintering bird surveys were undertaken during the winter period of 2016 and 2017. The results and an assessment of the data obtained was reported in 2019 in support of an outline planning application. Subsequently, in order to assess the continued validity of the results and assessment, an update survey was conducted in November 2019. The results of this survey were compared to the 2016–2017 results to assess the validity of the assessment informed by the 2016–2017 surveys. Further update surveys were undertaken in 2020. This report contains the data and assessments from the 2016–2017, 2019 and 2020 update survey.
- 2.1.4 Further surveys may be required at a later stage of the planning process. Where this is the case, this is identified within this report in section 6.

2.2 Desk Study

- 2.2.1 A desk study was undertaken to review existing information. Information was provided by the Kent and Medway Biological Records Centre (KMBRC) for birds recorded over winter within a 2km radius of the site as recommended in the Institute of Environmental Assessment's 'Guidelines for Baseline Ecological Assessment' (1997) and CIEEM's (Chartered Institute of Ecology and Environmental Management) Guidelines for Preliminary Ecological Appraisal (2013 revision).
- 2.2.2 Desk study data was initially obtained from a preliminary ecology report by White Young Green (WYG 2016) containing data from KMBRC to scope the surveys. This data was subsequently updated in March 2018, again utilising data from KMBRC (presented in full in ES Appendix 7.5).
- 2.2.3 Subsequently more detailed bird data (including breeding status and location) was obtained from KMBRC in September 2018. This data is not reproduced due to its sensitivity.
- 2.2.4 A further update was undertaken in April 2020, with no additional records of wintering birds reported in the data received from KMBRC.
- 2.2.5 In addition, 'Magic' mapping was consulted for all statutory designated sites which are present within 10km of the site and are designated for their bird value. Magic mapping data

was also used to identify areas of farmland within the site which are under Higher Level Stewardship.

2.2.6 Results are presented in Section 3.

2.3 Habitat Assessment

Initial habitat assessment

2.3.1 In order to inform the survey design, a habitat assessment was undertaken to identify habitats and areas likely to be of value for birds. This assessment was undertaken on 4, 5 and 6 October 2016 by Arcadis ecologists Guy Stone and Brandon Murray, combined with a Phase 1 habitat survey. During this survey, key habitat areas, including likely nesting, breeding and foraging areas were identified. These assessments were utilised to design and scope the wintering bird surveys.

Update assessment 2018

2.3.2 Prior to reporting, an update habitat assessment to determine if the condition of the site had changed significantly was conducted. This walkover was conducted concurrent with an invertebrate scoping survey on 8 August 2018 by Principal Ecologist Brandon Murray.

Update assessment 2019

2.3.3 A further update habitat assessment to determine changes in the condition of the site was performed in 2019. This assessment was conducted by David Darrell Lambert concurrent with the wintering bird survey on 28 November 2019.

Update assessment 2020

2.3.4 Update habitat assessment surveys in 2020 were undertaken as part of other scheduled species surveys in addition to wintering bird surveys. Due to the Covid-19 pandemic, survey scope was greatly impacted and had to be altered to what was safe and practical to achieve, reducing the survey area re-assessed.

2.4 Field Survey

Wintering bird field survey

- 2.4.1 The survey work consisted of walked transect surveys, according to methods adapted from Gilbert et al. (1998). Surveys were carried out by suitably experienced bird surveyors: David Darrell-Lambert (>19 years of bird survey experience), Ewan Gibson (BSc, GradCIEEM) and Rob Regan (BSC, MSc, Qualifying CIEEM) (see Appendix D).
- 2.4.2 Surveys were undertaken between November 2016 and February 2017 (inclusive). Surveys were undertaken twice a month, normally with a two-week gap between surveys. Each of the two survey visits undertaken approximately within a month comprised one dawn and one daytime survey (ending at dusk). The surveys were timed to take place across a variety of weather conditions in an attempt to obtain a representative picture of bird numbers and activity.
- 2.4.3 Transects were walked at a constant pace and birds seen or heard were identified and counted. All bird species were mapped and recorded using standard British Trust for Ornithology (BTO) species and behaviour codes (BTO species codes are presented in Appendix C). The data was recorded digitally on hand-held tablets with mobile GIS and GPS capability. Each surveyor started from a different location on site in order to better cover the entire site within a reasonable amount of time, a location which was varied for

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- each visit to ensure that all parts of the site were surveyed (transect passed within 100m) at varying times of day.
- 2.4.4 Audio surveys were undertaken after each dusk transect survey in locations where surveyors were most likely to hear golden plover (*Pluvialis apricaria*) calls, for a period of 30 minutes after sunset.
- 2.4.5 A follow up survey was undertaken in November 2019. This survey followed the same transect based methodology but did not include audio surveys for golden plover. This survey was carried out by David Darrell-Lambert and Rob Regan (BSc, MSc, qualifying CIEEM) on 28 November 2019.
- 2.4.6 2020 surveys were undertaken by David Darrell-Lambert and comprised two walkover surveys of different parts of the site on 21 and 22 December 2020.

2.5 Data Analysis and Handling

2.5.1 The winter bird data was analysed alongside the breeding bird survey data collected from the site. For a small number of species, observations recorded early in the breeding bird surveys (the March surveys) were assessed as largely being wintering birds (i.e. not resident or breeders in the UK and / or displaying wintering behaviour). This was supported by the fact that the weather in March 2017 was unseasonably cold. As such, these records are analysed within this report, and were omitted from the overall analysis of the breeding bird survey data (although the results are presented for transparency). The methodology for the collection of this data is presented in ES Appendix 7.15. These results are not fully combined with the wintering bird data as the survey methodology differed slightly. Results from this survey are presented in Figure 5.

2.6 Survey Limitations

Desk study

2.6.1 Desk study records do not constitute a full list of the species which are present within an area. The absence of a record does not necessarily demonstrate the absence of a species.

Habitat assessment

- 2.6.2 During the habitat assessment conducted in 2016, it was not possible to access all of the site due to access restrictions. The habitat assessment was updated throughout late 2016 and early 2017. It is considered that the access obtained was sufficient to adequately scope and plan the wintering bird surveys.
- 2.6.3 Access for the additional survey conducted in August 2018 and November 2019 was sufficient to allow key changes to the habitats on site to be identified.

Wintering bird field survey

2.6.4 On some occasions during 2016 - 2017, the survey was undertaken by a single surveyor. On this occasion, the most experienced surveyor (David Darrell-Lambert) worked alone. Surveys were subject to land access restrictions at various times, meaning that for some areas it was not possible to survey every visit. This also resulted in the routes walked varying for different visits, due to varying access to different areas; where possible, the surveyors observed these areas of restricted access from adjacent areas. Nevertheless, a high percentage site coverage was achieved on all survey visits, and the large amount of survey effort conducted ensures that the results of the survey are valid and suitable for making conclusions.

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2.6.5 Weather conditions varied over the 2016 – 2017 season, with one survey suffering from poor visibility, caused by fog/heavy precipitation. However, considering the significant number of surveys conducted and the extensive coverage of the site, the survey data is considered sufficient to draw valid conclusions.

3 Results

3.1 Desk Study

Designated sites with relevance to birds

International statutory designated sites within 30km

- 3.1.1 The desk study investigated international designated sites. Within 30km of the site, there are five international statutory designated sites which are designated for their bird assemblages. The site closest is the Dungeness, Romney Marsh and Rye Bay SPA (with Marine Component) and Ramsaar site. The marine component is 2.9km to the south of the site, the terrestrial/freshwater wetland component 8.7km to the south of the site. Information on relevant SPA and Ramsar site is presented in Table 2.
- 3.1.2 Full details of these designated sites and assessment for breeding and wintering birds are presented in the ES Chapter 7 and Otterpool Park HRA Screening Assessment (ES Appendix 7.19).

Table 2: International Statutory Designated sites within 10km of the site designated for their bird assemblage

Site and designation	Distance and direction from site	Description
		Qualifies under article 4.1 of the Directive (2009/147/EC), as it is regularly used by >1% of the UK population of the following Annex I species:
		Bewick's swan Cygnus columbianus bewickii (non-breeding)
		Bittern Botaurus stellaris (breeding)
		Hen harrier Circus cyaneus (non-breeding)
		Golden plover Pluvialis apricaria (non-breeding)
		Ruff Philomachus pugnax (non-breeding)
		Aquatic warbler Acrocephalus paludicola (passage)
		Marsh harrier Circus aeruginosus (breeding)
		Avocet Recurvirostra avosetta (breeding)
Dungeness, Romney	8.7km (with marine	Mediterranean gull Larus melanocephalus (breeding)
Marsh and Rye Bay SPA (with marine	component /	Sandwich tern Sterna sandvicensis (breeding)
component)	2.9km) south at closest point	Common tern Sterna hirundo (breeding)
		Little tern Sterna albifrons (breeding)
		Qualifies under article 4.2 of the Directive (2009/147/EC), as it is regularly used by >1% of the biogeographical populations of the following migratory species:
		Shoveler Anas clypeata: 485 wintering individuals (1.2% NW & C Europe non-breeding population)
		Assemblage qualification:
		The site qualifies under article 4.2 of the Directive (2009/147/EC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:
		In the non-breeding season, the area is regularly used by 34,625 individual waterbirds (5 year peak mean 2002/3 – 2006/7), including (but not limited

Site and designation	Distance and direction from site	Description		
		to) Bewick's swan Cygnus columbianus bewickii, Europeanwhite-fronted goose Anser albifrons albifrons, wigeon Anas penelope, gadwall A. strepera, shoveler A. clypeata, pochard Aythya ferina, little grebe Tachybaptus ruficollis, great crested grebe Podiceps cristatus, cormorant Phalacrocorax carbo, bittern Botaurus stellaris, coot Fulica atra, golden plover Pluvialis apricaria, lapwing Vanellus vanellus, sanderling Calidris alba, ruff Philomachus pugnax, whimbrel Numenius phaeopus and commo sandpiper Actitis hypoleucos.		
Dungeness, Romney Marsh and Rye Bay Ramsar	8.7km S	Criterion 1 (contains rare, unique examples of natural wetland types), including: • Annual vegetation of drift lines and the coastal fringes of perennial vegetation of stony banks (Ramsar wetland type E – sand, shingle or pebble shores). • Natural shingle wetlands: saline lagoons (Ramsar wetland type J – coastal brackish/saline lagoons), freshwater pits (Ramsar wetland type K – coastal freshwater lagoons) and basin fens (Ramsar wetland type U – non-forested peatlands). Criterion 2 (supports threatened ecological communities), including: • Bryophytes e.g. wetland thread-mosses Bryum species • Vascular plants e.g. sea barley Hordeum marinum, Borrer's saltmarsh-grass Puccinellia fasciculata and slender hare's-ear Bupleurum tenuissimum, sea-heath Frankenia laevis, sharpleaved pondweed Potamogeton acutifolius, divided sedge Carex divisa and rootless duckweed Wolffia arrhiza. • Invertebrates e.g. reed beetles Donacia, snail-killing flies (Sciomyzidae) and soldierflies (Stratiomyidae) It also supports vulnerable, endangered or critically endangered wetland species, including: • greater water-parsnip Sium latifolium • Warne's thread-moss Bryum warneum • water vole Arvicola amphibius • aquatic warbler Acrocephalus paludicola • great crested newt • medicinal leech Hirudo medicinalis • a ground beetle Omophron limbatum • marsh mallow moth Hydraecia osseola hucherardi • De Folin's lagoon snail Caecum amoricum Criterion 5 (regularly supports >20,000 waterbirds); in the non-breeding		
		season the site supports 34,957 waterbirds (5-year peak mean 2002/3 – 2006/7). Criterion 6 (regularly supports 1% individuals in the population of the following species): • Mute swan Cygnus olor; 348 wintering individuals (1.1% British population) • Shoveler: 485 wintering individuals (1.2% NW & C Europe non-breeding population)		

National statutory designated sites within 5km

3.1.3 No national statutory designated sites were identified within 5km of the site which are designated for their bird assemblage or are likely to be notable for their bird assemblage.

Non-statutory designated sites within 1km

3.1.4 Although no specific citations for the local wildlife sites were available, the habitats present in these areas, their distance from the site and their potential to have species linkages with the habitats on the site were assessed. The sites presented in Table 3 below, are those with the most potential to be related to the breeding bird assemblage using the site.

Table 3: Non-statutory designated sites with the potential to be linked / be impacted by works on the Otterpool Park site within 1km.

Site Name	Designation	Distance (m)	Direction	Notes
Harringe Brooks Wood, Sellindge	LWS	0m	Immediately adjacent to the west of the site	This LWS is immediately adjacent to the site. It supports ancient woodland and some aquatic features. Works on the site have the potential to directly impact this LWS. In addition, birds within the habitats within the LWS have the potential to be foraging and utilizing habitats within the site. This is particularly true of species which nest within woodland and forage within arable habitats such as turtle dove.
Pasture and Woods Below Court-at- Street, Lympne	LWS	500m	South-west	This LWS contains ancient woodland. Birds within the habitats within the LWS have the potential to be foraging and utilizing habitats within the site. This is particularly true of species which nest within woodland and forage within arable habitats such as turtle dove.
Folks Wood, Pedlinge	LWS	200m	East	This LWS contains ancient woodland. Birds within the habitats within the LWS have the potential to be foraging and utilizing habitats within the site. This is particularly true of species which nest within woodland and forage within arable habitats such as turtle dove.
Royal Military Canal	LWS	850m	South	This LWS is an aquatic habitat. Species within this site have the potential to have linkages to the site, particularly species such as kingfisher and water fowl.

Species records

3.1.5 Table 4 outlines the notable species recorded overwintering within 2km of the site. Only species which are listed on the BoCC red or amber list, on Schedule 1 of the WCA (1981 as amended) or on Section 41 of the NERC Act are listed. Where these species are considered to have potential to be present within the site, this information was used in combination with the survey data to inform the masterplan design, EIA and mitigation. Where birds were only identified as breeding, these are not included within this wintering bird table.

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Table 4: Notable wintering bird species recorded during the desk study birds listed are either red or amber on the BoCC list, listed on S41of the NERC Act, Kent Biodiversity Action Plan (BAP) or listed on Schedule 1 of the WCA

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location
Barn Owl	Tyto alba	Berne:A2; BoCC4:Green; ECCITES:A; WCA1	47	31/05/2016	Westenhanger Racecourse (TR1236)
Barnacle Goose	Branta leucopsis	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1	29	17/01/2015	Westenhanger Racecourse (TR1236)
Black Redstart	Phoenicurus ochruros	Berne:A2; BoCC4:Red; Bonn:A2; KRDB1; WCA1	8	28/10/2014	Lympne (TR1135)
Black-headed Gull	Larus ridibundus	Berne:A3; BoCC4:Amber; BirdsDir:A2.2	100	11/11/2016	Westenhanger Racecourse (TR1236)
Whooper Swan	Cygnus cygnus	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1; WCA1	9	16/11/2016	Nickoll's Gravel Pits (Palmarsh) (TR133333)
Pink-footed Goose	Anser brachyrhynchus	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2	2	15/11/2012	Botolph's Bridge (TR1233)
Bullfinch	Pyrrhula pyrrhula	BAP; Berne:A3; BoCC4:Amber; S41	137	08/03/2016	TR13 (TR13C)
Cetti's Warbler	Cettia cetti	Berne:A2; KRDB3; WCA1	232	14/12/2016	Stanford (Sellindge) (TR1238)
Common Crossbill	Loxia curvirostra	Berne:A2; WCA1	11	20/10/2015	West Hythe (near Folkestone) (TR1234)
Common Gull	Larus canus	Berne:A3; BoCC4:Amber; BirdsDir:A2.2; KRDB1	35	10/02/2016	Lympne (TR1135)
Common Sandpiper	Actitis hypoleucos	Berne:A2; BoCC4:Amber; Bonn:A2	252	07/09/2016	Nickoll's Gravel Pits (Palmarsh) (TR133333)
Corn Bunting	Miliaria calandra	BAP; Berne:A3; BoCC4:Red; KRDB2; S41	25	26/02/2014	Lympne (TR1135)
Dunlin	Calidris alpina	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1; KRDB2	92	29/12/2014	Botolph's Bridge (TR1233)
Dunnock	Prunella modularis	BAP; Berne:A2; BoCC4:Amber; S41	166	11/02/2016	TR13 (TR13C)
Fieldfare	Turdus pilaris	Berne:A3; BoCC4:Red; BirdsDir:A2.2; WCA1	126	21/10/2016	Lympne (TR1135)
Firecrest	Regulus ignicapillus	Berne:A2; BoCC4:Green; KRDB1; WCA1	93	16/09/2016	Lympne (TR1135)
Fulmar	Fulmarus glacialis	Berne:A3; BoCC4:Amber (Subsp. Red)	7	04/08/2016	West Hythe (near Folkestone) (TR1234)
Sanderling	Calidris alba	Berne:A2; BoCC4:Amber; Bonn:A2	1	07/02/2013	Royal Military Canal at West Hythe (TR1234)

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location
Purple Sandpiper	Calidris maritima	Berne:A2; BoCC4:Amber; Bonn:A2; WCA1	4	15/01/2016	Royal Military Canal at West Hyth (TR1234)
Green Sandpiper	Tringa ochropus	Berne:A2; BoCC4:Amber; Bonn:A2; WCA1	519	27/12/2016	Port Lympne Zoo Park (Lympne (TR105348)
Greenshank	Tringa nebularia	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2; WCA1	59	16/08/2015	Sellindge (near Folkestone) (TR10
Grey Wagtail	Motacilla cinerea	Berne:A2; BoCC4:Red	126	02/11/2016	TR13 (TR13D)
Greylag Goose	Anser anser	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.1	101	30/03/2015	Pedlinge (near Hythe) (TR1335)
Redshank	Tringa totanus	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2	175	19/03/2014	Botolph's Bridge (TR1233)
Hawfinch	Coccothraustes coccothraustes	BAP; Berne:A2; BoCC4:Red; KRDB1; S41	9	14/10/2015	TR03 (TR03X)
Hen Harrier	Circus cyaneus	Berne:A3; BoCC4:Red; Bonn:A2; ECCITES:A; BirdsDir:A1; S41; WCA1	11	15/12/2012	Sandling Park (near Hythe) (TR143
Wood Sandpiper	Tringa glareola	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1; WCA1	20	29/08/2015	Botolph's Bridge (TR1233)
Herring Gull	Larus argentatus	BAP; BoCC4:Red; BirdsDir:A2.2; S41; KRDB2	75	11/11/2016	Brockhill Country Park (Folkestone) (TR1435)
Turnstone	Arenaria interpres	Berne:A2; BoCC4:Amber; Bonn:A2	6	07/02/2013	Royal Military Canal at West Hyt (TR1234)
Hobby	Falco subbuteo	Berne:A2; Bonn:A2; ECCITES:A; WCA1	75	21/09/2016	Lympne (TR1135)
Honey Buzzard	Pernis apivorus	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; KRDB1; WCA1	13	15/08/2015	Royal Military Canal at West Hyt (TR1234)
House Martin	Delichon urbica	Berne:A2; BoCC4:Amber	113	01/08/2014	TR13 (TR13C)
House Sparrow	Passer domesticus	BAP; BoCC4:Red; KRDB2; S41	83	11/11/2016	TR13 (TR13C)
Kestrel	Falco tinnunculus	Berne:A2; BoCC4:Amber; Bonn:A2; ECCITES:A	83	11/02/2016	TR13 (TR13C)
Kingfisher	Alcedo atthis	Berne:A2; BoCC4:Amber (subsp. Red); BirdsDir:A1; WCA1	229	02/11/2016	Lympne (TR1135)
Lapwing	Vanellus vanellus	BAP; Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.2; KRDB2; S41	280	26/11/2016	TR13 (TR13D)
Lesser Black-backed Gull	Larus fuscus	BoCC4:Amber; BirdsDir:A2.2	64	10/03/2014	Lympne (TR1135)

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location
Lesser Redpoll	Carduelis cabaret	BAP; Berne:A3; BoCC4:Red; KRDB1; S41	55	20/01/2016	TR13 (TR13D)
Linnet	Carduelis cannabina	BAP; Berne:A2; BoCC4:Red; KRDB2; S41	83	18/12/2015	TR13 (TR13C)
Mallard	Anas platyrhynchos	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.1	305	12/12/2016	TR13 (TR13C)
Lesser Spotted Woodpecker	Dendrocopus minor	BAP; Berne:A2; BoCC4:Red; KRDB2; S41	17	28/02/2008	Lympne (TR1135)
Marsh Harrier	Circus aeruginosus	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; KRDB3; WCA1	52	23/03/2016	Westenhanger Racecourse (TR12)
Marsh Tit	Parus palustris	BAP; Berne:A2; BoCC4:Red; S41; KRDB2	50	29/03/2016	Port Lympne Zoo Park (Lympne) (TR105348)
Meadow Pipit	Anthus pratensis	Berne:A2; BoCC4:Amber	112	10/02/2016	TR13 (TR13C)
Mediterranean Gull	Larus melanocephalus	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1; KRDB3; WCA1	80	08/03/2016	Westenhanger Racecourse (TR12)
Mistle Thrush	Turdus viscivorus	Berne:A3; BoCC4:Red; BirdsDir:A2.2	135	10/09/2016	TR13 (TR13C)
Water Pipit	Anthus spinoletta	Berne:A2; BoCC4:Amber	1	26/10/2008	Botolph's Bridge (TR1233)
Mute Swan	Cygnus olor	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2	151	11/11/2016	TR13 (TR13C)
Osprey	Pandion haliaetus	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; WCA1	9	24/08/2014	Lympne (TR1135)
Oystercatcher	Haematopus ostralegus	Berne:A3; BoCC4:Amber; BirdsDir:A2.2	217	31/03/2016	Aldington (near Ashford) (TR07536
Pochard	Aythya ferina	Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.1; KRDB3	149	24/03/2016	Westenhanger Racecourse (TR12)
Red Kite	Milvus milvus	Berne:A3; BoCC4:Green; Bonn:A2; ECCITES:A; BirdsDir:A1; WCA1	38	04/09/2014	Lympne (TR1135)
Redstart	Phoenicurus phoenicurus	Berne:A2; BoCC4:Amber; Bonn:A2; KRDB1	8	31/08/2014	Sandling Park (near Hythe) (TR143363)
Red-throated Diver	Gavia stellata	Berne:A2; BoCC4:Green;Bonn:A2; BirdsDir:A1; KRDB3; WCA1	23	12/03/2016	Royal Military Canal at West Hyth (TR1234)
Redwing	Turdus iliacus	Berne:A3; BoCC4:Red; BirdsDir:A2.2; WCA1	204	11/11/2016	Lympne (TR1135)
Reed Bunting	Emberiza schoeniclus	BAP; Berne:A2; BoCC4:Amber; S41	122	23/10/2016	TR13 (TR13D)
Ring Ouzel	Turdus torquatus	BAP; Berne:A2; BoCC4:Red; S41	20	27/10/2016	Lympne (TR1135)
Shelduck	Tadorna tadorna	Berne:A2; BoCC4:Amber; Bonn:A2	46	24/03/2016	Botolph's Bridge (TR1233)
Short-eared Owl	Asio flammeus	Berne:A2; BoCC4:Amber; ECCITES:A; BirdsDir:A1	17	15/11/2015	Botolph's Bridge (TR1233)
Shoveler	Anas clypeata	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:C; BirdsDir:A2.1	46	03/01/2016	Sandling Park (near Hythe) (TR1433

Common name	Scientific Name	Designation	Number of records	Recent winter (Aug-Mar)	Nearest location
Skylark	Alauda arvensis	BAP; Berne:A3; BoCC4:Red; BirdsDir:A2.2; KRDB2; S41	102	10/02/2016	TR13 (TR13C)
Snipe	Gallinago gallinago	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.1; KRDB1	273	02/12/2016	Lympne (TR1135)
Song Thrush	Turdus philomelos	BAP; Berne:A3; BoCC4:Red; BirdsDir:A2.2; KRDB2; S41	191	27/10/2016	TR13 (TR13C)
Spotted Flycatcher	Muscicapa striata	BAP; Berne:A2; BoCC4:Red; Bonn:A2; KRDB2; S41	38	21/09/2016	Lympne (TR1135)
Starling	Sturnus vulgaris	BAP; BoCC4:Red; BirdsDir:A2.2; S41; KRDB2	93	11/11/2016	TR13 (TR13C)
Stock Dove	Columba oenas	Berne:A3; BoCC4:Amber; BirdsDir:A2.2	134	10/02/2016	TR13 (TR13C)
Swift	Apus apus	Berne:A3; BoCC4:Amber	106	31/08/2014	TR13 (TR13C)
Tawny Owl	Strix aluco	Berne:A2; BoCC4:Amber; ECCITES:A	47	24/10/2016	TR13 (TR13C)
Teal	Anas crecca	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:C; BirdsDir:A2.1; KRDB1	195	28/12/2016	Westenhanger Racecourse (TR123)
Tree Sparrow	Passer montanus	BAP; Berne:A3; BoCC4:Red; KRDB2; S41	47	15/10/2016	TR13 (TR13C)
Turtle Dove	Streptopelia turtur	BAP; Berne:A3; BoCC4:Red; Bonn:A2; ECCITES:A; BirdsDir:A2.2; KRDB2; S41	94	05/09/2009	TR13 (TR13C)
Wigeon	Anas penelope	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:C; BirdsDir:A2.1	93	16/12/2016	Westenhanger Racecourse (TR123)
Willow Warbler	Phylloscopus trochilus	Berne:A2; BoCC4:Amber	104	03/09/2016	TR13 (TR13C)
Woodcock	Scolopax rusticola	Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.1	59	03/02/2016	Lympne (TR1135)
Yellow Wagtail	Motacilla flava	BAP; Berne:A2; BoCC4:Red; S41; KRDB2	98	30/08/2015	TR13 (TR13C)
Yellowhammer	Emberiza citrinella	BAP; Berne:A2; BoCC4:Red; KRDB2; S41	121	19/03/2016	TR13 (TR13C)

3.2 Habitat Assessment

Initial Assessment

- 3.2.1 This section of the report briefly outlines the habitats present on the site from the initial habitat assessment, and their potential value to wintering birds. Full details of the habitats present on the site are presented in the Otterpool Park Habitat and Hedgerow Survey Report (ES Appendix 7.3).
- 3.2.2 The table below outlines the key habitats on site for wintering birds (Table 5).

Table 5: Key habitats on site for breeding birds

Habitat	Description	Value to wintering birds
Arable	The majority of arable fields have been being used to grow rape and wheat. Their field margins vary greatly in sizes, from no discernible margins to up to 10m wide. Where these habitats are of sufficient size, these margins are mapped.	Important foraging habitat for a range of bird species, especially farmland birds, and overwintering wetland birds and gulls.
Improved grassland	Improved grassland across the site is used for both grazing pasture and cut for silage and hay. Dominant species include Perennial Rye-grass, Cock's-foot and Yorkshire fog, with low grass species diversity.	This habitat is of limited value for birds, however some species may forage within this habitat.
Riparian corridor and running water	The primary running water within the site is the East Stour River, which runs from adjacent to Westenhanger castle in the north of the site, east-to west. This is largely shallow (less than 1m deep) and up to 2 – 3 m wide, with a slow flow. The river within the site has minimal emergent vegetation. The surrounding habitat is largely comprised of mature trees dominated by Alder, with Ash and Oak also common there are also areas of mature scrub comprised largely of Hawthorn.	Important foraging habitat for a range of bird species, especially farmland birds, and overwintering wetland birds.
Species-poor semi improved grassland	It is found around Folkestone Racecourse and within field margins, especially areas of the site which were under HLS (Higher Level Stewardship management), and a significant area was also present within the south of the site within the disused Lympne airfield. The geological SSSI within the centre of the site also supports this habitat type.	Important foraging habitat for a range of bird species, especially farmland birds, and overwintering wetland birds.
Standing water	Over 30 ponds were recorded within the site, varying from relatively large water bodies such as the Folkestone Racecourse to the majority which were small often ephemeral ponds.	This habitat is important for a range of species. It can provide feeding resources for wildfowl, areas where birds can aggregate (particularly transitory wildfowl, and gulls).

Follow up assessment 2018

3.2.3 A follow-up assessment to assess any significant changes to the habitats present on the site was conducted concurrent with an invertebrate assessment on 8 August 2018. It was noted during this survey that the habitats present on the site were not significantly different to those recorded during the initial scoping and habitat assessment conducted in 2016. A limited number of crop type changes were noted.

Follow up assessment 2019

3.2.4 A further follow up assessment to identify any significant changes to the habitats present on the site was conducted concurrent with the wintering bird survey on 28 November 2019. As with the follow up assessment in 2018, no significant changes were recorded and the overall status of the site for birds was not significantly different to that recorded during 2016. It is considered that the site offered no significantly different resources for wintering birds in November 2019 than it did in winter 2016 – 2017.

Follow up assessment 2020

3.2.5 Survey updates undertaken in 2020 did not identify any significant changes to the habitats on site. The overall status of the site was not significantly different to that recorded in previous survey years and it is considered that the site offered no significantly different resources for wintering birds in December 2020 compared to 2016–2017 and 2019.

3.3 Wintering Bird Field Survey

Introduction

- 3.3.1 This section of the report outlines the results of the wintering bird surveys conducted. The reporting is broken down into the following sections:
 - Linkages with international designated sites.
 - Overview and assemblage;
 - Notable species of conservation concern; and
 - Wintering farmland bird assemblage.
- 3.3.2 In some instances, some species may appear on more than one list. For example, skylark (*Alauda arvensis*) may be considered important as a component of the farmland bird assemblage and notable species. Where this is the case, each species is only discussed in the section to which it is deemed most appropriate.

Linkages with international designated sites.

- 3.3.3 For the five wintering birds that form the key qualifying features of the terrestrial area of Dungeness, Romney Marsh and Rye Bay SPA within 10km, only golden plover was recorded, three individuals on one occasion. Mediterranean gull and black headed gull were also recorded, but these species are only considered on the citations due to breeding. In terms of the named wintering waterfowl assemblage only coot, gadwall and golden plover, were recorded on site and they were present in low numbers. Where species were only listed on citations for breeding, these are not considered within this report (but are considered in ES Appendix 7.15). For the Ramsar Criterion 6, mute swan was only observed as one individual on one occasion during the breeding season.
- 3.3.4 Table 6 lists the birds within the citations for international designated sites within 10km of the site, and their recorded presence on the site in the 2016 2017 wintering bird surveys. Full details of sites within 30km are assessed within the Otterpool Park Habitat Regulation Screening Assessment (ES Appendix 7.19). The locations of the golden plover and Mediterranean gull recorded are presented on (Figure 2).

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Table 6: Bird species listed on citations for international designated sites within 10km and their occurrence within the site.

Species	Sites where this species is listed on the citation	Presence on site	Notes
Aquatic warbler Acrocephalus paludicola*	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Bewick's swan Cygnus columbianus bewickii***	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Bittern Botaurus stellaris***	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Golden plover <i>Pluvialis</i> apricaria***	Dungeness, Romney Marsh and Rye Bay SPA	3 individuals only recorded on 05/12/2016 single survey visit	Recorded in very low numbers on a single visit, discussed within general assemblage but not indicative of functionally linked land to the designation.
Hen harrier Circus cyaneus***	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Mute swan Cygnus olor ^R	Dungeness, Romney Marsh and Rye Bay Ramsar	Not recorded within the wintering bird surveys, 1 individual was recorded on 1 occasion in breeding bird surveys.	Not considered further
Ruff Philomachus pugnax***	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Shoveler Anas clypeata***R	Dungeness, Romney Marsh and Rye Bay SPA and Ramsar	Not recorded within the surveys	Not considered further
Gadwall <i>A. Strepera**</i>	Dungeness, Romney Marsh and Rye Bay SPA	107 during the 8 wintering surveys, 3 during the March breeding survey totalling 110 (peak count of 28 individuals)	Discussed within general assemblage but not indicative of functionally linked land to the designation.
European white-fronted goose Anser albifrons **	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Wigeon Anas Penelope**	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Pochard Aythya farina**	Dungeness, Romney Marsh and Rye Bay SPA	A single individual recorded during the December 2020 wintering bird surveys	Not considered further

Species	Sites where this species is listed on the citation	Presence on site	Notes
Little grebe <i>Tachybaptus</i> ruficollis**	Dungeness, Romney Marsh and Rye Bay SPA	A single individual recorded during the December 2020 wintering bird surveys	Not considered further
Great crested grebe Podiceps cristatus**	Dungeness, Romney Marsh and Rye Bay SPA Not recorded within the surveys		Not considered further
Cormorant Phalacrocorax carbo**	Dungeness, Romney Marsh and Rye Bay SPA	Two individuals recorded during the December 2020 wintering bird surveys	Not considered further
Coot Fulica atra**	Dungeness, Romney Marsh and Rye Bay SPA	15 individuals recorded over 8 visits (peak count 5 individuals)	Discussed within general assemblage but not indicative of functionally linked land to the designation.
Whimbrel <i>Numenius</i> phaeopus**	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Common sandpiper Actitis hypoleucos**	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Sanderling Calidris alba**	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not considered further
Lapwing Vanellus vanellus**	Dungeness, Romney Marsh and Rye Bay SPA	A total of 11 individuals recorded during the December 2020 wintering bird surveys	Discussed within general assemblage but not indicative of functionally linked land to the designation.

^{*}passage only ** winter assemblage *** individual and wintering assemblage status R Ramsar

Overview and assemblage

3.3.5 A total of 77 bird species were recorded during the wintering bird surveys: 69 species during the 2016–2017 winter season, 49 species on 28 November 2019 and a total of 59 species over 21 and 22 December 2020. The results from the 2016–2017 surveys are presented in Figure 1, the results from the 2019 survey are presented in Figure 6 and the results from the 2020 surveys are presented in Figure 7. Only one additional species was recorded in the 2019 survey, raven. The 2020 survey identified five additional species: cormorant, firecrest, lapwing, little grebe and pochard. The table below (Table 7) outlines the full records of the wintering bird surveys conducted in November 2016, a summary of the 2016–2017 surveys overall, the follow up survey conducted in November 2019 and December 2020 surveys. In addition, the results of the first breeding bird survey are also presented. The results of the November 2016 surveys are displayed in order to allow comparison with the November 2019 and December 2020 survey results. The results from the first breeding bird survey (20 March 2017) are to be utilised to inform the analysis, as reported in section 2.5, but the data was collected according to a differing methodology as outlined in ES Appendix 7.15 and is presented within Table 16 in Appendix B.

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Table 7: Summary of all birds recorded during the wintering bird surveys plus March* 2017, November 2019 and December 2020 (*conducted) according to breeding bird methodology)

Species	Count of birds (total across all 8 wintering bird surveys 2016 – early 2017)	Marc h 2017	TOTAL over 2016- 2017 survey s	28 Nov 201 9	21 Dec 202 0	22 Dec 202 0	Total for Dec 2020 survey s
Blackbird	281	42	323	30	27	14	41
Black-headed gull	2133	400	2533	551	9	2	11
Blue tit	121	28	149	8	12	18	30
Brambling	1	1	2	0	0	0	0
Bullfinch	7	0	7	1	2	1	3
Buzzard	37	5	42	5	5	1	6
Canada goose	1	0	1	0	0	0	0
Carrion crow	121	14	135	22	13	6	19
Chaffinch	268	120	388	13	14	31	45
Chiffchaff	1	3	4	3	0	0	0
Coal tit	3	0	3	0	0	4	4
Collared dove	26	1	27	0	7	1	8
Common gull	2426	218	2644	41	20	56	76
Coot	15	0	15	0	0	0	0

Species	Count of birds (total across all 8 wintering bird surveys 2016 – early 2017)	Marc h 2017	TOTAL over 2016- 2017 survey s	28 Nov 201 9	21 Dec 202 0	22 Dec 202 0	Total for Dec 2020 survey s
Cormorant	0	0	0	0	2	0	2
Dunnock	94	30	124	7	4	6	10
Feral pigeon	127	0	127	20	0	7	7
Fieldfare	1808	184	1992	4	232	22	254
Firecrest	0	0	0	0	0	3	3
Gadwall	107	3	110	0	0	0	0
Goldcrest	23	4	27	7	1	4	5
Golden plover	3	0	3	0	0	0	0
Goldfinch	346	49	395	36	38	20	58
Great tit	96	33	129	3	5	17	22
Great-spotted woodpecker	15	2	17	4	0	4	4
Green woodpecker	24	9	33	3	2	2	4
Greenfinch	63	1	64	0	22	0	22
Grey heron	6	1	7	1	1	0	1
Grey wagtail	9	0	9	2	0	0	0

Species	Count of birds (total across all 8 wintering bird surveys 2016 – early 2017)	Marc h 2017	TOTAL over 2016- 2017 survey s	28 Nov 201 9	21 Dec 202 0	22 Dec 202 0	Total for Dec 2020 survey s
Greylag goose	5	2	7	0	0	0	0
Herring gull	732	254	986	96	55	76	131
House sparrow	67	6	73	5	0	16	16
Jackdaw	647	34	681	98	95	36	131
Jay	16	4	20	7	4	6	10
Kestrel	10	3	13	2	2	14	16
Kingfisher	2	0	2	0	1	0	1
Lapwing	0	0	0	0	0	11	11
Lesser redpoll	0	1	1	0	0	0	0
Lesser-black-backed gull	1	2	3	0	1	0	1
Linnet	168	1	169	0	1	0	1
Little egret	2	0	2	0	0	0	0
Little grebe	0	0	0	0	1	0	1
Little owl	1	0	1	0	0	0	0
Long-tailed tit	124	14	138	4	1	5	6
Magpie	42	6	48	15	6	16	22

Species	Count of birds (total across all 8 wintering bird surveys 2016 – early 2017)	Marc h 2017	TOTAL over 2016- 2017 survey s	28 Nov 201 9	21 Dec 202 0	22 Dec 202 0	Total for Dec 2020 survey s
Mallard	187	10	197	16	64	2	66
Meadow pipit	381	70	451	16	12	19	31
Mediterranean gull	388	17	405	275	215	16	231
Merlin	2	1	3	0	1	0	1
Mistle Thrush	25	4	29	1	5	1	6
Moorhen	6	1	7	0	0	0	0
Nuthatch	2	1	3	0	1	0	1
Pheasant	7	3	10	17	6	5	11
Pied wagtail	135	82	217	33	37	6	43
Pochard	0	0	0	0	1	0	1
Raven	0	0	0	1	0	0	0
Red-legged partridge	1	0	1	0	0	0	0
Redwing	843	138	981	36	220	172	392
Reed bunting	12	2	14	3	2	0	2
Robin	153	35	188	6	11	26	37
Rook	532	183	715	44	82	148	230

Species	Count of birds (total across all 8 wintering bird surveys 2016 – early 2017)	Marc h 2017	TOTAL over 2016- 2017 survey s	28 Nov 201 9	21 Dec 202 0	22 Dec 202 0	Total for Dec 2020 survey s
Siskin	1	0	1	3	2	0	2
Skylark	30	9	39	8	0	34	34
Snipe	31	0	31	8	1	0	1
Song thrush	172	26	198	12	42	25	67
Sparrowhawk	9	1	10	3	0	0	0
Starling	1743	212	1955	134	160	80	240
Stock dove	115	20	135	37	16	47	63
Stonechat	9	1	10	0	0	0	0
Teal	207	0	207	0	37	0	37
Treecreeper	10	3	13	1	3	0	3
Tufted duck	6	0	6	0	1	0	1
Wood pigeon	2408	119	2527	752	144	138	282
Woodcock	3	0	3	1	0	0	0
Wren	105	45	150	9	21	17	38
Yellowhammer	196	95	291	48	36	52	88
Grand Total	17698	2553	20251	2452	1703	1187	2890

Notable species of conservation concern

- 3.3.6 Of the species recorded within the surveys, a subset of species identified as being 'notable' was obtained. Common and widespread species with a favourable conservation status will not be discussed further. This included birds of which one or more of the following criteria applied:
 - Listed on the designations for international designated sites within 10km of the site (including assemblage);
 - Listed on Schedule 1 of the WCA;
 - Listed on Section 41 of the NERC Act;
 - Listed on the BoCC (Birds of conservation concern as being either Red or Amber listed);
 - Listed on the Kent BAP (now redacted, but still relevant)
- 3.3.7 For these species, the distribution, species biology, peak count and conservation status of these species within the site and wider area were considered. Utilising this information, it was determined to group these species for discussion, based upon these factors. The following groups for the notable birds were identified.
 - Wintering waders (including waders recorded on citations from nearby SPA / Ramsar sites);
 - Wintering ducks and rails;
 - Gulls;
 - Wintering thrushes;
 - Notable farmland birds; and
 - Other species (that are present in the UK year-round).
- 3.3.8 A subset of the species listed was not considered applicable to the site and are not considered further.
- 3.3.9 The initial list of 'notable bird species and the subsequent species categorisations are presented in Table 8. For the 2016–2017 surveys these are presented on Figure 3 and included for the 2019 survey on Figure 6 and 2020 on Figure 7. None of the counts during the 2019 survey were higher than the peak counts in 2016-2017. During the update surveys in 2020, the following species peak counts exceeded those recorded in previous surveys: skylark (34 on 22 December 2020), stock dove (47 on 22 December 2020) and kestrel (14 on 22 December 2020). Lapwing, cormorant, little grebe and pochard are additional notable species in 2020.

Table 8: Summary of bird species recorded during the wintering bird surveys that are afforded extra legal protection or are considered to be of conservation importance i.e. "notable" (includes survey 1 from the breeding bird surveys 20/03/2017, the follow up survey conducted on 28/11/2019 and update surveys carried out in December 2020).

Species	SPA Ramsar 10km	Schedule 1	NERC	BOCC List	Kent BAP	Peak count	Notes / Group
Linnet	-	-	Υ	Red		168	Farmland birds
Reed bunting	-	-	Υ	Amber	Υ	3	Farmland birds
Skylark	-	-	Υ	Red		34	Farmland birds

Species	SPA Ramsar 10km	Schedule 1	NERC	BOCC List	Kent BAP	Peak count	Notes / Group
Song thrush	-	-	Υ	Red		44	Farmland birds
Starling	-	-	Υ	Red		460	Farmland birds
Stock dove	-	-	-	Amber		47	Farmland birds
Yellowhammer	-	-	Υ	Red	Υ	95	Farmland birds
Mistle Thrush	-	-	-	Red		9	Farmland birds
Black-headed gull	-	-	-	Amber		650	Gulls
Common gull	-	-	-	Amber		1450	Gulls
Herring gull	-	-	Υ	Red		594	Gulls
Mediterranean gull	Υ	Υ	-	Amber		334	Gulls
Merlin	-	Y	-	Red		2	Infrequent observation, two birds flew over site on one occasion. Not considered to be maintained or supported by the farmland on the site.
Bullfinch	-	-	Υ	Amber	Υ	4	Farmland birds
Dunnock	-	-	Υ	Amber		30	Species is common and widespread and is not considered to be maintained or supported by the farmland on the site.
Grey wagtail	-	-	-	Red		3	Resident species present on the site in very low numbers. Not considered to be maintained or supported by the farmland on the site.
Greylag goose	-	-	-	Amber		3	Only recorded in low numbers on two occasions. Not considered to be maintained or supported by the farmland on the site.
Kestrel	-	-	-	Amber		14	Farmland birds
Lesser black- backed gull	-	-	-	Amber		2	Only recorded in low numbers on two occasions. Not considered to be

Species	SPA Ramsar 10km	Schedule 1	NERC	BOCC List	Kent BAP	Peak count	Notes / Group
							maintained or supported by the farmland on the site.
Meadow pipit	-	-	-	Amber		96	Farmland birds
House sparrow	-	-	Y	Red	Y	35	House sparrow were only recorded in significant numbers in one location on an urban edge. Not considered to be maintained or supported by the farmland on the site.
Kingfisher	-	Υ	-	Amber		2	Other species - resident all year
Brambling	-	Y	N	Green	N	1	Single record only (one individual, December Infrequent observation, not known/likely to breed locally; not likely to have bred on site.
Golden plover	Υ	-	-	Green		3	Wintering waders
Teal	-	-	-	Amber		97	Wintering ducks and rails
Gadwall	Υ	-	-	Amber		28	Wintering ducks and rails
Mallard	-	-	-	Amber		67	Wintering ducks and rails
Redwing	-	Υ	-	Red		328	Wintering thrush
Fieldfare	-	Υ	-	Red		928	Wintering thrush
Snipe	-	-	-	Amber		8	Wintering waders
Woodcock	-	-	-	Red		1	Wintering waders
Coot	Υ	-	-	Green		5	Wintering waders
Cormorant	Υ	-	-	Green		2	Other species
Lapwing	Υ	-	Υ	Red	Υ	11	Farmland bird
Little grebe	Υ	-	-	Green		1	Wintering ducks and rails
Pochard	Υ	-	-	Red		1	Wintering ducks and rails

Wintering farmland bird assemblage

- 3.3.10 In addition to individual notable species, the farmland bird assemblage was also considered. The majority of the site is farmland, and the largest change in land type resulting from a development will be the loss of farmland. As a result, the assemblage of 'farmland birds' was described separately from the data set, which includes some notable species and some more common species. Those birds recorded as being within the 'farmland bird assemblage' was extracted from the dataset. The species selected were based upon:
 - The 19 species listed on the UK Farmland Bird Indicator List 1970 2007 (RSPB 2018):
 - More generalist species which were observed to be reliant on the farmland within the site.
- 3.3.11 Of the 19 UK farmland bird species on the indicator list, 13 were present on the site within the wintering bird surveys. Two additional species (bullfinch and meadow pipit) were added as they were observed to be maintained or supported by the farmland on the site. The birds which were identified as being in the 'wintering farmland bird assemblage' and were recorded during the surveys are shown in the results table below (Table 9).

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Table 9: Wintering farmland bird assemblage subset and survey results (2016–2017, 2019 and 2020)

Row Labels	1a - 15 November 216	1b - 16 November 2016	2 - 5 December 2016	3 - 28 December 2016	4 - 10 January 2017	5 - 31 January 2017	6 - 7 February 2017	7 - 23 February 2017	20 March 2017	28 November 2019	21 December 2020	22 December 2020	Peak Count
Bullfinch	1		4			2				1	2	1	4
Goldfinch	37	8	59	24	45	106	15	52	49	36	38	20	106
Greenfinch		1	19	1		35	5	2	1		22		35
Jackdaw	132	130	63	46	55	92	53	76	34	98	95	36	132
Kestrel	1		1	1	3	2	2		3	2	2	14	14
Lapwing												11	11
Linnet		100	6	42	19		1		168				168
Long-tailed tit	15	4	6	43	15	31	8	2	14	4	1	5	43
Meadow pipit	13	7	70	96	73	46	75	1	70	16	12	19	96
Mistle thrush	3		9	2	4	2	1	4	25	1			9
Reed bunting	2		3	1	3			3	12	3	2		3
Rook	45	44	42	26	155	71	67	82	183	44	82	148	183
Skylark	11	6	1			5	5	2	30	8		34	34
Song thrush	7	18	44	24	21	20	33	5	26	12	42	25	44

February 2017 5 - 31 January 2017 6 - 7 February 2017 28 November 2019 20 March 2017 21 December 2020 22 December 2020 **Peak Count** 7 - 23 Starling Stock dove Wood pigeon Yellowhammer

4 Wintering Bird Valuation

- 4.1.1 This section of the report presents the valuations of the wintering bird species recorded on the site.
- 4.1.2 The following data was reviewed in order to inform the assessment of each species, and the overall assemblage:
 - The survey data from the 2016 2017 surveys, the 2019 survey and the 2020 surveys, including the peak counts of birds recorded;
 - The notable status of the species in the UK and Kent;
 - The data from the KMBRC regarding the number of species and distribution of species recorded;
 - Data on population sizes recorded from the most recent 2019 Kent Bird Report (KOS 2019). This was used for comparison to the population status from on-site surveys, where on site populations were approaching 50% of the county status a value of County was assigned. (NB: It must be noted that this largely reports amateur and incidental sightings of birds and data not collected in a systematic fashion and generally surveyed from the most suitable sites and habitats quite different from the Otterpool site. The data that provided the most potential context for the site was utilised, whether that be the Kent wide cited distribution or data from a specific site survey.)
 - Information on the availability and quality of habitat for a given species within the site.
- 4.1.3 All of this data has been considered to calculate a 'geographical value' for each species and subsequently a valuation for the assemblage, of both wintering birds and breeding birds. Where the peak count of birds on the site exceeded 50% of the countywide reported peak counts and the habitat on site is likely to support or maintain the species, an evaluation of importance at "County" level was ascribed. This evaluation is presented in Table 11. This uses the 2016, 2017, 2019 and 2020 data. The 2019 survey did not increase the peak count of any notable species. The 2020 survey increased the peak count of skylark (increase of 23 individuals), stock dove (increase of 3 individuals) and kestrel (increase of 11 individuals), none of the peak counts of any of the other notable species recorded was greater that the peak recorded in 2016/17.
- 4.1.4 The geographic valuations utilised are assessed using the criteria presented in Table 10 below.

Table 10: Geographical context of Ecological Features

Importance of Ecological Features	Description
International and European	An internationally designated site or candidate site (Special Protection Area (SPA), provisional SPA, Special Areas of Conservation (SAC), candidate SAC, Ramsar Site, Biogenetic/Biosphere Reserve, World Heritage Site) or an area that would meet the published selection criteria for designation. A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole.
	Species
	Any regularly occurring population of internationally important species, threatened or rare in the UK (i.e. an International Union for Conservation of Nature red list species that is also a UK Red Data Book or Section 41 species (of the NERC Act 2006). A regularly

Importance of Ecological Features	Description				
	occurring, nationally significant population/number of an internationally important species.				
National (England)	Habitats A nationally designated site (Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Marine Nature Reserve (MNR)) or a discrete area, which would meet the published selection criteria for national designation (e.g. SSSI selection guidelines). A viable area of a priority habitat identified as a priority under Section 41, or of smaller areas of such habitat essential to maintain wider viability. Species A regularly occurring, regionally or county significant population/number of an internationally/nationally important species. Any regularly occurring population of a nationally important species, threatened or rare in the region or county (see Local Biodiversity Action Plan). A feature identified as of critical importance in the UK under Section 41.				
Regional (South East England)	Habitats Sites that exceed the County-level designations but fall short of SSSI selection criteria. Viable areas of key habitat identified in the Regional Biodiversity Action Plan (BAP) or smaller areas of habitat essential to maintain wider viability. Species Any regularly occurring, locally significant population of a species listed as being nationally scarce, which occurs in 16 of 100 10km² squares in the UK or in a Regional BAP. A regularly occurring, locally significant population/number of a regionally important species. Sites maintaining populations of internationally/nationally important species that are not threatened or rare in the region or county.				
County (Kent County Council)	Habitats Sites recognised by local authorities, e.g. Local Nature Reserves or County Wildlife Sites. A viable area of habitat identified in County BAP. A diverse and/or ecologically valuable hedgerow network. Semi-natural ancient woodland greater than 0.25ha. Species Any regularly occurring, locally significant population of a species listed in a County BAP due to regional rarity or localisation. A regularly occurring, locally significant population of a County important species. Sites supporting populations of internationally / nationally / regionally important species that are not threatened or rare in the region or county, and not integral to maintaining those populations. Sites/features scarce in the County or that appreciably enrich the County habitat				
Local / Site (Due to the scale of the development the site is considered to be significant at a Local level)	Non-statutory designations attributed by the Local Planning Authority such as Sites of Importance for Nature Conservation (SINCs) and Local Wildlife Sites (LWSs). Areas of habitat that appreciably enrich the local habitat resource (e.g. species-rich hedgerows, ponds etc). Sites that retain other elements that due to their size, quality or the wide distribution within the local area are not considered for the above classifications. Species Populations/assemblages of species that appreciably enrich the biodiversity resource within the local context. Sites supporting populations of County important species that are not threatened or rare in the County and are not integral to maintaining those population				

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Species	NERC (Listed on S41)	BOCC List	Kent BAP	Peak count survey*	Group (Section 4 discussion)	Data on abundance from 2019 Kent Bird Report	Value (individual Site Status)
Black- headed gull		Amber		650	Gulls	Peak wintering counts of over 5000 at Dungeness.	Local / Site (site not required to support or maintain this species)
Brambling		Green	N	1	Not discussed individually	Peak count of 300+ recorded at Nonington in 2019.	Local / Site (site not required to support or maintain this species)
Bullfinch	Υ	Amber	Υ	4	Not discussed individually	Peak winter count of 13 with 10+ bird records from across the county	Local / Site
Common		Amber		1450	Gulls	Peak counts of 2000+ at Dungeness area.	County
Cormorant		Green		2	Other species - resident all year	Abundant winter visitor in Kent and localised breeding species. Winter populations of over 11000 at Dungeness.	Local / Site (site not required to support or maintain this species)
Dunnock	Υ	Amber		30	Not discussed individually	Limited wintering data.	Local / Site
Fieldfare		Red		928	Wintering thrush	Counts in 2019 lower than in previous years. Multiple sites with counts of 200 – 500, none exceeding 1000.	County
Firecrest		Green		3	Not discussed individually	Nine Firecrest recorded at Dungeness in Winter 2019	Local / Site
Gadwall		Amber		28	Wintering duck	Peak counts of over 100 widespread, with over 300 recorded at Dungeness.	Local / Site (site not required to support or maintain this species)
Golden plover		Green		3	SPA wader	Peak counts of over 1000 from four sites in Kent	Local / Site (site not required to support or maintain this species)

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Species	NERC (Listed on S41)	BOCC List	Kent BAP	Peak count survey*	Group (Section 4 discussion)	Data on abundance from 2019 Kent Bird Report	Value (individual Site Status)
Grey wagtail		Red		3	Not discussed individually	Peak winter counts were less than ten, mainly single birds or pairs.	Local / Site (site not required to support or maintain this species)
Greylag goose		Amber		3	Not discussed individually	Peak counts of over 500 at Dungeness	Local / Site (site not required to support or maintain this species)
Herring gull	Υ	Red		594	Gulls	Peak counts of over 10000 at Dungeness	Local / Site
House sparrow	Υ	Red	Υ	35	Other species - resident all year	Multiple counts of over 50, with 140 being recorded at Dungeness.	Local / Site (site not required to support or maintain this species)
Kestrel		Amber		14	Not discussed individually	Widespread resident in Kent, minimal population information in the 2019 Kent Bird Report	Local / Site (site not required to support or maintain this species)
Kingfisher		Amber		2	Other species - resident all year	Stable population in Kent	Local / Site (site not required to support or maintain this species)
Lapwing		Red	Υ	11	Farmland	Peak counts of 2500+ at Dungeness and multiple other locations across the county	Local / Site (site not required to support or maintain this species)
Lesser- black- backed gull		Amber		2	Not discussed individually	Peak count of 75 at Dungeness RSPB.	Local / Site (site not required to support or maintain this species)
Linnet	Υ	Red		168	Farmland	Peak counts of 100+ in the winter at sites across the county with some sites recording 500+ in 2019	Local / Site
Little Grebe		Greeb		1	Wintering duck	Cliffe pools is the major wintering site for this species with peak counts of c.300	Local / Site

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Species	NERC (Listed on S41)	BOCC List	Kent BAP	Peak count survey*	Group (Section 4 discussion)	Data on abundance from 2019 Kent Bird Report	Value (individual Site Status)
Mallard		Amber		67	Wintering duck	Peak counts of over 200 in the Dungeness area.	Local / Site (site not required to support or maintain this species)
Meadow pipit		Amber		96	Farmland	Peak counts of over 100 in December 2019.	County
Mediterrane an gull		Amber		334	Gulls	Peak count of 3000 near Folkestone	County
Merlin		Red		2	Not discussed individually	Recorded in 37 sites in 2019, including single sightings at Dungeness.	Local / Site (flew over site – site not required to support or maintain this species)
Mistle Thrush	Red		9	Farmland	Highest counts in winter were 18 at Green Wall.	County	
Pochard		Red		1	Wintering duck	Winter counts of over 700 at Dungeness Area	Local / Site
Raven		Green		1	Not discussed individually	Known to be breeding at Dungeness. Peak counts of 25 in the winter in the east	Local / Site
Redwing		Red		328	Wintering thrush	Eighteen sites exceeding 100 were recorded in 2019.	County
Reed bunting	Υ	Amber	Υ	3	Farmland	Winter peak counts of over 30 at Sandwich Bay and 20+ at Dungeness.	Local / Site
Skylark	Υ	Red		34	Farmland	Peak winter count was 120 at South Foreland	Local / Site
Snipe		Amber		8	Wintering wader	Regular winter peak counts of over 150 recorded across Kent.	Local / Site

Species	NERC (Listed on S41)	BOCC List	Kent BAP	Peak count survey*	Group (Section 4 discussion)	Data on abundance from 2019 Kent Bird Report	Value (individual Site Status)
Song thrush	Y	Red		44	Farmland / wintering thrush	Regularly notable numbers at Sandwich Bay over winter in 2019, with a minim of 27 recorded.	County
Starling	Υ	Red		460	Farmland	Multiple winter counts of between 700 and 1000. Counts of 10000 at Sandwich Bay	County
Stock dove		Amber		47	Farmland	Peak counts of over 500 at Sandwich Bay and Worth. Population appears to be increasing in Kent.	Local / Site
Teal		Amber		97	Wintering duck	Peak counts of over 3000 wintering at Swale.	Local / Site (site not required to support or maintain this species)
Woodcock		Red		1	Wintering wader	Relatively scarce in Kent, with peak counts of 8 in the southern district.	Local / Site
Yellowhamm er	Υ	Red	Υ	95	Farmland / wintering thrush	Peak count for this species was 41 in 2019, although a mention of 50 wintering birds at Westenhanger is also made in 2014.	County

^{*} All the peak counts with the exception of skylark and kestrel (2020) were recorded during the 2016–2017 surveys.

5 Discussion

5.1 Introduction

- 5.1.1 This section discusses the important bird species and assemblages on the site, their numbers and distribution and potential impacts from the proposed development. Where applicable, a brief outline of mitigation requirements is provided and fully outlined in section 6. For clarity, the birds recorded during the wintering bird surveys are subdivided into subgroups so that the particular biology and requirements of these groups and therefore the potential impact from the proposed development can be identified. Only those species considered to be notable (qualifying features of designated sites, Schedule 1 or amber or red list) are reported in this section. The sub sections within this section of the report which discuss the wintering birds present within the site are:
 - The overall bird assemblage;
 - Wintering waders
 - Waders associated with nearby international designated sites;
 - · Wintering ducks;
 - Wintering thrushes;
 - Gulls
 - Other species that are present in the UK year round
 - Barn owls (this species was not recorded within the field surveys but is included within the report as potential impacts were identified from the desk study).
- 5.1.2 In the 2019 survey only one additional species was recorded, a raven, which is not considered to be notable or of conservation concern. In the 2020 surveys, lapwing, little grebe and pochard comprise additional notable species.

5.2 Wintering Bird Summary

5.2.1 The site supported a varied assemblage of wintering birds, with a total of 77 species being recorded on the site during the wintering bird surveys: 69 during the 2016-2017 surveys, 49 during the 2019 survey and 59 during the 2020 surveys. Only one additional species was recorded within the 2019 survey, raven, which is not considered notable. The 2020 surveys recorded five additional species (cormorant, firecrest, lapwing, little grebe and pochard), four of which are notable (lapwing, cormorant, little grebe and pochard). Of the 77 species recorded, 36 were considered notable. On average, around 2500 birds were recorded on each of the surveys. The assemblage of birds was largely what would be expected on a farmland site such as the proposed Otterpool Park site. Due to the nature of the site being largely farmland, and due to the recent decline in farmland birds, farmland birds are also considered as a notable assemblage discussed in section 5.4.

5.3 Sub-Categories of Notable Wintering Birds

Wintering waders

5.3.1 The four species within this category are golden plover, coot, snipe and woodcock. Snipe and woodcock were recorded in relatively small numbers (peak counts of 8 and 1 respectively) and were the only two species to also be recorded during the 2019 survey; snipe (1 individual) was the only one to be recorded in 2020. These species were recorded to be associated with a limited area of habitats on the site, namely the ditches around the Folkestone Racecourse Lake (Centred on OSGR TR 12342 36850). A proportion of this area is to be retained within the development. In addition, a new wetland area, which is to

- contain multiple ditches, is to be created in the north west of the site. This will provide a comparable habitat to that to be lost and will be of a greater area than that to be lost. No additional mitigation is deemed necessary
- 5.3.2 Golden plover was the only qualifying wading species associated with the SPA and or Ramsar. However, the peak count for this species on site was 3, and the peak count recorded at the SPA in 2016 was in the region of 4050 birds (Natural England 2016). Golden plover was not recorded during the 2019 survey. This is a green list species not of general conservation concern. As a result, it is considered that this species is not supported or maintained by the site. It is not considered that any specific mitigation is required for this species; the mitigation proposed for the wintering waders above will also provide benefit for this species.

Wintering ducks and rails

- 5.3.3 The six species recorded within this category were teal, gadwall, coot, mallard, pochard (new for 2020 surveys) and little grebe (new for 2020 surveys) (full records are presented in Appendix B). Three of these species were recorded in fairly large numbers (peak counts of 67 for mallard, 97 for teal and 28 for gadwall the later is also a qualifying species of the SPA) but were largely only recorded in association with the larger standing water bodies on the site, namely Folkestone Racecourse Lake and the pond south of the A20 (centred on OSGR TR 118 362). Both of these areas are to be retained as a component of the project, and in addition there are to be multiple new wetland areas across the site, including a new water body south of the Folkestone Racecourse Lake, and the wetland area described above. No additional mitigation is deemed necessary.
- 5.3.4 Coot was one of the water birds named in the SPA assemblage with a peak count of five. This is a green list species not of general conservation concern. As a result, it is considered that this species is not supported or maintained by the site. It is not considered that any specific mitigation is required for this species; the mitigation proposed for the wintering waders above will also provide benefit for this species.
- 5.3.5 During the 2019 survey only mallard was recorded with a total of 16 individuals.
- 5.3.6 During the 2020 surveys, pochard and little grebe were identified, which are water birds named in the SPA assemblage; however, as these were only single individuals, it is considered that this species is not supported or maintained by the site. It is not considered that any specific mitigation is required for this species and the mitigation proposed for the wintering waders above will also provide benefit for this species.

Wintering thrushes

5.3.7 The species which are present within this category are redwing and fieldfare (song thrush and mistle thrush are not included within this category as this species is resident in the UK, it is included within farmland birds). These birds are thrushes which winter in the UK and were largely observed foraging across farmland and within hedgerows across the site. Peak counts for these species were largely high in 2016—2017 (328 for redwing and 928 for fieldfare), the numbers varied greatly between visits, suggesting that the site forms part of a much larger foraging area for these wintering species (full records are presented in Appendix B). In total 34 redwing and 4 fieldfare were observed during the 2019 survey. 2020 surveys recorded a total of 392 redwing and 254 fieldfare. Hedgerows are to be retained within the development, with only a small number of hedgerow sections to be removed to facilitate the development. Where hedgerows are to be removed, these sections will be translocated, and as a component of the development extensive sections of new hedgerow are to be installed. The proposed new sports pitches would have rough grassland buffers, providing a foraging resource, and there will be a section of enhanced

farmland in the south east of the site. Nevertheless, there will be a significant loss of foraging arable and pasture land within the development. As a result, off site mitigation for this loss will be required.

Notable farmland birds

- 5.3.8 Notable farmland birds recorded on the site during the 2016-2017 surveys included linnet; reed bunting; skylark; song thrush; starling; stock dove, bullfinch, kestrel and yellowhammer, in addition, there were other farmland bird species: goldfinch; jackdaw; long-tailed tit; meadow pipit; mistle thrush; rook and wood pigeon.
- 5.3.9 These species were also recorded in 2019 and 2020 surveys with the exception of linnet in 2019. Lapwing is an additional species of note identified during the 2020 surveys.
- 5.3.10 Mitigation for impacts to this species group will be required, including off-site offsetting.

Gulls

- 5.3.11 The notable species of gull recorded were black-headed gull; common gull; herring gull and Mediterranean gull. These were recorded foraging in significant numbers across the arable land on the site, sometimes in mixed species flocks (peak counts of 650, 1450, 594, 334 respectively in 2016-2017, counts of 551, 4, 96 and 275 respectively in 2019 and peak counts of 9, 56, 76 and 215 in 2020). Mediterranean gull is listed on the citation for the nearby SPA and Ramsar (Dungeness, Romney Marsh and Rye Bay), but it is only listed for its breeding population, so the wintering individuals on the site are considered unlikely to contribute to the value of the notable population on the SPA / Ramsar.
- 5.3.12 Furthermore, when the distribution of records throughout the survey season is reviewed, it is apparent that the usage of the site by wintering gulls is sporadic. Common gull records varied from 4 to 1450 records between survey visits, and Mediterranean gull varied between 0 334 (full records are presented in Appendix B). This suggests that although the site is important for this species, there are other habitats in the wider landscape which these species utilise for foraging. In addition, the majority of farmland offers minimal over wintering resources for birds, being winter sown crops (therefore remaining stubble and grain is cropped into the substrate).
- 5.3.13 However, it is considered that the development would result in the loss of significant areas of farmland that is of feeding value for overwintering gulls. As a result, it is assessed that there will be a requirement for off-site resource provision / offsetting.

Other species (that are present in the UK year-round)

5.3.14 The species in this category are house sparrow, kingfisher and cormorant. The site is of value for these species year-round, not specifically whilst wintering. Kingfisher were recorded in two locations in 2016-2017 and once in 2020, and are known to be present within the East Stour river corridor and within the Folkestone Racecourse Lake. Both of these features of the site are to be retained, buffered and enhanced for kingfisher (impacts to nesting kingfishers are discussed within the breeding bird report (ES Appendix 7.15). House sparrow were recorded on the site, with a peak count of 35 individuals in 2016-2017, but this was only one visit, and during all other visits, less than 10 individuals were recorded. During the 2019 survey five house sparrow were recorded. During the 2020 surveys, 16 house sparrow were recorded. The majority of these records were from areas adjacent to residential areas, particularly around Lympne village. It is considered that this species will largely benefit from the development, with quality GI to be included within the development. The built areas of the development will also have set parameters for enhancement, including house sparrow boxes. Cormorant were only recorded on

Folkestone the Racecourse Lake during the 2020 surveys. This feature of the site is to be retained and buffered.

Barn owl

5.3.15 Barn owl were not recorded within the wintering bird surveys, but this species is difficult to detect using standard wintering bird survey techniques. This species was recorded within the desk study (47 records). Of these records all but 12 are from two locations: 'Nickoll's', c.2.3 km from the site and 'Botolph's', c.1.5km from the site. Of the remaining 12, only one record was from within the site. It is considered that the site is likely to offer some limited winter foraging habitat for barn owl (a full assessment of barn owl foraging potential is provided in the associated bird report (ES Appendix 7.15). There is limited opportunity to incorporate expanses of barn owl foraging habitat within the development, therefore some off-site mitigation would be required.

5.4 Farmland Bird Assemblage

- 5.4.1 There were significant numbers of some of the farmland bird species overwintering on the site. Starling were regularly recorded on the site (in fairly stable numbers), with a peak count of 450 birds, and there were significant numbers of other farmland species recorded within the site, including goldfinch (peak count 106), meadow pipit (peak count 96) and rook (peak count 183 animals) (full records are presented in Appendix B). Although none of the numbers are particularly high, the results suggest that the site has value for wintering farmland birds. This value of the site for this bird group is likely to be reduced due to the current management of the site. The arable land on site is largely winter sown, which reduces the overwintering value of the land for farmland birds as winter feeding resources are ploughed into the ground. Across the majority of the site, arable field margins are largely narrow although they vary from negligible to c.10m in width.
- 5.4.2 The development will be designed to minimise the impact to overwintering farmland birds. Hedgerows are to be retained within the development, with only a small number of hedgerow sections to be removed to facilitate the development. Where hedgerows are to be removed, these sections will be translocated, and as a component of the development extensive sections of new hedgerow are to be installed. The proposed new sports pitches would have rough grassland buffers, providing a foraging resource, and there will be a section of enhanced farmland in the south east of the site. However, there will be a significant loss of foraging arable and pasture land and as a result, off-site mitigation for this loss will be required.

5.5 Comparison of 2016/17, 2019 and 2020 Data

- 5.5.1 In order to determine the continued validity of the data and conclusions from the 2016/17 surveys, the data obtained in 2019 and 2020 was compared with the 2016/2017 data. The purpose of this was to determine the likelihood of significant changes in the valuation of the bird species and groups supported by the site.
- 5.5.2 The habitat assessment identified no significant changes likely to greatly impact upon the populations of birds supported by the site. No additional notable species were identified in 2019 and four were identified in 2020, but in relatively low numbers (lapwing (11), cormorant (2), pochard (1) and little grebe (1)).
- 5.5.3 With the exception of skylark (increase of 23 individuals), stock dove (increase of 3 individuals) and kestrel (increase of 1 individual), none of the peak counts of any of the other notable species recorded was greater that the peak recorded in 2016/17. Overall, the results of the 2019 and 2020 surveys resulted in the conclusion that:

- No further breeding bird surveys are required to inform a 2021 resubmission of the ES;
- The valuations utilised in the 2019 submission are considered to be valid, with no evidence of any species or groups increasing in value.

6 Mitigation Recommendations and Further Survey

6.1 Design Mitigation

Masterplan design

- 6.1.1 In line with the mitigation hierarchy, within the masterplan, the initial approach to limiting impacts would be through avoidance. The most important areas for a number of bird species, specifically farmland birds, wintering waders, wintering ducks, house sparrow and kingfisher are to be retained. These areas are:
 - The Folkestone Racecourse Pond, which is to be retained and included within an improved buffer area;
 - The area to the west of the Folkestone racecourse lake where woodcock and snipe were recorded;
 - The pond to the south of the A20;
 - The East Stour River corridor, which is to be retained and buffered.
- 6.1.2 In addition, there are areas designed to provide valuable habitats for wintering birds within the masterplan design and GI within the development. These include:
 - A large area of varied space to be created to the south east of the site, including orchard, wet areas (for sustainable drainage systems (SuDS)) and rough grassland;
 - A new wetland area to be created in the north west of the site. This is to be approximately 14ha and include predominantly ditches, scrub, grassland and trees;
 - New hedgerows to be created across the site;
 - A large number of SuDS and water features to be created within the development;
 - Sports pitch boundaries and buffers which will be of value for the development.
- 6.1.3 Nevertheless, it is not possible to fully mitigate for impacts to farmland birds and other groups which require large areas of open farmland within the development. As such, an outline of off-site mitigation is provided below.

6.2 Additional Mitigation

Wintering farmland birds, wintering gulls, wintering thrushes, barn owl - off site mitigation

Introduction

- 6.2.1 For wintering farmland birds, wintering gulls, wintering thrushes and barn owls, it will not be possible to fully mitigate for impacts to these species within the site. Measures will be incorporated within the site (as described within section 6.1). However, it will not be possible to fully mitigate for impacts to these bird groups within the site, due to the significant space requirements of these species. Therefore, an off-site mitigation strategy will be outlined. It is not within the remit of this report to outline the exact location or methodology of off-site mitigation provision, this will need to be determined for each phase as the development progresses. It is not appropriate to fully outline the approach as due to the extended buildout the situation may change, for example:
 - Partnerships with NGOs / other organisations may change, making collaborative offsetting projects more (or less) practicable.
 - Standing advice, such as Countryside Stewardship parameters may vary over time;

- The management of farmland to be developed may change, i.e. additional areas may be brought into or taken out of Countryside Stewardship management. Therefore, the baseline will need to be updated to ensure that the mitigation provided is appropriate.
- 6.2.2 Initially, for Phase 1 of the development, an area to the west of the development site is proposed to be enhanced. This area is shown in Image 2 below. This area would be enhanced as outlined below to offset the initial impacts from the developments. Beyond this, additional areas will need to be identified for enhancement.

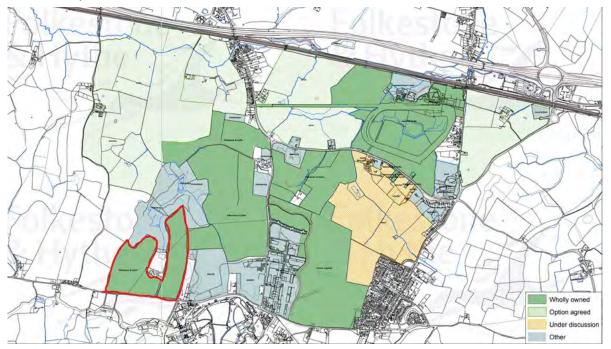


Image 2: Proposed location of enhancement for Farmland Birds for Phase 1 of the development (indicatively shown in red)

6.2.3 This section outlines how a suitable mitigation approach and quantum should be identified prior to development of each parcel and how a suitable financial payment for this can be calculated. It should not be read as a prescriptive document.

Outline of off-site mitigation

- 6.2.4 This mitigation is also described within the breeding bird report (ES Appendix 7.15). This mitigation is the same, not additional to that mitigation.
- 6.2.5 There are multiple impact pathways to these species' groups. The development would lead to the loss of the farmland that supports these birds. Domestic pets (primarily cats) associated with new residents may also lead to an increase in predation affecting birds using the adjacent farmland. The creation of a wide band of open space on the edge of the Masterplan site would reduce the likelihood of predation and lead to the creation of habitats of value to some of these species; nevertheless, there would be a residual effect on birds, as farmland bird habitat would not remain on the site.
- 6.2.6 It is proposed to mitigate for the adverse effect on wintering farmland birds, wintering gulls, wintering thrushes and barn owls by funding habitat improvements off-site. Funds would be provided to enhance local habitats for farmland birds through appropriate, proven management regimes to increase the carrying capacity of local habitats. It is considered that such enhancement measures would mitigate for the loss of habitat for farmland birds as a result of the proposed development. The payments are based on 'Countryside

Stewardship: Higher Tier' options targeted specifically at farmland birds and aim to provide the three elements considered to limit farmland bird numbers. These are:

- Safe nesting habitat,
- Summer food; and
- Winter food.
- 6.2.7 Measures developed as part of 'Countryside Stewardship: Higher Tier' which could be adopted are designed to (Rural Payments Agency 2021):
 - benefits as many wild pollinators and birds as possible
 - provide valuable spring foraging for wild pollinators, as well as good nesting habitat for birds
 - create a mixture of habitats, from tussocky, uncut grass to areas of warm, dry, bare ground that remain undisturbed for the breeding cycle. These will provide wild pollinators and farmland birds places to nest and, shelter and overwinter/hibernation areas for pollinators
 - Provide both annual and biennial wild bird seed mixes as they will benefit a broader range of farmland birds
 - Place skylark plots over some/all of the area of winter cereal crops
- 6.2.8 There are other measures that could be adopted but those suggested would provide habitat for these three elements in line with Natural England's Farmland Bird Advisory Note (Natural England, 2013).
- 6.2.9 It is not considered necessary to purchase land specifically for the habitat management, since it is not the lack of farmland that is limiting bird numbers, but the lack of appropriate management. It is proposed to contribute funds to body such as a specifically created group or NGO, a wildlife trust or conservation group which would guarantee, through a legal agreement, that the money would be used to deliver the proposed benefits for farmland birds in the local area. The detail of this agreement would be set out in a S106 or similar legal agreement which would form part of the detailed permission for each planning application.
- 6.2.10 The disturbance and habitat loss that would have the largest effect on nesting farmland birds would occur during site clearance; it is therefore proposed that the monies would be provided to the grant-giving body at least six months, and ideally one year, in advance of the impacts occurring (i.e. at last six months and ideally one year in advance of site clearance for each phase / zone of the development).
- 6.2.11 It is proposed that funds provided should be sufficient to enhance farmland for farmland birds for a period of 30 years (the management time expected as stated in the emerging Environment Bill). The sums would be provided as lump sums in advance of each phase of site clearance sufficient to cover management for the 30-year period. The payments provided would be in line with the payments provided by 'Countryside Stewardship: Higher Tier' (Rural Payments Agency 2021) as outlined in the tables below (Table 12 and Table 13). A mark-up on the area of enhancement provided is proposed, as areas of the site are currently under HLS stewardship (the predecessor scheme to 'Countryside Stewardship: Higher Tier'), and the requirement for offsetting should be against the future baseline. The calculation of this is shown in Table 13 below. It should be noted that management / implementation costs are likely to be in addition to these costs.
- 6.2.12 A study of the effect of HLS management on breeding bird populations in the UK showed an approximate 30% increase in breeding bird abundance under HLS management after 5 years (Redhead *et al* 2018). The habitat on site does not yet show obvious habitat improvements nor farmland bird abundance differentiation (ES Appendix 7.15) but is likely

to do so in the future under continued HLS management. Therefore, to account for the future baseline, a calculation has been undertaken based on the area of suitable habitat for farmland birds to be lost, both conventional and HLS managed. Multipliers of 1 and 1.3 respectively have been employed to give an area of new habitat proposed to be established under optimum management for farmland birds as compensation.

Table 12: Calculation of multiplier for requirement for farmland birds

Area of the site	Area (ha)	Value for birds	Proposed offsetting quantum (multiplier)	Explanation	Total offsetting 'area' required (ha)
Arable land CURRENTLY under HLS stewardship	175ha	Currently has value for farmland birds, wintering thrushes and feeding gulls (likely to increase according to the future baseline).	1.3*	The additional 0.3 increase is to take into account the increased value and the future baseline of this habitat	175 x 1.3 = 227.5ha
Arable / pastureland not under HLS	352 ha	Currently has limited value for farmland birds, wintering thrushes and feeding gulls. Unlikely to change in future baseline.	1	A 1 for 1 enhancement should be sufficient*	352 x 1 = 352 ha
Total		1		1	579.5ha

^{*1.3} to account for benefits from future baseline

Table 13: Proposed interventions for off-site mitigation (based on 'Countryside Stewardship: Higher Tier' but implementation should go above the base requirements

Item	Unit price*	Suggested minimum (per 100ha as per 'Countryside Stewardship: Higher Tier' guidance)
AB1 Nectar flower mix	£511 per hectare	1.5ha
AB11 Cultivated areas for arable plants	£532 per hectare	1.5ha
AB11 Cultivated areas for arable plants	£532 per hectare	1ha
AB12 Supplementary winter feeding for farmland birds	£632 per tonne (2 hectares)	50 tonnes
AB15 Two-year sown legume fallow	£522 per hectare	1.5ha
AB16 Autumn sown bumblebird mix	£550 per hectare	1.5ha
AB2 Basic overwinter stubble (or OP1	£84 per hectare	5ha

Item	Unit price*	Suggested minimum (per 100ha as per 'Countryside Stewardship: Higher Tier' guidance)
Overwintered stubble		
AB4 Skylark plots	£18 per hectare (£9 per plot, minimum 2 plots per hectare)	2 plots per ha -= 200 plots
AB6 Enhanced overwinter stubble	£436 per hectare	2.5ha
AB8 Flower-rich margins and plots	£539 per hectare	1.5ha
AB9 Winter bird food	£640 per hectare	1/2ha depending upon implementation
BE3 Management of hedgerows	£8 per 100 meters for 1 side of a hedge	500m
GS1 Take field corners out of management (outside SDA)	£365 per hectare	1ha
GS3 Ryegrass seed-set as winter food for birds	£331 per hectare	1ha
GS4 Legume and herb-rich swards (or OP4 Multi- species ley)	£309 per hectare	1.5ha
Management Fee	TBC	TBC
OP1 Overwintered stubble	£116 per hectare	5ha
OP2 Wild Bird Seed mixture	£640 per hectare	1ha
OP3 Supplementary feeding for farmland birds	£494 per tonne (for every 2 hectares of wild bird seed mixture)	N/A
SW1 4-6m buffer strip on cultivated land	£353 per hectare	1ha
SW4 12-24 m watercourse buffer strip on cultivated land AB3 Beetle banks	£512 per hectare	1ha
WD3 Woodland edges on arable land	£323 per hectare	0.5ha
WT1 Buffering in-field ponds and ditches in improved grassland	£201 per hectare	0.5ha
WT2 Buffering in-field ponds and ditches on arable land	£501 per hectare	0.5ha
WT3 Management of ditches of high environmental value	£37 per 100 metres (for the management of both sides of the ditch)	500m

^{*} Should be based on 'Countryside Stewardship: Higher Tier' guidance or equivalent scheme.

^{6.2.13} The 'Countryside Stewardship: Higher Tier' options that will be applicable to each parcel of land to be enhanced and the palette of options that will be suitable for implementation from the table above will vary greatly. As such, it is not possible to confirm the likely cost of the

overall intervention. However, the 'Countryside Stewardship: Higher Tier' guide provides some examples of a compliant scheme., the payments on these schemes area in the region of £3000 - 3500 per 100 ha per annum. Assuming the offsetting interventions for the proposed scheme would go over and above the minimum requirements, and 2X the base requirements were implemented, this would suggest an annual cost of between £6000 and £7000 per 100ha of offset (excluding any management costs).

- 6.2.14 It is considered that providing sums that would cover enhancements on 597.5ha of land would more than mitigate for the impacts on farmland birds that would be generated by the development on the Masterplan site. The RSPB have found that they were able to more than double the number of farmland birds on their Hope Farm Site in Cambridgeshire in a ten-year period by managing their farmland in a manner beneficial to farmland birds (Source: RSPB website). It is therefore anticipated that enhanced management of 597.5ha of land would mitigate for the impact on birds associated with the loss of suitable farmland bird habitat within the site. The provision of grants to local landowners via a grant-giving body would ensure that the monies are provided for appropriate measures, and that the measures would be implemented since the grants would not be awarded if the works were not completed.
- 6.2.15 As it is considered that 597.5ha of enhancement would offset the Otterpool impact to farmland birds, this allows an estimate of the total cost to be calculated. Assuming an annual cost of between £6000 and £7000 per 100ha of offset, over 30 years, the total cost would be:
 - 6000/7000 (cost) x 30 (years) x 5.795 (number of 100ha blocks) = £1043100 to £1216950 (ESTIMATED).
 - This equated to a cost of £34770 to £40565 per year
 - Assuming a total of 8500 residential units, this would be £4.09 to £4.77 per unit per year.
- 6.2.16 It is considered that this alternative provision would mitigate for impacts resulting from the loss of barn owl habitats. This would be in line with the prescription of the Barn Owl Trust which state:

"Barn Owl foraging habitat has no statutory protection at any time (other than by virtue of the presence of other more highly protected species of fauna or flora). Nevertheless, we recommend that the loss of foraging habitat is mitigated by the creation and subsequent management of alternative areas of habitat." (Barn Owl Trust 2018).

Selection of off-site mitigation provision

6.2.17 As explained above, it is not practicable to determine the exact application of the off-site mitigation requirements outlined within this document at this time. The image below outlines the potential options for the implementation of the off-site mitigation (Image 3), and a process through which an appropriate course should be selected.

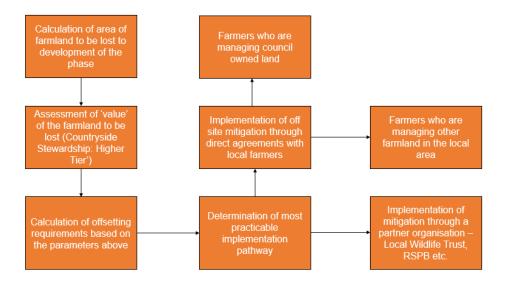


Image 3: Process for identifying a suitable offset for farmland bird impacts

Construction mitigation

General

- 6.2.18 Although wintering birds are not specifically protected by legislation all nesting birds are protected by law and the site clearance to enable the development is likely to have the it is therefore recommended that appropriate construction mitigation measures are implemented. These should be outlined within a Code of Construction Practice plan (CoCP).
 - Appropriate measures are put in place to control dust and other emissions that could affect air quality.
 - Site compounds, storage facilities and staff facilities are suitably bunded and located in places that would not have an adverse effect on the environment; in particular, the CoCP ensures that retained trees are protected.
 - In advance of site clearance, protective fencing is installed to protect retained and/or
 ecologically sensitive habitats (woodlands, mature trees and hedgerows) and their
 associated buffer zones to ensure that they are not subject to accidental damage (to
 be determined on a phase by phase basis).
 - Haul routes, storage compounds and staff facilities would be located away from retained habitats to minimise disturbance to the species they support.
 - An ecological clerk of works is in place to oversee site clearance, in particular any
 works that have the potential to disturb notable receptors. They would also ensure
 that the mitigation measures proposed adhere to best practice guidelines and take
 account of any changes in legislation that may have occurred.
 - The ecological clerk of works would ensure that hedgerow translocation is undertaken
 in accordance with an agreed method statement. They would also ensure that the
 retained and translocated hedgerows are monitored to ensure that they are managed
 appropriately.
 - Care should be taken to ensure that biosecurity measures are in place to prevent the spread of arboricultural diseases such as Ash dieback.
- 6.2.19 An ecological clerk of works would be employed to ensure that the ecological protection measures outlined in the CoCP are adhered to. They would also undertake regular

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- monitoring to ensure that the protection measures remain in place for the time that they are required.
- 6.2.20 The Ecological Clerk of Works would report to the Site Manager and/or Environmental Clerk of Works to ensure that remedial actions are undertaken in a timely manner.

Dedicated

6.2.21 During the phasing of the work there may be a requirement for a Noise Mitigation and Management Plan with regards to wintering and roosting birds. This mitigation would be evolved with the phasing of the proposed development.

Operational mitigation

Maintenance and monitoring

- Offsetting is proposed for farmland birds, a separate Ecological Management Plan (EMP) will be provided to ensure that the aspirations for this offset land will be achieved. This should be formalised as the development proceeds through reserved matters applications.
- Maintaining high species diversity within woodland areas, a mixture of scrub and trees which are well linked. This could be achieved by appropriate planting, coppicing, thinning and felling;
- Maintenance of hedgerows. This might be achieved by small scale pruning and coppicing. It should be noted that the level of maintenance required often depends on the dominant species present within the hedgerow as different species take different amounts of time to flower/fruit.
- 6.2.22 In addition, during the operation phase, impacts to retained and newly created habitats would be minimised through GI design to focus recreational impacts in certain areas and to minimise impacts to other areas, utilising topography, habitat and fencing to control recreational pressures.

Design parameters for built parcels

- 6.2.23 Native planting, including scrub and trees, will provide habitats and food sources for birds and nesting habitats. In addition, bird nest boxes may be strategically placed to target specific species, and a minimum number of bird boxes per a certain number of built structures should be installed.
- 6.2.24 Open fronted nest boxes of different sizes within a green wall would be of value for robin, house sparrow and starling, those with apertures could be exploited by tits. The inclusion of artificial house and song thrush nests attached to the structure of any proposed buildings would benefit these species which are declining nationally.
- 6.2.25 Within the built parcels, there will also be parameters set (dependent upon the proposed density of the parcels buildings) for GI which will be of value for birds. This will include:
 - Parameters for amounts of green roofs within built parcels:
 - Parameters for the number of trees and street trees within built parcels.

6.3 Further Survey

6.3.1 It is considered that the survey work conducted is sufficient to inform the masterplan design and EIA and fulfils the survey requirements outlined in section 2.1. However, it is considered that throughout the extended buildout, there would likely be a requirement to update / expand the survey work on the site.

- 6.3.2 Prior to each parcel being built, it would be necessary to assess the available survey data and update it where required, updates may be necessary if:
 - The baseline conditions have changed significantly since the last survey conducted;
 - The age of the survey data is considered great and an update is required;
 - Where detailed dedicated species surveys are required to inform the design and additional mitigation, for example tree assessments / inspections for roosting barn owls or detailed riverbank inspections for kingfishers;
 - Where buildings are to be demolished that are identified as having the potential to support roosting barn owls.
- 6.3.3 These additional surveys would inform the requirement for specific mitigation.

7 Conclusions

- 7.1.1 Arcadis was commissioned to undertake surveys for wintering birds as part of a feasibility assessment and master planning exercise to accompany the Environmental Statement for a proposed new development. The proposed development is 'Otterpool Park', a garden settlement located within Kent.
- 7.1.2 This report presents the results of habitat assessments conducted in 2016, 2018, 2019 and 2020 and wintering bird surveys undertaken by Arcadis over the winter season of 2016-2017, with an additional visit in November 2019 and update surveys over two days in December 2020. It also outlines the ecological constraints and opportunities associated with the site with regards to legislation and policy and provides mitigation and enhancement opportunities to be included within the masterplan and informs the associated EIA and mitigation proposals.
- 7.1.3 The results of the wintering bird surveys of 2016-2017 recorded that the site supported a varied assemblage of wintering birds, with a total of 69 species being recorded on the site during the wintering bird surveys. Of these, 30 were considered notable. On average, around 2500 birds were recorded on each of the eight surveys. The additional survey in November 2019 recorded 49 species, of which 22 were considered notable and one species (a raven) that had not been recorded in the previous surveys. The surveys undertaken in 2020 identified 59 species, of which 32 were considered notable and five species that had not been recorded previously (firecrest, cormorant, little grebe, pochard and lapwing). No significant differences in use of the site by birds and in species assemblage were recorded. The assemblage of birds recorded during these wintering bird surveys was not overly notable, it was largely what would be expected on a degraded farmland site such as the proposed Otterpool Park site.
- 7.1.4 The habitat assessments conducted in 2019 and 2020 identified no significant changes likely to greatly impact upon the populations of birds supported by the site (when compared to the 2016 and 2018 assessments). This was supported by the results of the surveys, which did not identify any additional notable species (one extra species, raven was identified, which is not considered notable). The 2020 surveys did identify five additional species, four of which are notable (cormorant, little grebe, lapwing and pochard); however, these were recorded in relatively low numbers.
- 7.1.5 With the exception of skylark and stock dove, none of the peak counts of any of the other species recorded was greater that the peak recorded in 2016/17. Overall, the results of the 2019 and 2020 surveys resulted in the conclusion that:
 - No further breeding bird surveys are required to inform a 2021 resubmission of the ES:
 - The valuations utilised in the 2019 submission are considered to be valid, with no evidence of any species or groups increasing in value.
- 7.1.6 Overall, it is considered that the impacts to some wintering bird species can be mitigated within the development. A variety of valuable features would be retained within the development, and valuable new features would be created. However, impacts to wintering farmland birds, gulls, thrushes and barn owls cannot be mitigated fully within the development; it is considered that there is scope to adequately mitigate for these species through off site mitigation.
- 7.1.7 A proposal for the implementation of the off-site mitigation is proposed and can be refined in conjunction with stakeholders and the local planning authority.
- 7.1.8 Overall, it is considered that the proposed development can be adequately mitigated to minimise impacts to wintering birds.

8 References

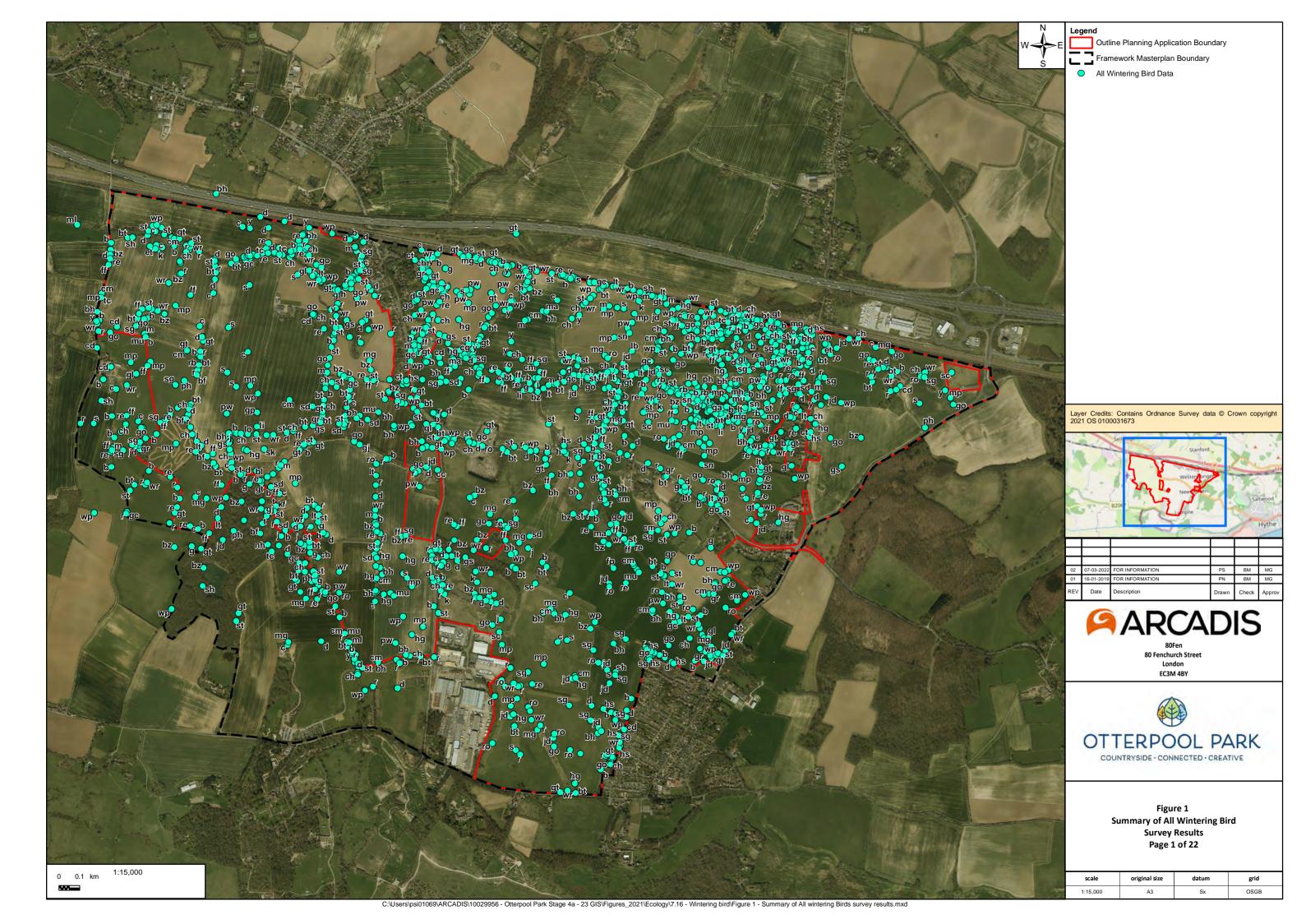
Ref	Title
Ref 1	British Ornithologists' Union (2017) <i>British Ornithologists' Union British List (Categories A, B, C)</i> . Available at: http://www.nhm.ac.uk/our-science/data/uk-species/checklists/NHMSYS0000528629/version1.html?name.match=CONTAINS&name.value=black+redstart &group=&sortBy=latin&filterActive=true&resultsPerPage=10 [Accessed: October 2017].
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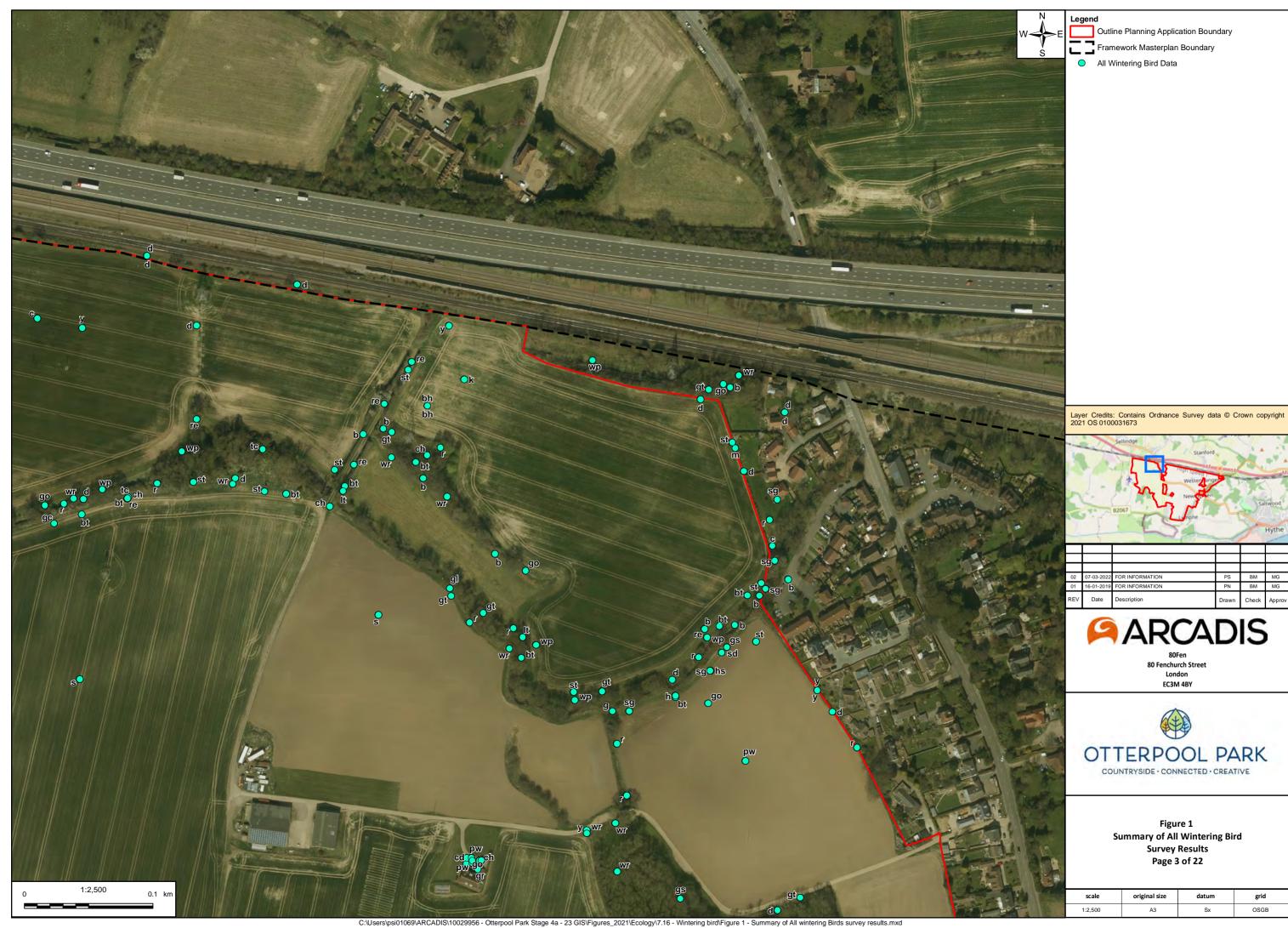
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Figure 1: Wintering Bird Survey Results – 2016 – 2017 N.B. All BTO codes used in this map are presented in Appendix C.

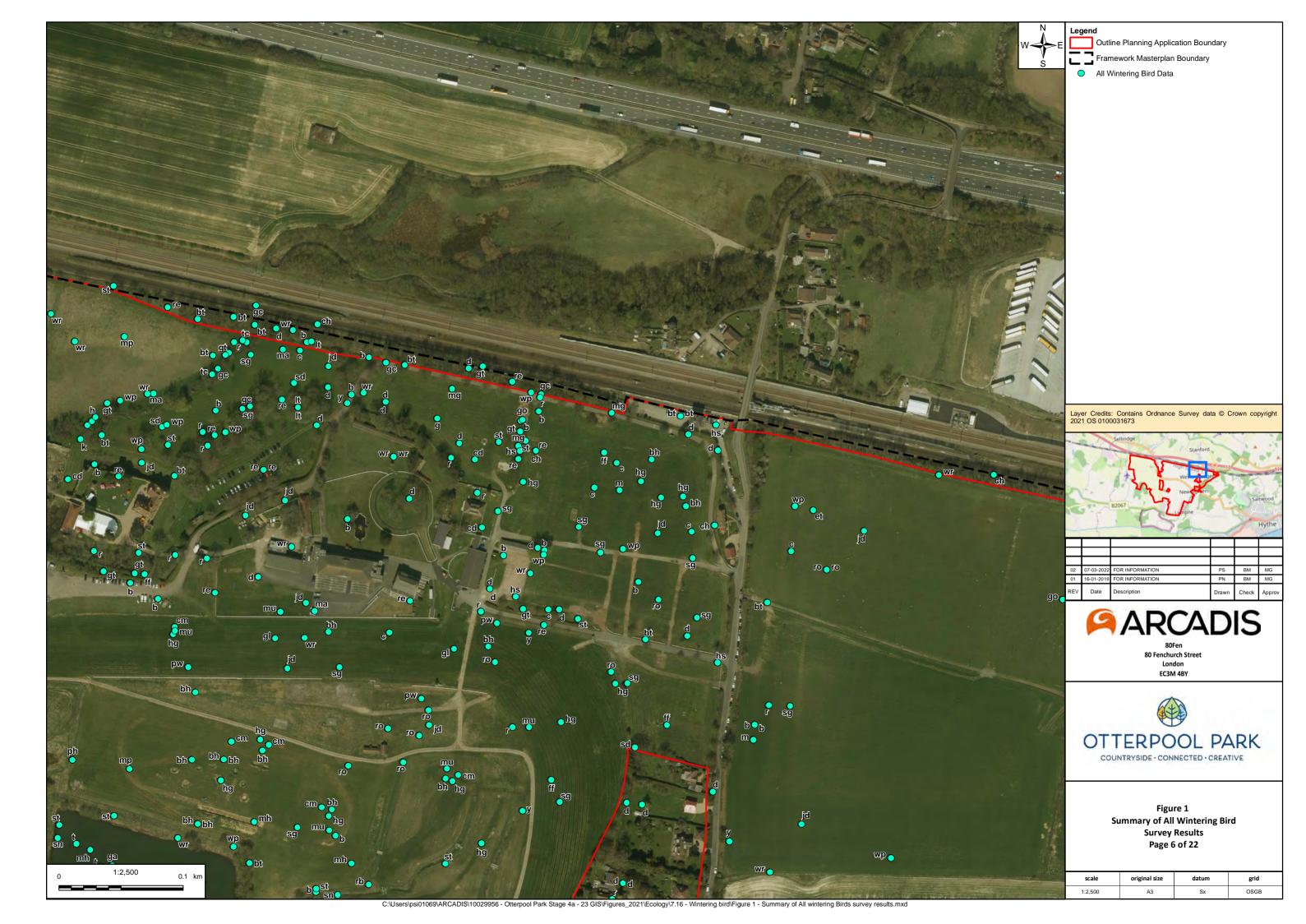














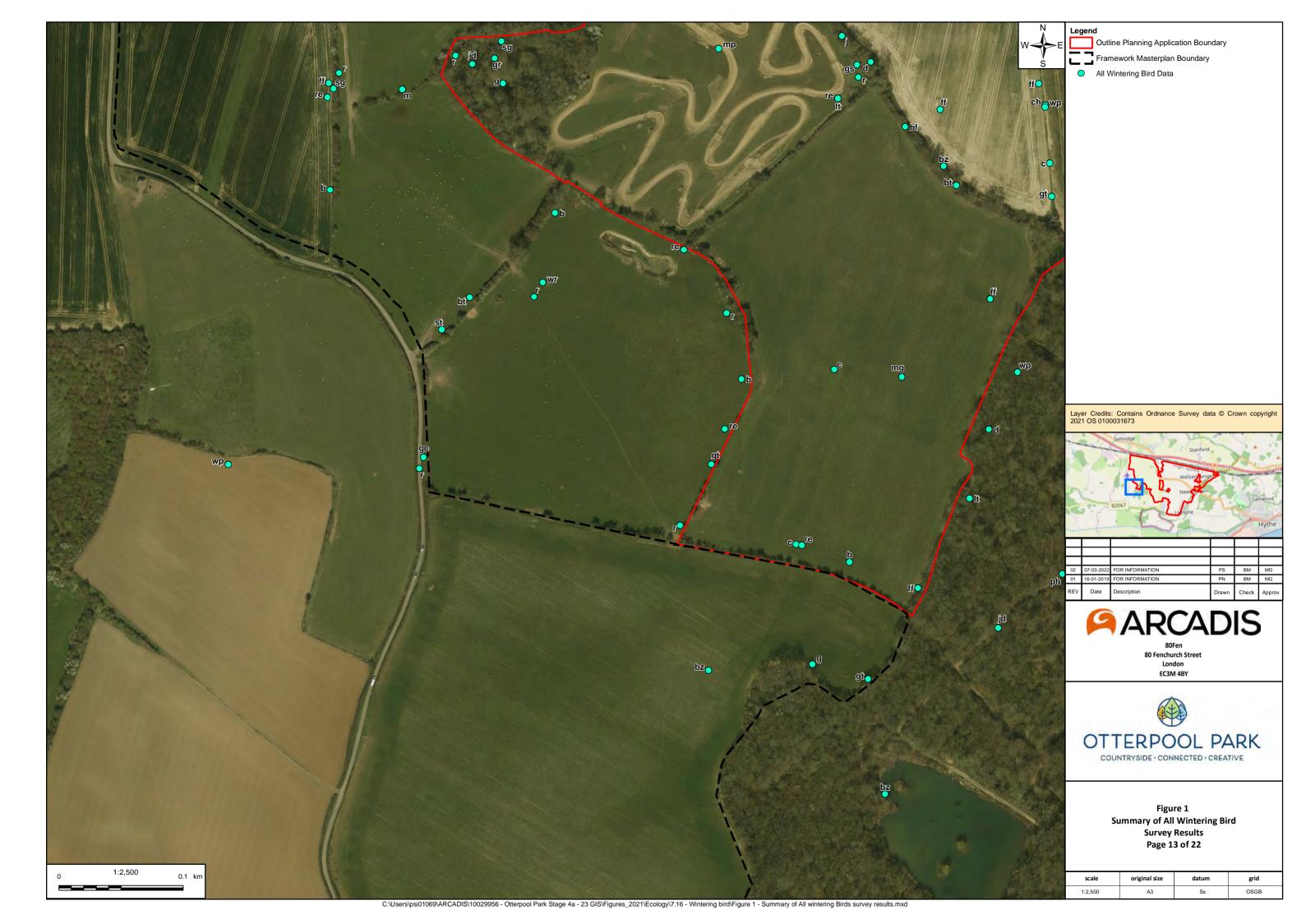


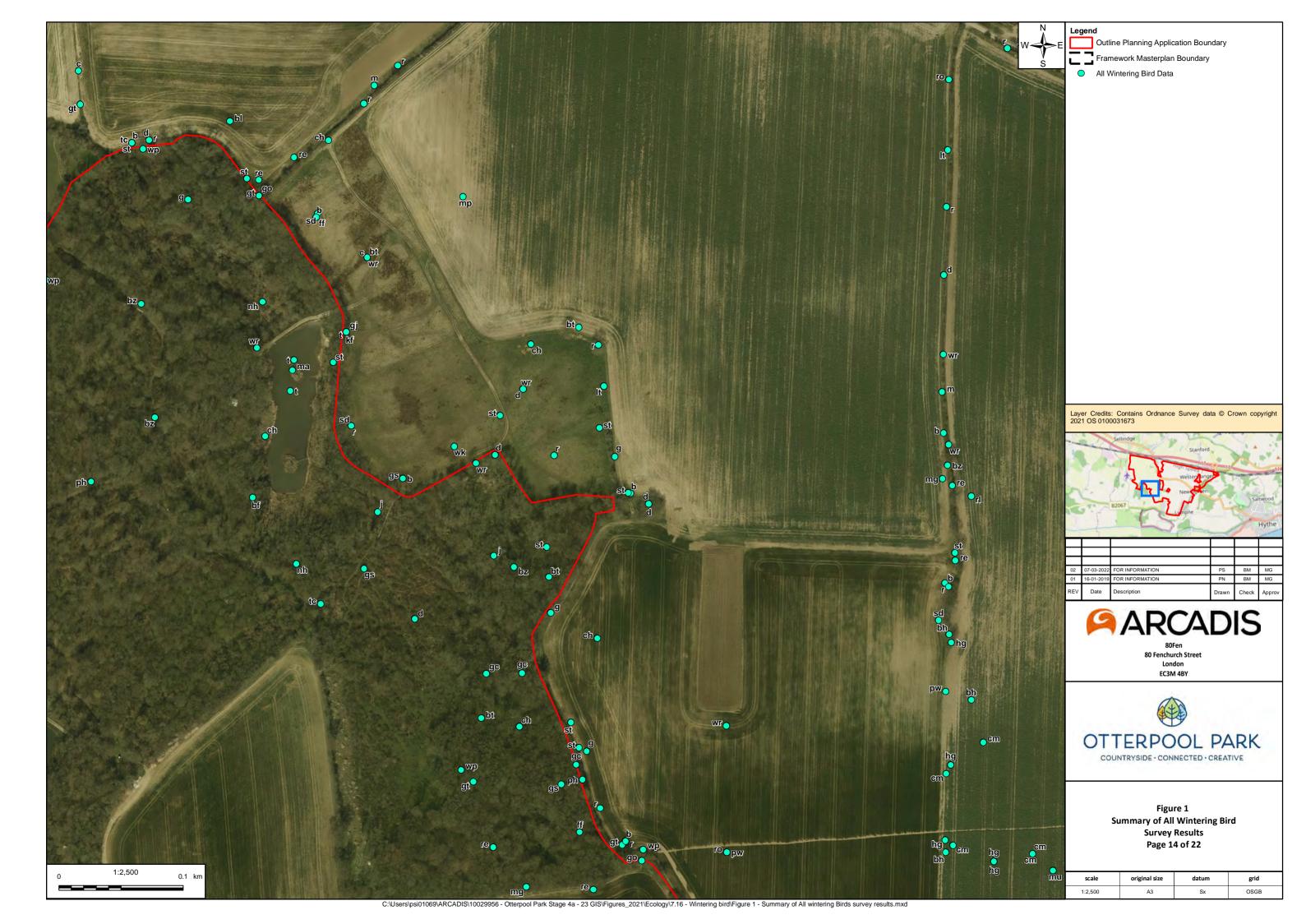


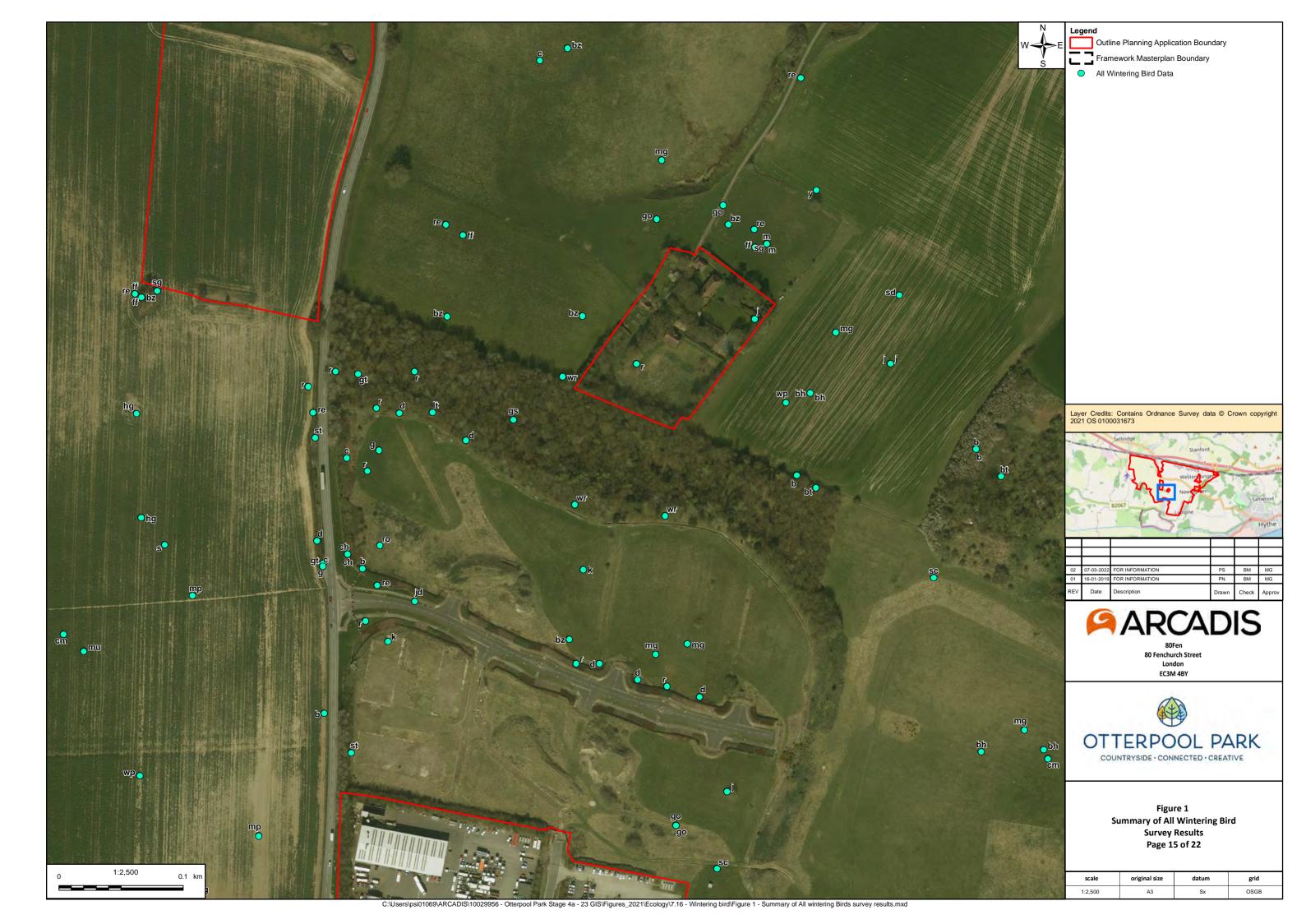










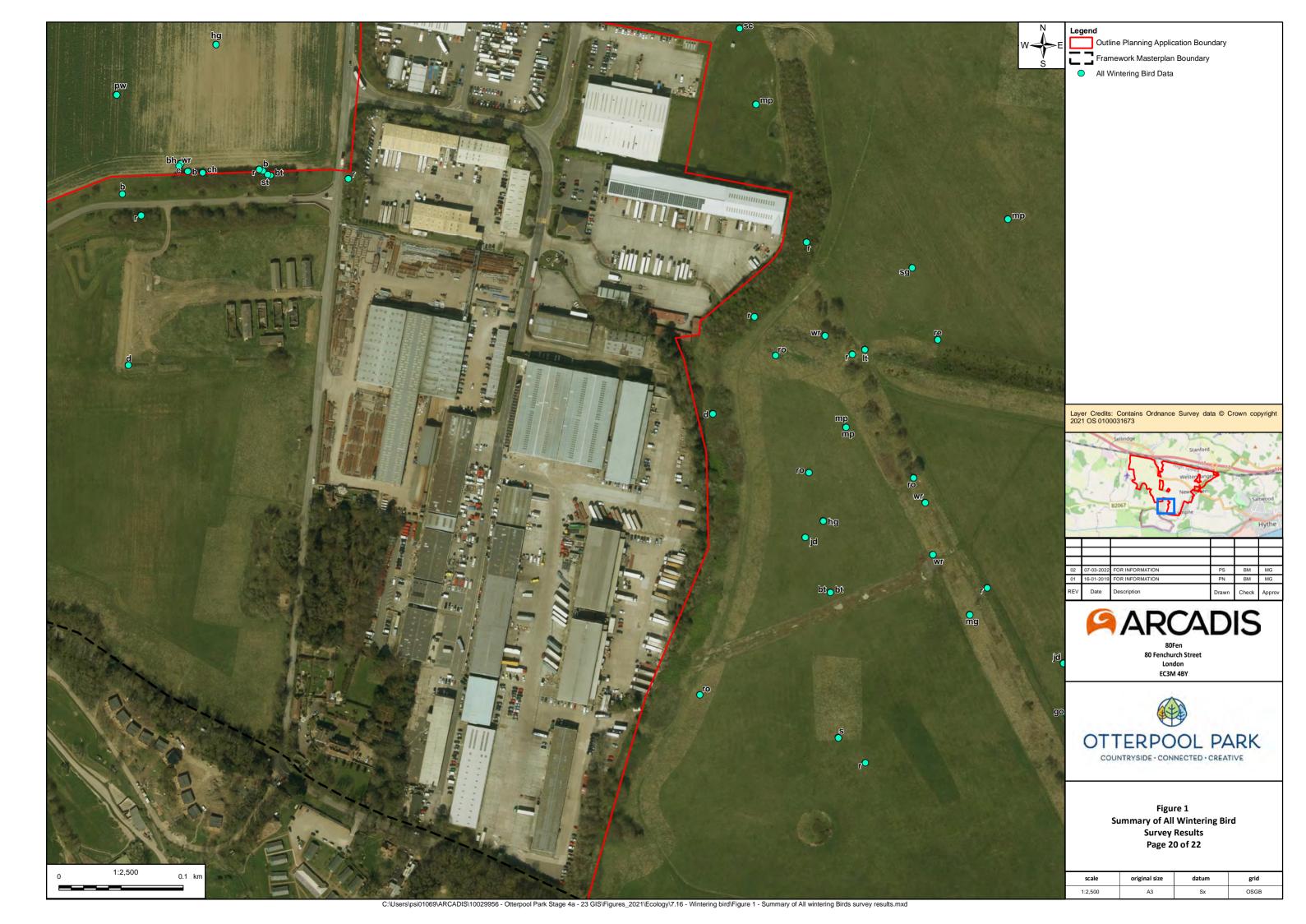














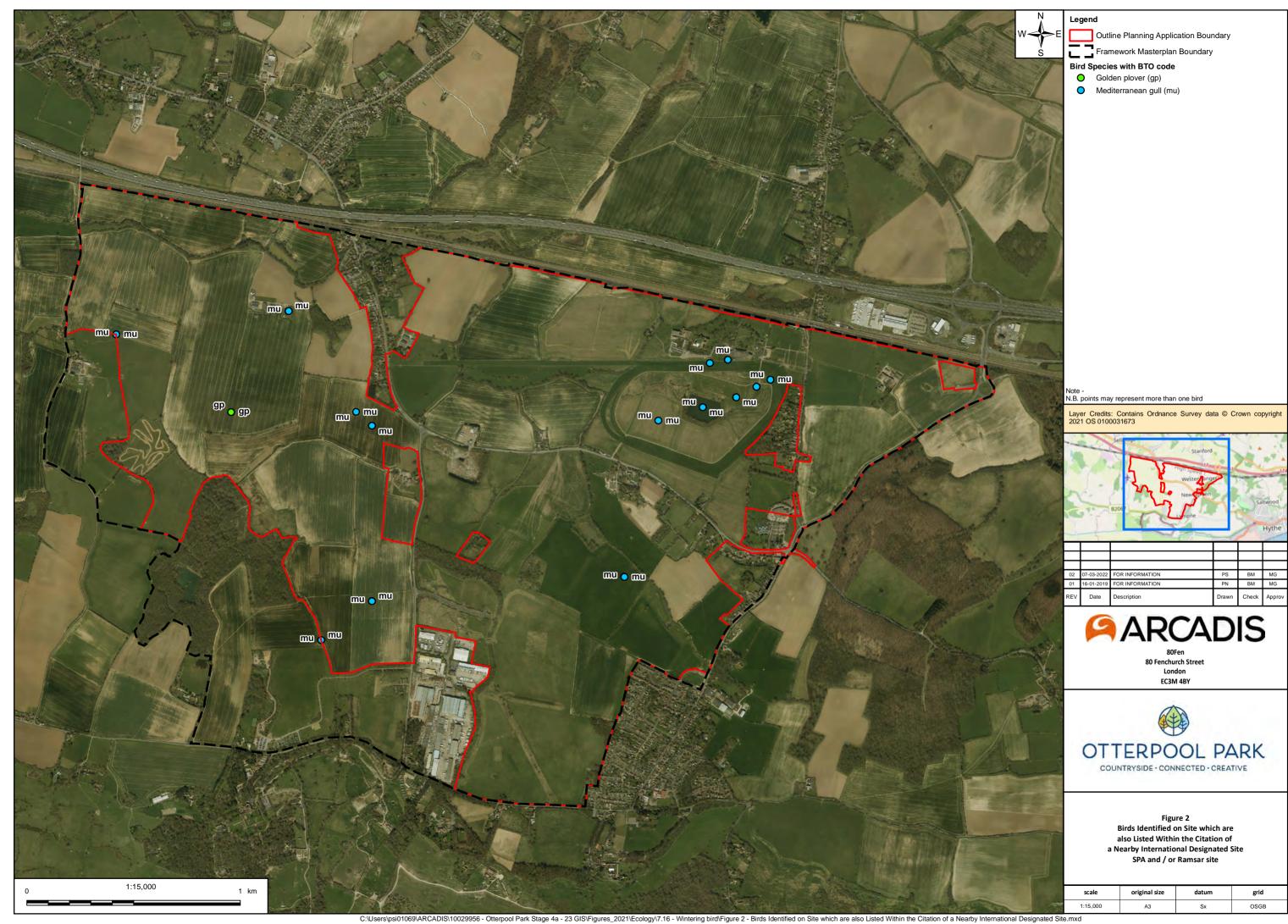


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Figure 2: Birds Identified on Site Which are also Listed Within the Citation of a Nearby International Designated Site (2016 – 2017 surveys).

N.B. All BTO codes used in this map are presented in Appendix C.

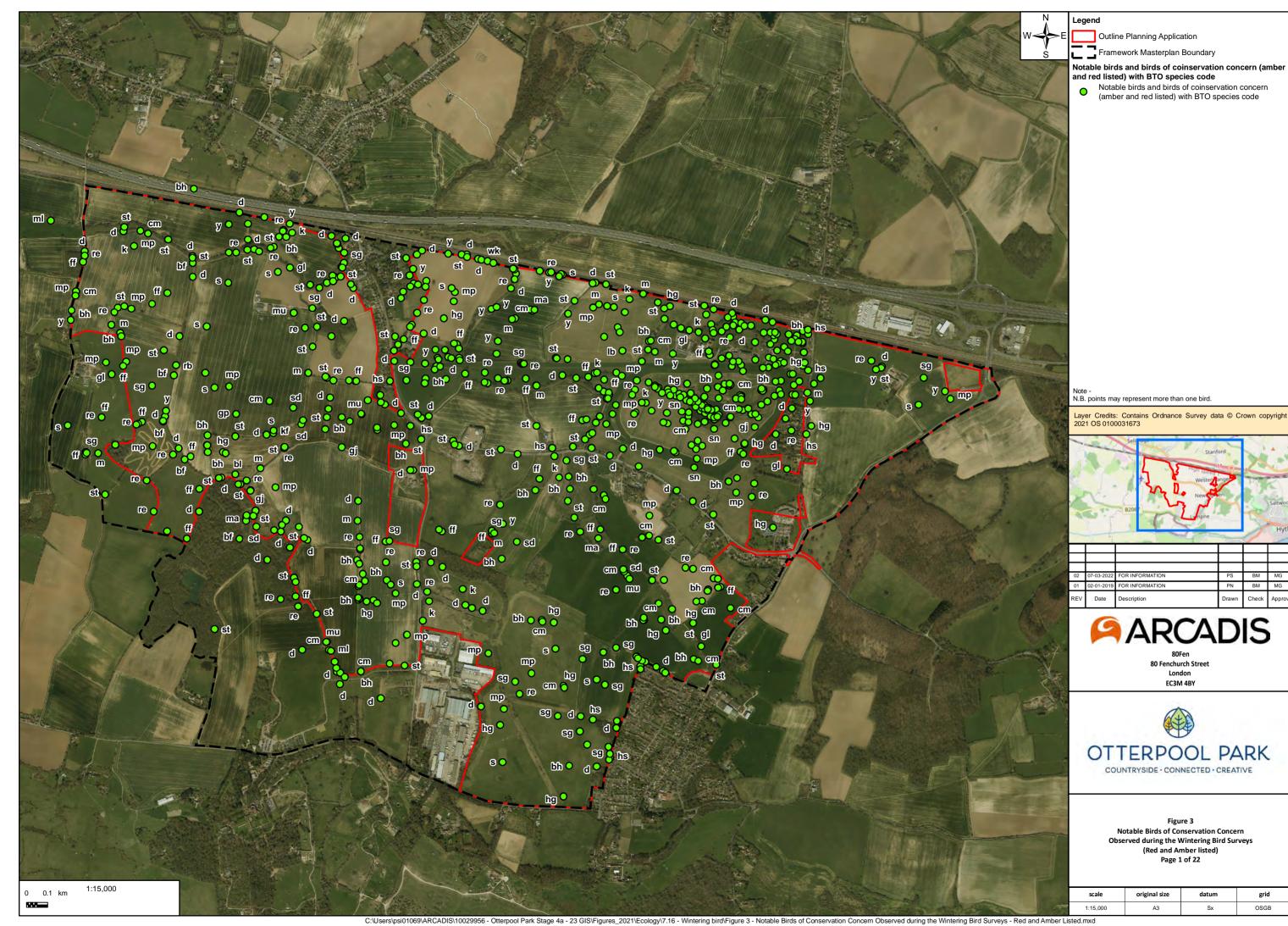


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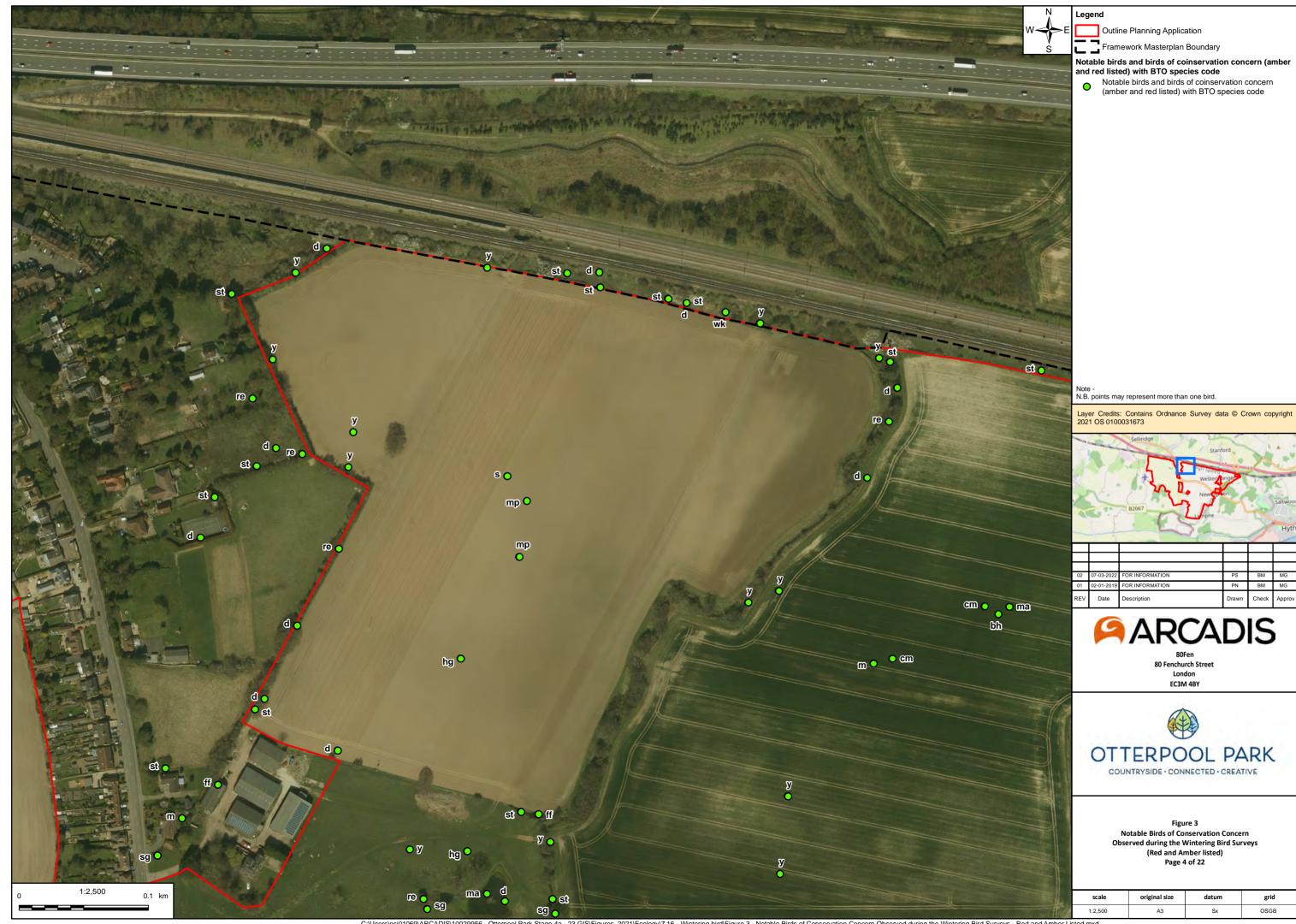
Figure 3: Notable Birds and Birds of Conservation Concern Observed During the Wintering Bird Surveys (2016 – 2017 Surveys)

N.B. All BTO codes used in this map are presented in Appendix C.







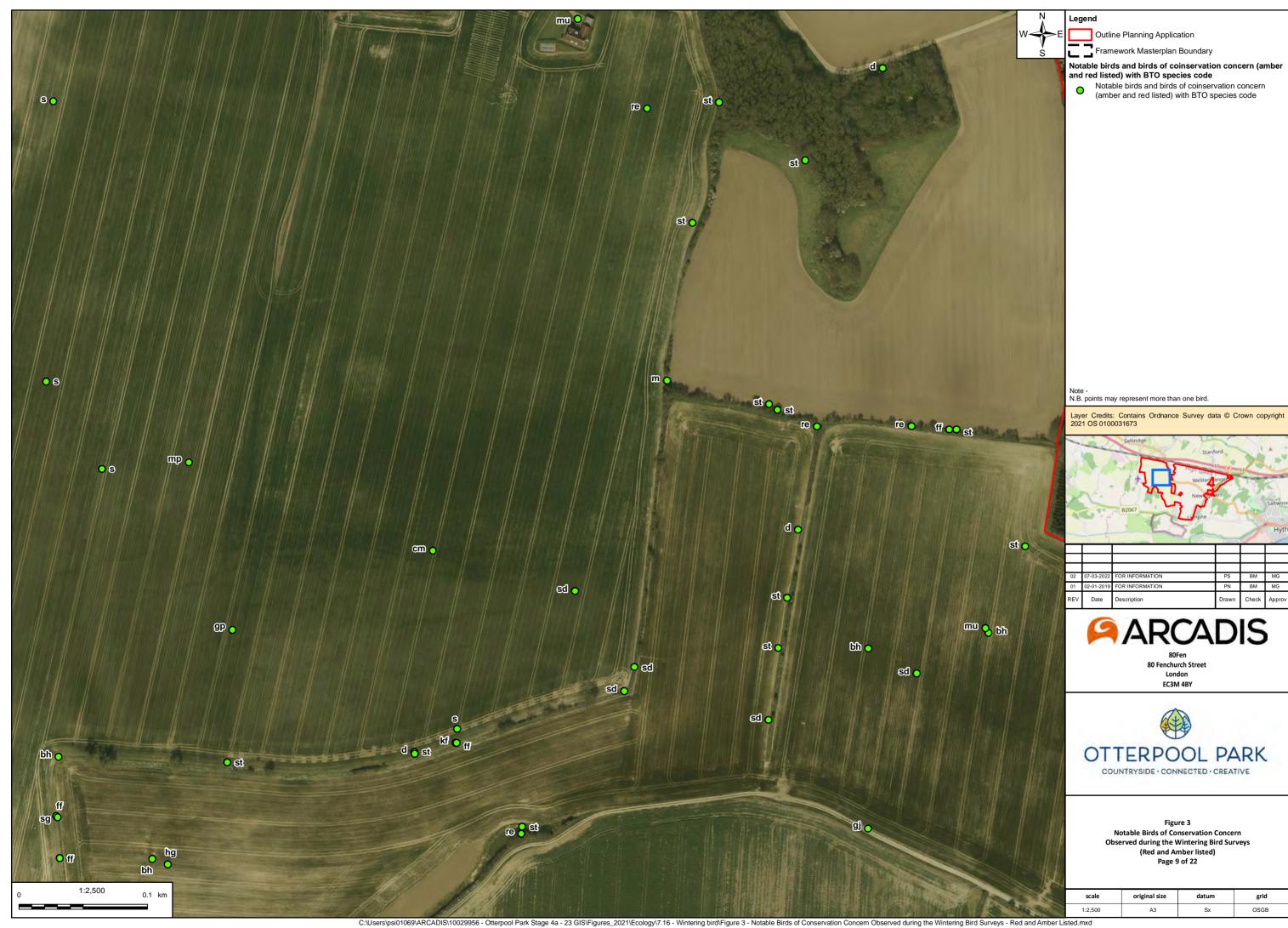




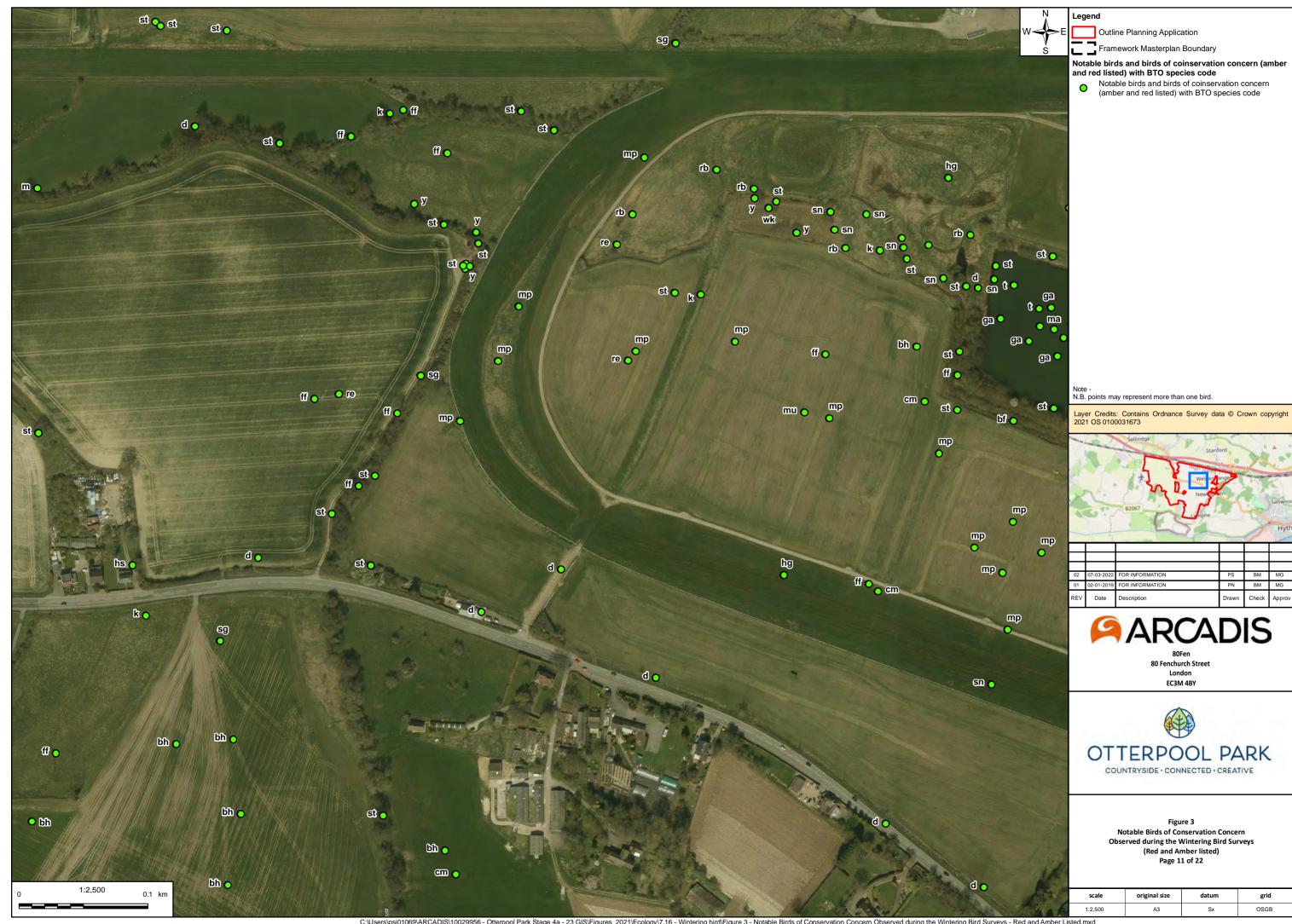






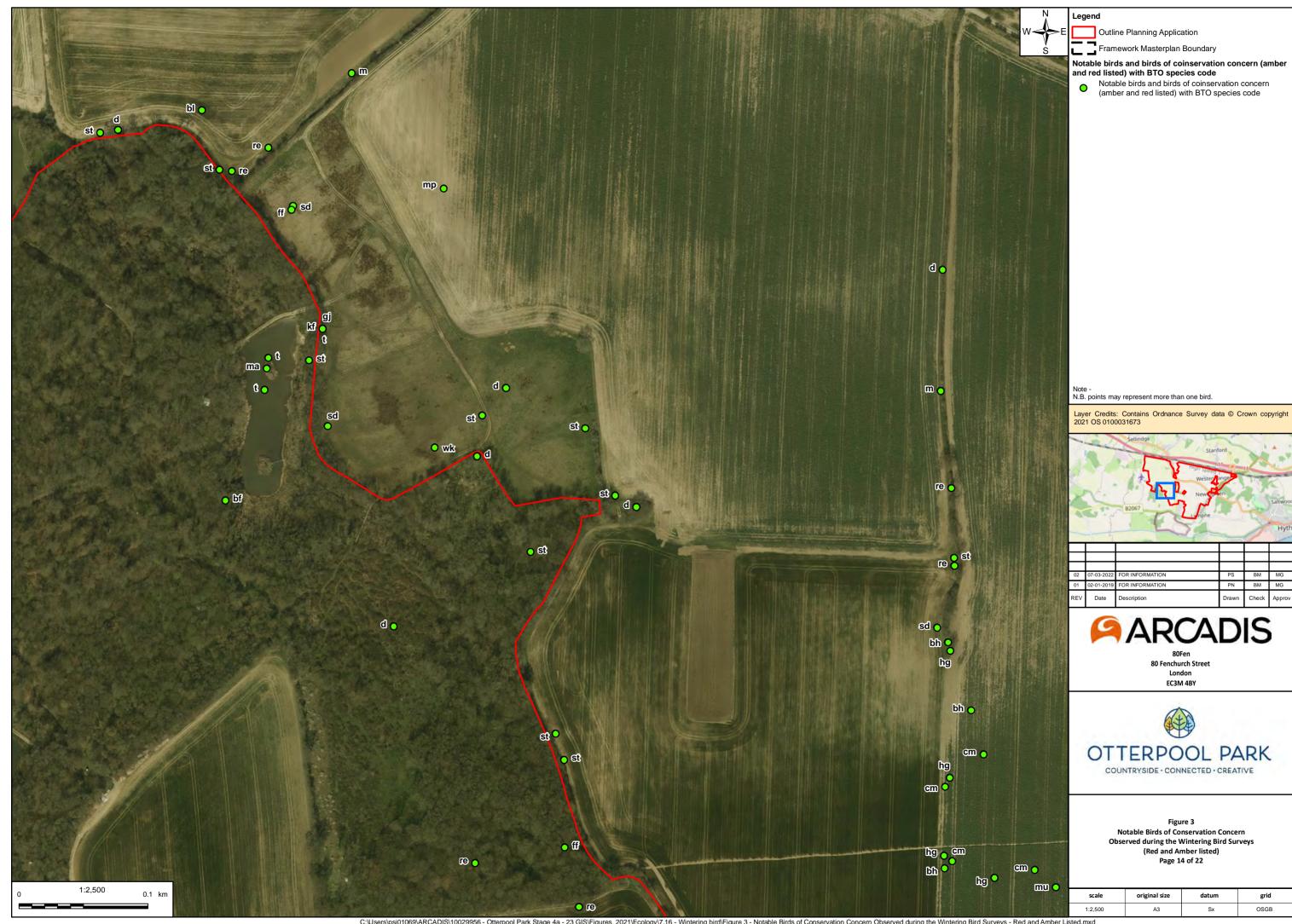










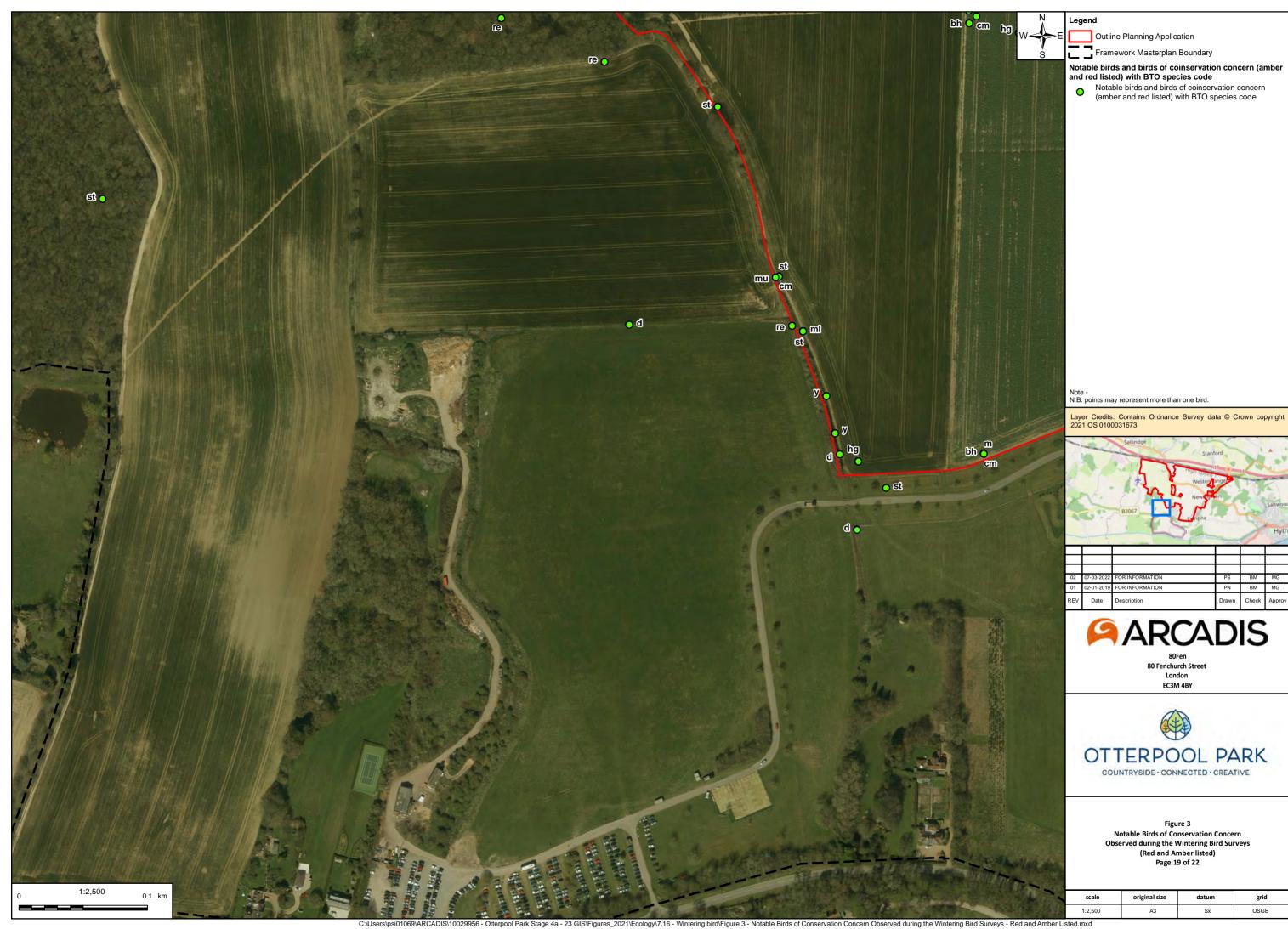
















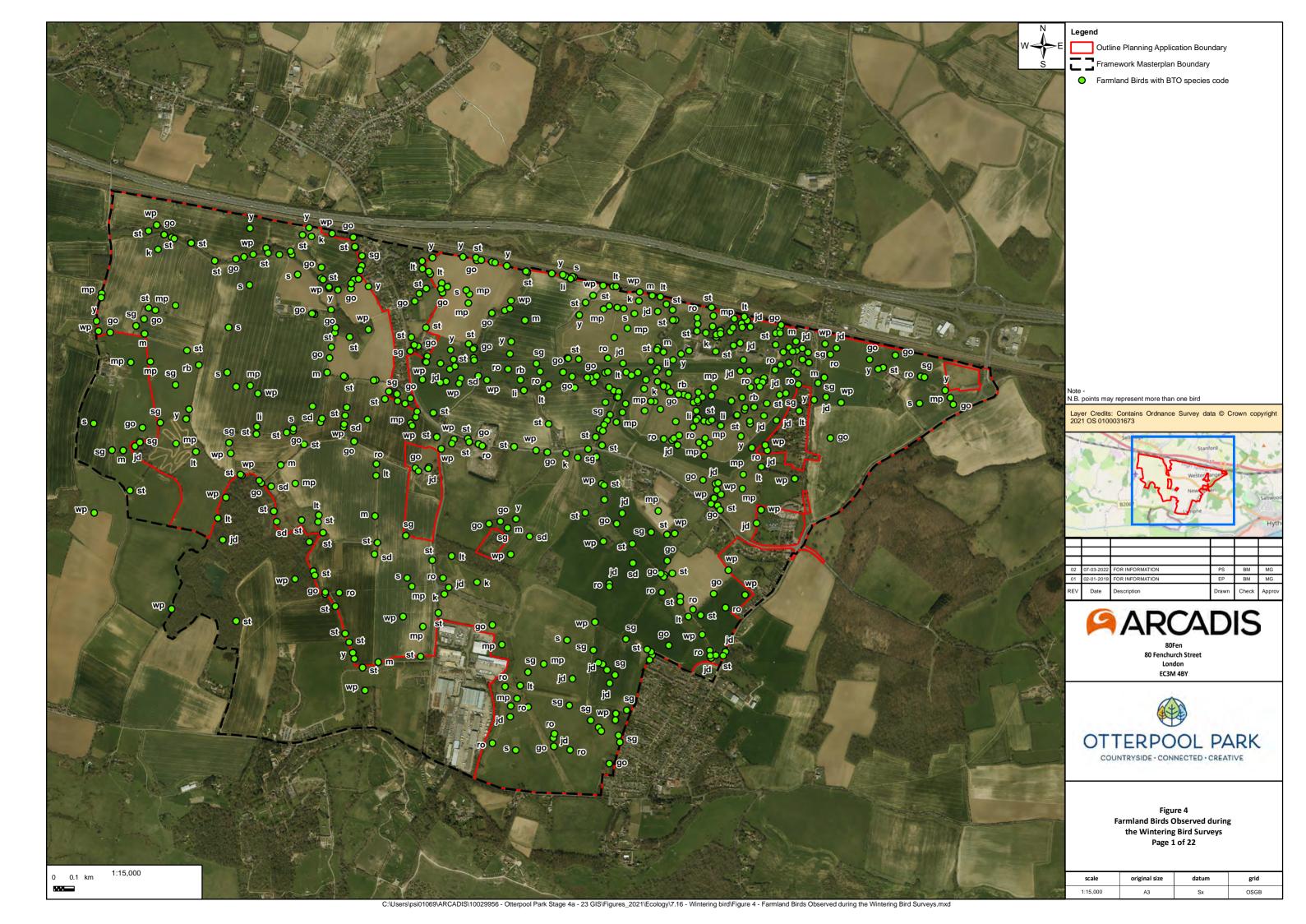


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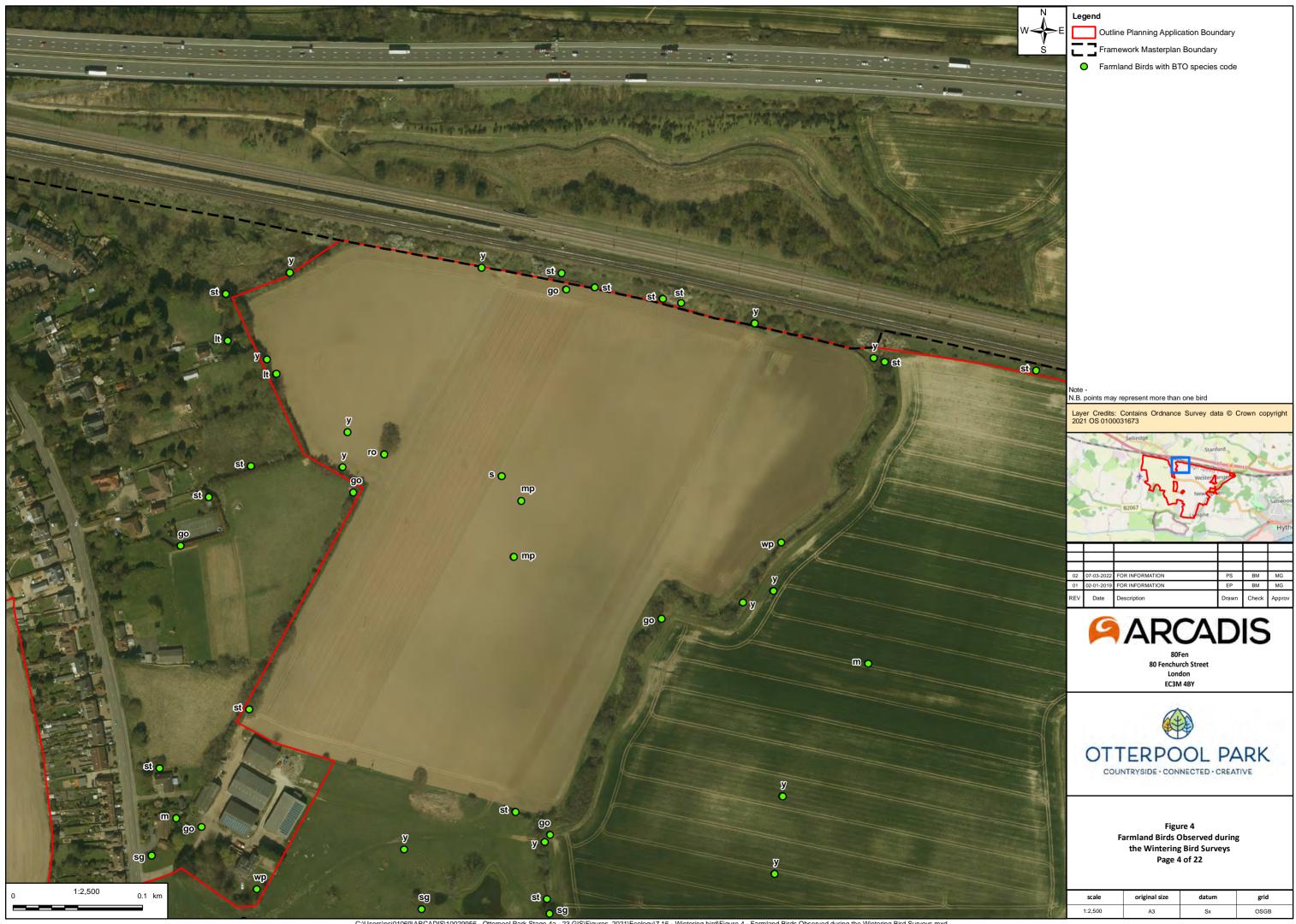
Figure 4: 'Farmland' Birds Recorded During the Wintering Bird Surveys (2016 – 2017 surveys)

N.B. All BTO codes used in this map are presented in Appendix C.

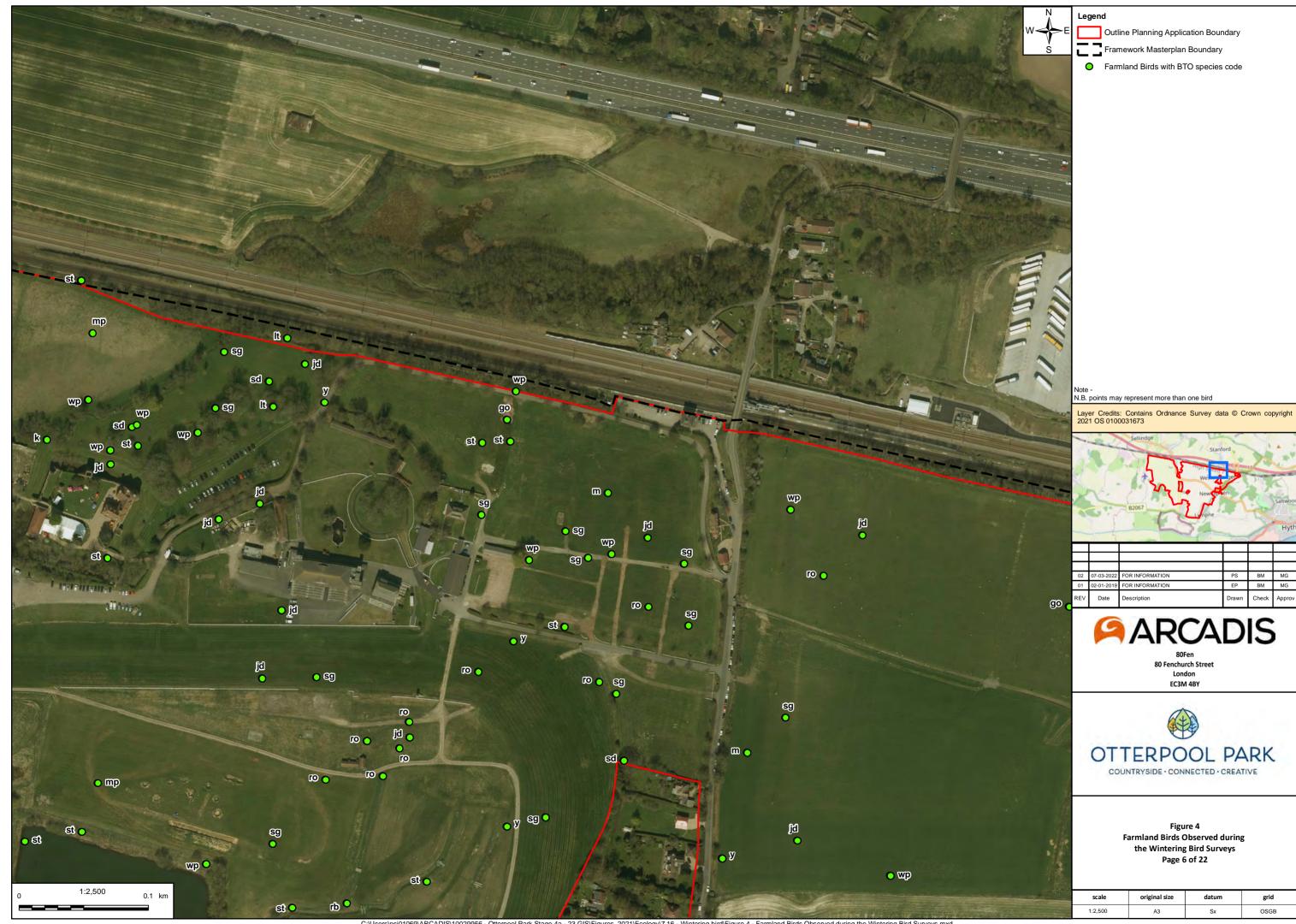










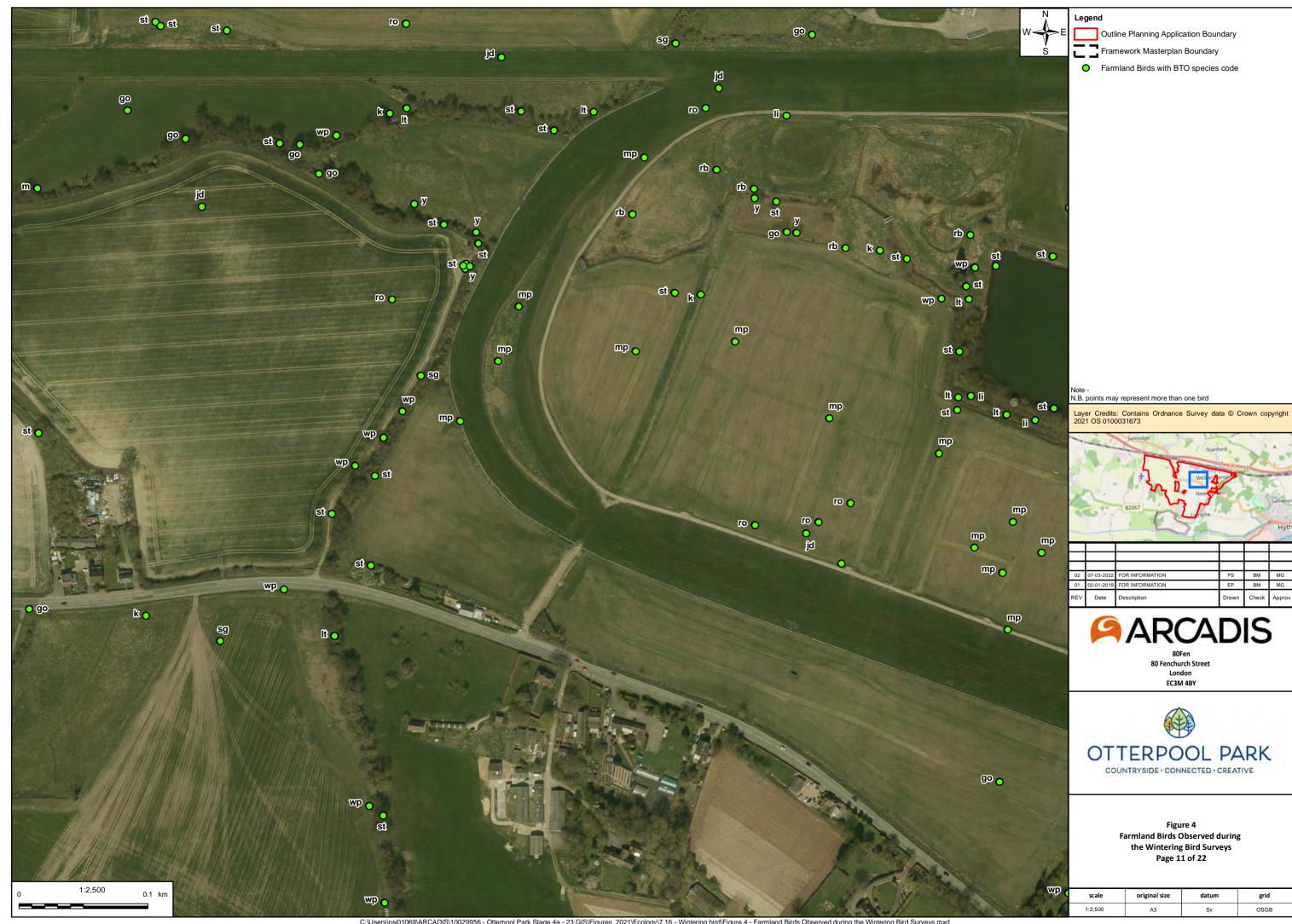














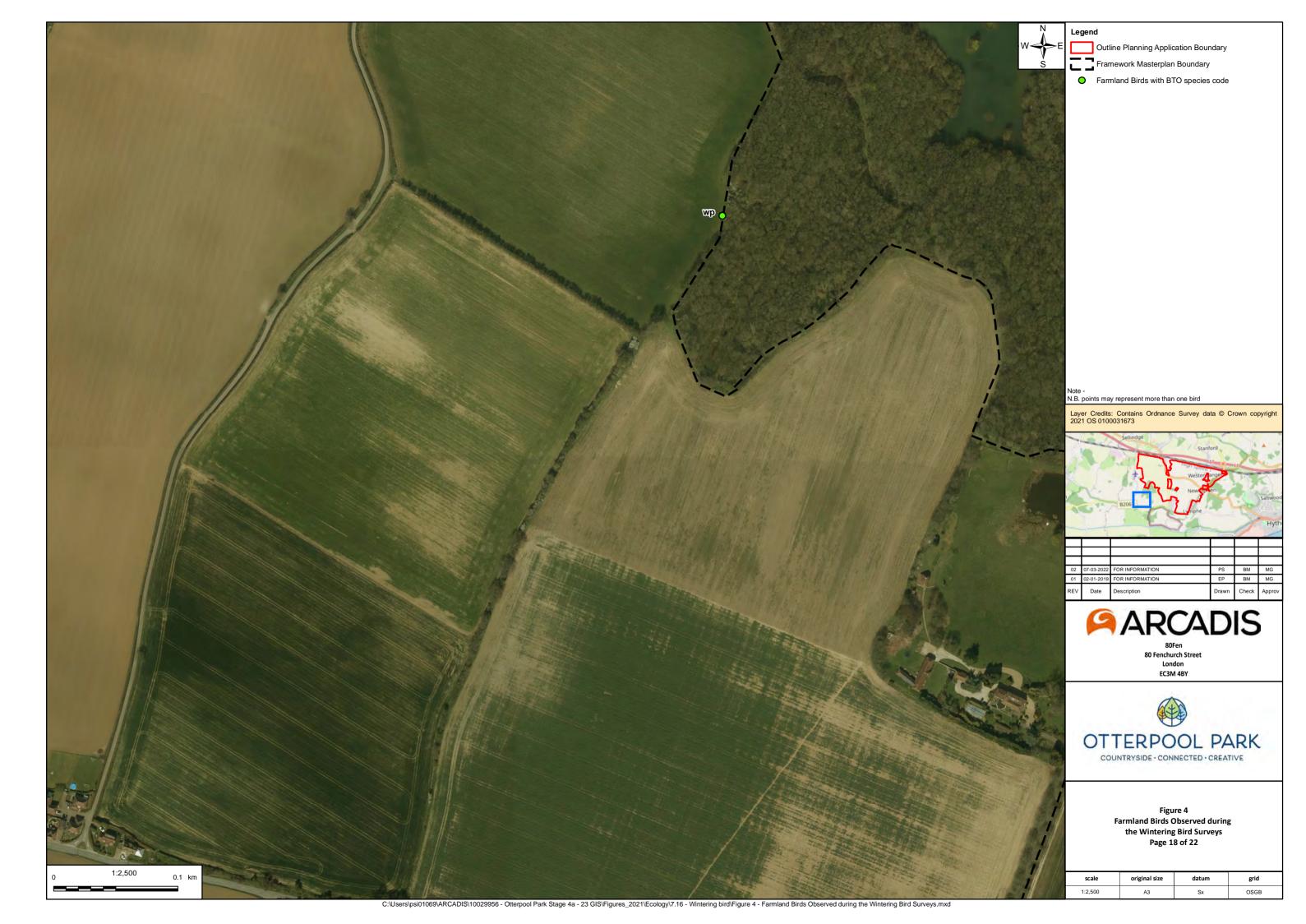








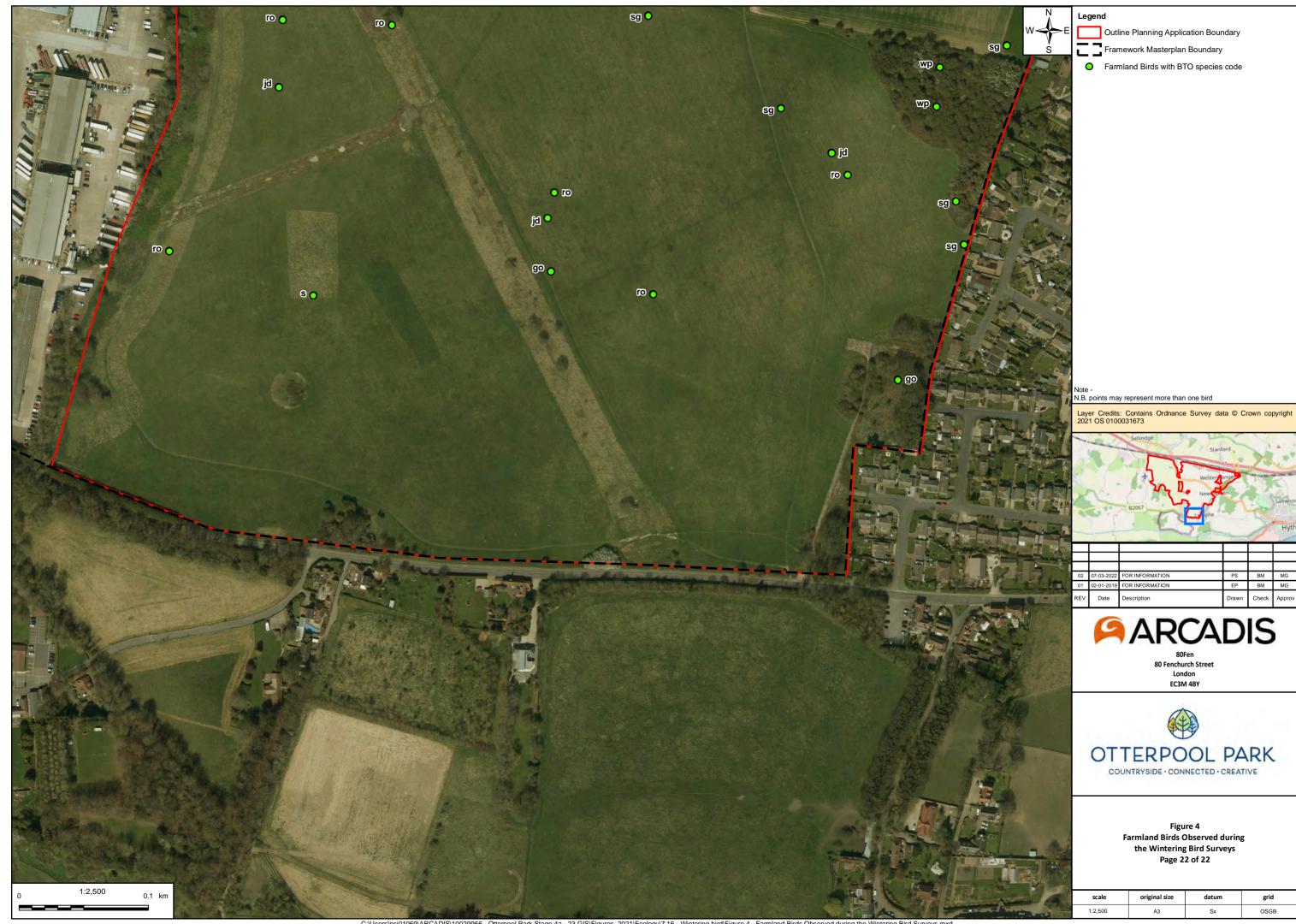








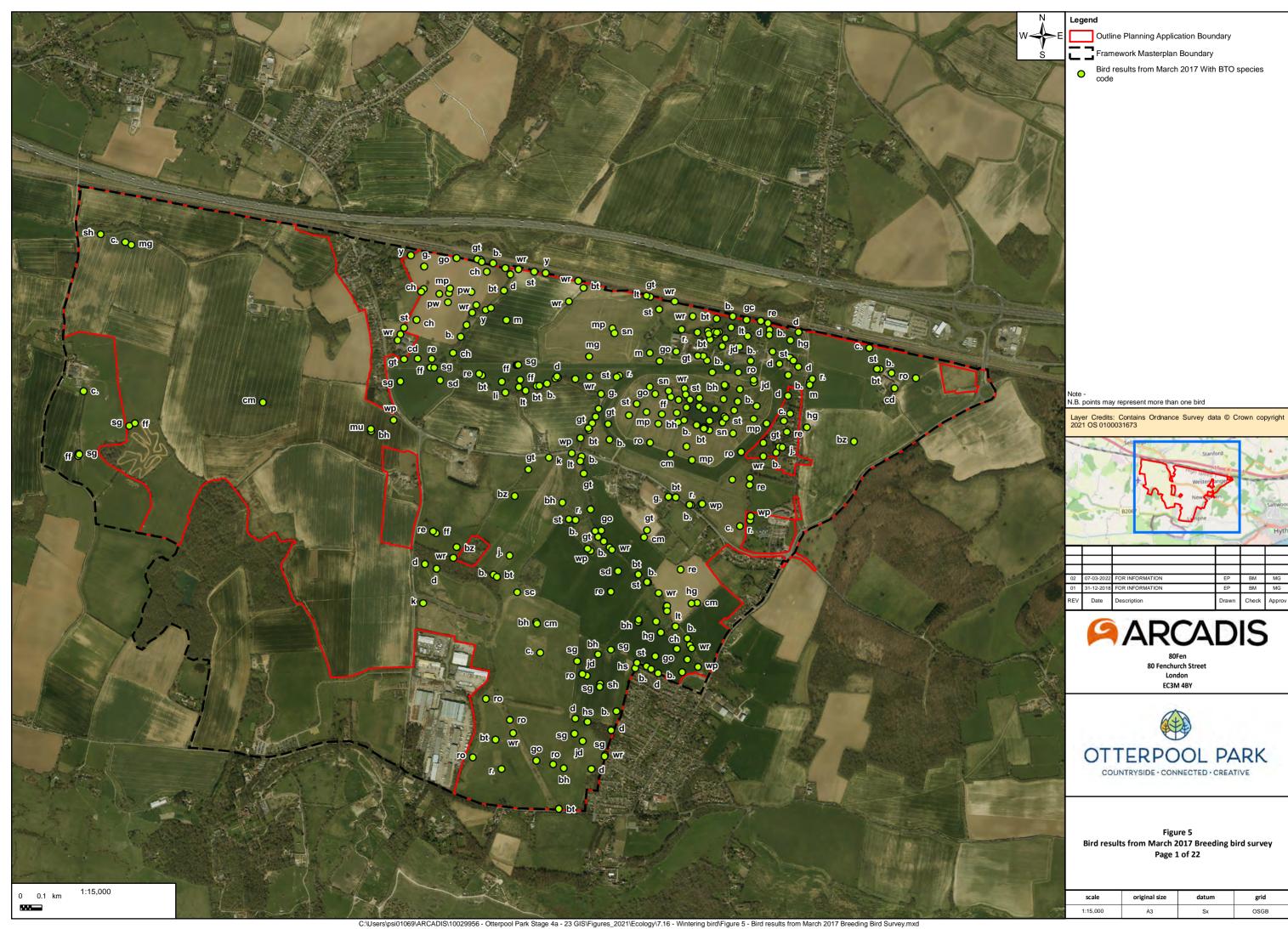




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Figure 5: Results from March 2017 Breeding Bird Survey

N.B. All BTO codes used in this map are presented in Appendix C

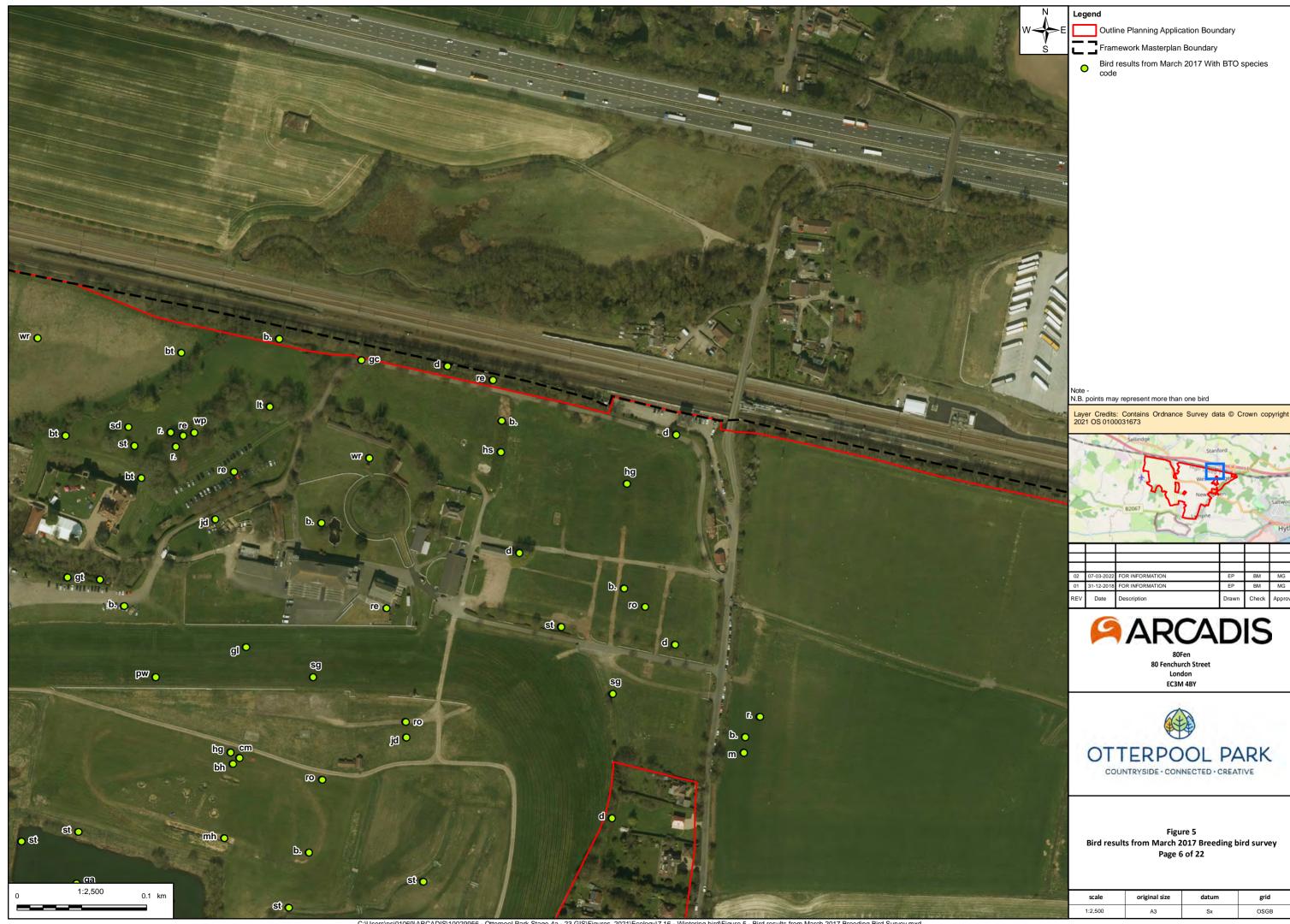










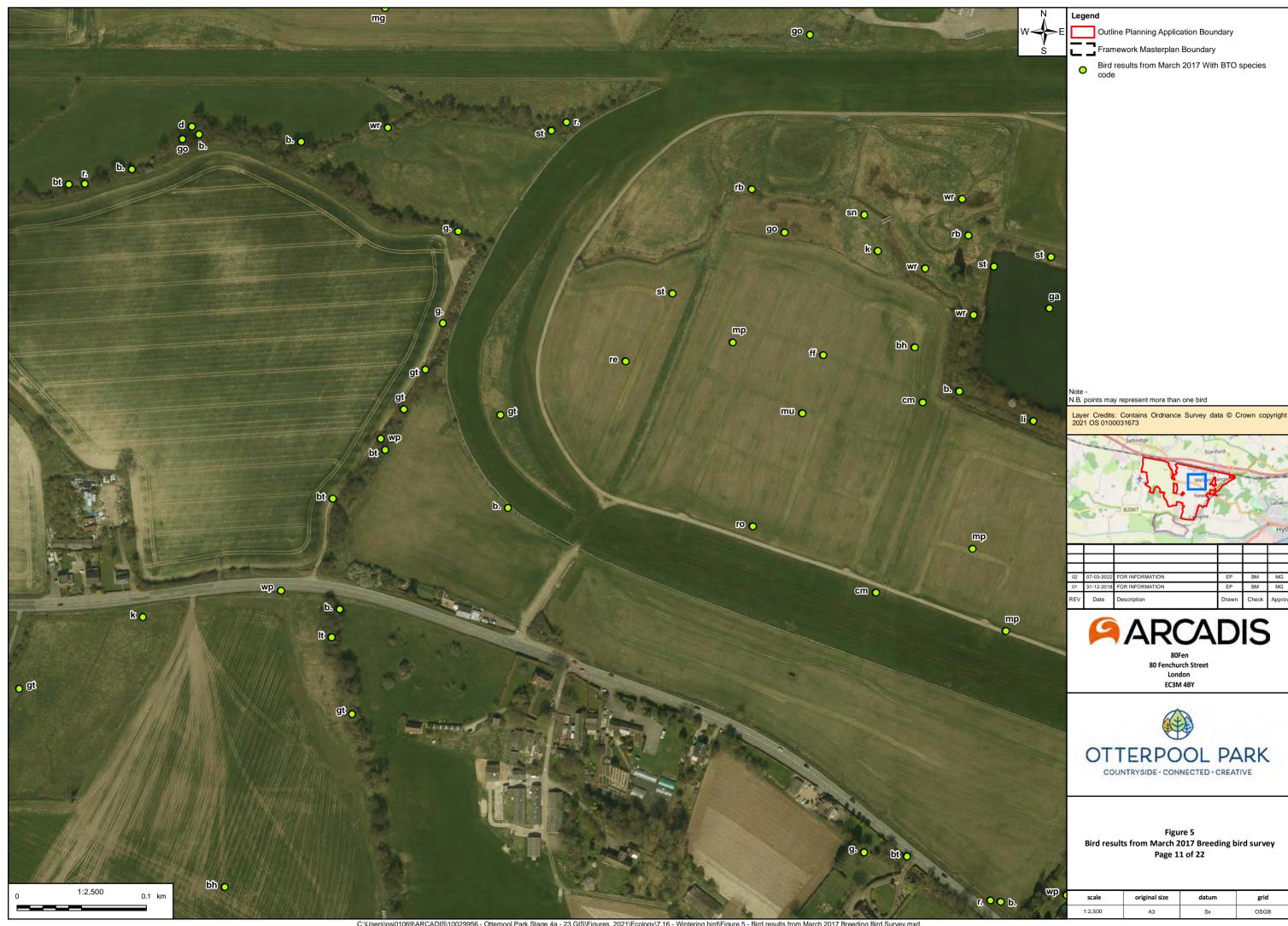






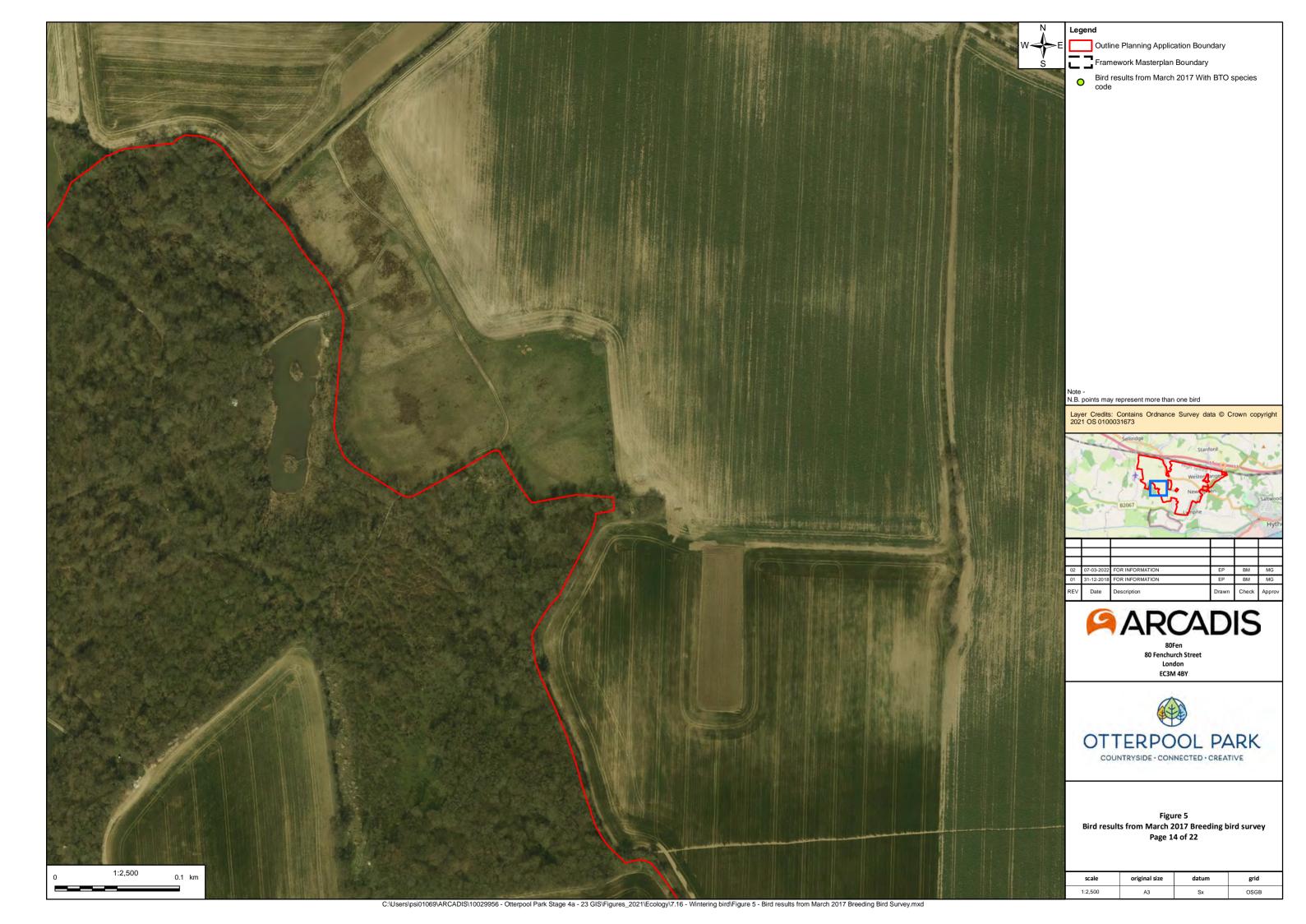




























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Figure 6: Results from November 2019 Wintering Bird Survey

N.B. All BTO codes used in this map are presented in Appendix C.

