Llanwern Rail Facilities - Phase 1 Planning
Breeding Bird Survey Report
September 2018
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Executive summary

Mott MacDonald has been commissioned by Transport for Wales (TfW), on behalf of Welsh Government, to prepare and submit a planning application, seeking full planning permission for the design and construction of a 1.6km long Major Events Stabling Line (MESL) on land adjacent to the existing Tata Steelworks Service Lines in Llanwern, South Wales. This is Phase 1 of the Llanwern Rail Facilities Programme.

The Site lies within the City of Newport and is located at Ordnance Survey Grid Reference ST 36907 87302.

The ecological survey work for this report has been undertaken in respect of the entire woodland (including the Site and surrounds), this is shown by the dotted black line as detailed in Appendix A. The survey area was selected prior to the finalisation of Phase 1 of the Llanwern Rail Facilities Programme and is considered to provide important ecology context to the site-specific results. Phase 1 of the planning application is indicated by the red line boundary and is hereafter referred to as the ‘Site’.

A review of biological records within 2.0km of the survey area returned a large number of bird records from the local area including several bird species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). These records include barn owl (Tyto alba), Cetti’s warbler (Cettia cetti) and kingfisher (Alcedo atthis), alongside a number of waders, raptors and winter migrant species.

A total of three breeding bird surveys were undertaken over several days between May and July 2018, which identified a total of 42 species of bird across the survey area. This included:

- Two species listed on Annex I of the Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) or those recognised by the Rare Breeding Birds Panel (RBBP) were identified within the survey area;
- Six species listed on the Newport Local Biodiversity Action Plan (LBAP); and
- Six species of principal importance.

‘Birds of Conservation Concern’, a measure to convey concern and help set priorities for conservation action (Eaton et al., 2015), were recorded and include:

- Six Red Listed (BoCC) species;
- Ten Amber Listed (BoCC) species; and
- Twenty-six Green Listed (BoCC) species.

Cetti’s warbler have been recorded as possibly breeding within the survey area with a likely territory held outside the survey area to the west. Ringland Way Marsh Site of Important for Nature Conservation (SINC) is designated due to reedswamp and marsh, with wet grassland areas which supports Cetti’s warbler. The territories held likely incorporate the SINC habitats as this is typical habitat of breeding Cetti’s warbler. Kingfisher have been recorded as probably breeding within the survey area with a pair recorded at Monks’ Ditch. The banks of the watercourse provide suitable nesting habitats for this species and as such their presence on-site cannot be ruled out.

The Scheme would require construction works and tree felling in part of the woodland, which has the potential to affect suitable breeding bird habitat. It is therefore recommended that
vegetation clearance avoids the bird breeding season (March to August inclusive). Where this is not possible, a pre-works check of the vegetation should be undertaken by an ecologist no more than 48 hours prior to works being undertaken and works carried out under ecological supervision. Works in close proximity to Monks’ Ditch should be undertaken outside of breeding bird season. Where this is not possible, an experienced ornithologist should survey the banks prior to any works commencing. This pre-works survey will determine activity and if kingfisher is confirmed breeding within the survey area, a method statement for works on-Site will be required to ensure there is no disturbance to this species.

The overall loss of woodland habitat along with any diversion of reens would result in an overall reduction in suitable breeding and foraging habitat for the birds within the Site and at a local level. This should be compensated for by management of on-Site habitats and/or off-Site planting. The assessment of impacts on breeding birds from Phase 1 of the Llanwern Rail Facilities Programme is included in a separate Ecological Impact Assessment (EcIA) which sets out site specific recommendations (Mott MacDonald 2018, Report Reference: 367590-WTD-CAR-2648).
1 Introduction

1.1 Project Description

Mott MacDonald has been commissioned by Transport for Wales (TfW), on behalf of Welsh Government, to prepare and submit a planning application, seeking full planning permission for the design and construction of a 1.6km long Major Events Stabling Line (MESL) on land adjacent to the existing Tata Steelworks Service Lines in Llanwern, South Wales. This is Phase 1 of the Llanwern Rail Facilities Programme.

The MESL will be used for stabling of rolling stock for major events in the area, to enable flexibility for future train requirements, and proving of trains prior to use on the rail network. The MESL will be electrified in a future phase of work. This proposed 1.6km length of MESL to the west of Monks’ Ditch was formerly known as Option 6a.

The wider Llanwern Rail Facilities Programme will include an extension of the MESL by circa 2.4km east (to achieve a total length of circa 4km), electrification of the MESL, a new Llanwern railway station and passenger line (including Park & Ride and footbridge), and connections to the South Wales Main Line (Relief Lines). The further phases of the project will be the subject of a subsequent planning application.

The key parameters for the Scheme are listed below:

- Whole Site area is 3.1 hectares. This land is contained within the red line boundary shown on the Site Location Plan (Drawing number 367590-MMD-48-XX-DR-C-0001); and
- The Site length is approximately 1.6km long and 19m wide.

1.2 Scope of Works

The General Arrangement drawings (Drawing numbers 367590-MMD-48-XX-DR-C-0002 to 367590-MMD-48-XX-DR-C-0005) demonstrate the project scope which includes the design and construction of the following:

- A single track stabling line (MESL) circa 1.6km long;
- Associated earthworks and landscaping; and
- Drainage and other engineering works.

In order to obtain full planning permission for Phase 1, we have carried out the outline design and technical assessment of the above scope, as well as multiple assessments in terms of ecology, environment, heritage and archaeology.

1.3 Site Location

The proposed rail development Site is located approximately 8 miles east from the centre of Newport, South Wales (Figure 1.1).

The Site is aligned roughly west – east and bordered by the existing South Wales Mainline to the north and the Tata Steelworks to the south. Along the southern boundary of the steelworks site runs the A4810 which links the M4 from junction 23A at Magor with the A48 at Liswerry (a predominantly residential suburb on the south-eastern side of Newport. The site is more widely bordered by the M4 which runs approximately two and a half miles to the north and the Severn.
Estuary which lays approximately three miles to the south. The Gwent Levels to the south is a significant area of wetlands.

The existing South Wales Mainline passes north of the proposed Site and provides opportunity for transport links for both passengers and freight.

Figure 1.1: Proposed Location Plan

The ecological survey work for this report has been undertaken in respect of the entire woodland (including the Site and surrounds), this is shown by the dotted black line as detailed in Appendix A. The survey area was selected prior to the finalisation of Phase 1 of the Llanwern Rail Facilities Programme and is considered to provide important ecology context to the site-specific results. Phase 1 of the planning application is indicated by the red line boundary and is hereafter referred to as the ‘Site’.

1.4 Previous Survey Work

A Preliminary Ecological Appraisal Report (PEAR) (Ref:367590-WTD-CAR-2604, Mott MacDonald, 2018) identified the majority of the survey area as being suitable for breeding birds due to the presence of suitable nesting habitats. Kingfisher (*Alcedo atthis*), lapwing (*Vanellus vanellus*) and herring gull (*Larus argentatus*) were recorded during this initial walkover. The Site is dominated by woodland with reens running throughout, plus scrub habitat lining the edges of the woodland with ephemeral/short perennial habitats running adjacent along the railway ballast.

1.5 Scope of the Report

The objectives of this report are as follows:

- To present the results of the desk study and field surveys;
- Evaluate the conservation status of the breeding bird population using the survey area and the importance of the survey area for breeding birds;
- To identify potential constraints that could be posed by breeding birds to any future development; and
● To provide high level recommendations for further survey work and/or mitigation and licensing requirements.
2 Methodology

2.1 Desk Study

A desk study was undertaken and reported within the PEAR (Mott MacDonald, 2018) to collate any bird data within 2.0km of the survey area. Only records less than 10 years old were considered valid and relevant. The following sources were reviewed/consulted:

- South East Wales Biodiversity Records Centre (SEWBReC) (2017);
- Multi-Agency Geographic Information for the Countryside (MAGiC);
- Gwent Ornithological Society Annual Bird Report 2016; and
- Previous surveys undertaken in the area to support the M4 Corridor Around Newport development.

2.2 Field Survey Methods

Field survey methods were based on the British Trust for Ornithology’s Common Bird Census (Marchant, 1983) with the number of visits undertaken in accordance with Scottish Natural Heritage (2005).

2.2.1 Survey Area

The survey area is provided in Appendix A, which is considered the woodland area between St Modwens to the south, the mainline Network Rail land to the north and enclosed by the Network Rail/DBS service line. However, where birds were recorded outside of the survey area, they have been considered in this assessment due to the likelihood of these birds also using the Site. The Zone of Influence (ZoI) “is the area over which ecological features may be subject to significant effects as a result of a proposed project and associated activities” (CIEEM, 2018).

Some incidental observations were recorded within the surrounding areas during other survey work which have also been considered as part of the breeding bird assemblage.

2.2.2 Survey Route and Site Coverage

Given the nature of the survey area, which is dominated by dense woodland and enclosed to the north and south by active railway lines, the survey route was restricted to an area that could be safely accessed and was therefore undertaken from within the woodland and along the southern boundary.

Within the woodland, to facilitate survey work, a series of pathways were created which allowed access through the survey area during each survey, whilst the duration of the survey was increased to compensate for increased difficulty in detecting bird species posed by the dense vegetation. On this basis, it is considered that the surveys were able to cover the entire length of the survey area.

2.2.3 Visit Timings

Three visits were conducted during the bird breeding season survey period (between 1 April and 31 July 2018), as defined by Gillings et al., (2013). The first hour after sun rise is generally avoided due to the heightened level of bird activity during this period that could lead to uneven coverage, as a result of rapid changes in the detection of birds (Bibby et al., 2000).
All weather conditions were recorded during each of the survey visits. Dates and weather conditions recorded during the breeding bird surveys are shown in the Table 2.1 below:

**Table 2.1: Survey Details**

<table>
<thead>
<tr>
<th>Visit Number</th>
<th>Date</th>
<th>Start / Finish Time (BST)</th>
<th>Area Surveyed</th>
<th>Weather Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24/04/2018</td>
<td>08.40 / 12.30</td>
<td>West of the survey area to the centre</td>
<td>8/8 cloud cover, F0 wind 12°C</td>
</tr>
<tr>
<td></td>
<td>25/04/2018</td>
<td>07.25 / 13.35</td>
<td>From the centre to the east of survey area</td>
<td>4/8 cloud cover, F2-F3 SW wind, 12°C</td>
</tr>
<tr>
<td>2</td>
<td>16/05/2018</td>
<td>07.50 / 11.50</td>
<td>West of the survey area</td>
<td>8/8 cloud cover, F3 NNE wind, 11°C</td>
</tr>
<tr>
<td></td>
<td>17/05/2018</td>
<td>07.00 / 12.25</td>
<td>Central survey area</td>
<td>3/8 cloud cover, F0 wind, 9°C</td>
</tr>
<tr>
<td></td>
<td>18/05/2018</td>
<td>06.25 / 12.23</td>
<td>East of the survey area</td>
<td>1/8 cloud cover, F1 NE wind, 10°C</td>
</tr>
<tr>
<td>3</td>
<td>20/06/2018</td>
<td>07.50 / 11.55</td>
<td>West of the survey area</td>
<td>8/8 cloud cover, F3 S wind, 17°C</td>
</tr>
<tr>
<td></td>
<td>21/06/2018</td>
<td>07.20 / 12.00</td>
<td>Central survey area</td>
<td>4/8 cloud cover, F1 NW wind, 15°C</td>
</tr>
<tr>
<td></td>
<td>22/06/2018</td>
<td>07.00 / 15.00</td>
<td>East of the survey area</td>
<td>2/8 cloud cover, F0 wind, 15°C</td>
</tr>
</tbody>
</table>

In order to maintain relative consistency of detecting breeding bird activity, the surveys were conducted where practicable in optimal or near optimal conditions and avoided periods of heavy rain and/or strong winds. Limitations to the survey which affected survey timings are set out in Section 2.3 below.

### 2.2.4 Data Collection and Recording

Birds identified by sight or sound were registered electronically on a Samsung Galaxy Note 2 Tablet, using ArcCollector. The numbers of each bird species were recorded and evidence of breeding activity noted (see Table 2.2) based on the standard list of conventions described in Sharrock (1974) and Gillings *et al.*, (2013).

**Table 2.2: Summary of Breeding Evidence Categories**

<table>
<thead>
<tr>
<th>Possible</th>
<th>Probable</th>
<th>Confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed in suitable nesting habitat.</td>
<td>Pair observed in suitable nesting habitat.</td>
<td>Distraction display or injury feigning.</td>
</tr>
<tr>
<td>Singing male in suitable breeding habitat.</td>
<td>Permanent territory presumed through registration of territorial behaviour (song, etc.) from many individuals on one day.</td>
<td>Used nest or eggshells.</td>
</tr>
<tr>
<td>Courtship and display.</td>
<td>Recently fledged young.</td>
<td></td>
</tr>
<tr>
<td>Visiting probable nest site.</td>
<td>Adults entering or leaving nest site or adults seen incubating.</td>
<td></td>
</tr>
<tr>
<td>Agitated behaviour or calls suggesting probable presence of nest or young nearby.</td>
<td>Adult carrying faecal sac or food for young.</td>
<td></td>
</tr>
<tr>
<td>Nest building or excavation.</td>
<td>Nest containing eggs.</td>
<td></td>
</tr>
<tr>
<td>Nest with young.</td>
<td>Source: Based on Sharrock, 1974.</td>
<td></td>
</tr>
</tbody>
</table>
Whilst the primary aim of the data collection is to support the planning process, Clause 6.4.7 of BS 42020:2013 (The British Standards Institute, 2013) recommends that data is collected in a way that facilitates the process of making the data available to local, county and/or national recording schemes where this has an agreement with the project proponent. The data was collected so that it was compatible with Bird Track, a partnership between the BTO, the RSPB, Birdwatch Ireland, the Scottish Ornithologists’ Club and the Welsh Ornithological Society.

2.3 Personnel

Each of the surveys were undertaken by a competent ornithological surveyor (Mashuq Ahmad) in accordance with the requirements of BS42020:2013 (The British Standards Institute, 2013), who was accompanied by an ecologist for health and safety reasons.

2.4 Limitations

Biological records obtained from third parties and presented in the desk study do not represent a full and complete species list for the area. They are mostly given by individuals on an ad-hoc basis, meaning while they give a good representation there may be errors or deficiencies in the data.

As set out above, access through the survey area was restricted by health and safety (due to the presence of active railway lines bordering the north and south) and by the dense vegetation and reens present. To enable full coverage of the survey area a series of paths were created through the woodland (with bridges over reens), which were used to plan the survey route. The survey was also elongated to allow for the reduced visibility in the woodland.

Two of the surveys were undertaken at suboptimal times (24 April survey started late, and 22 June survey finished late). This was due to access restrictions and dense vegetation (respectively), which were resolved prior to surveys carried out on other dates. The data recorded during these surveys does not show any significant differences from other visits, so is therefore not considered to have affected the reliability of the data for the purposes of this assessment.

Due to the timings of the breeding bird surveys, crepuscular and nocturnal species are unlikely to be recorded during the surveys despite suitable habitat being present within the survey area, however, the Bird Atlas has been referred to for species likely to be breeding in the area that may not have been recorded during the survey (See Section 2.2.4) and incidental records from bat surveys have also been included.

2.5 Nomenclature

The English vernacular and scientific bird names used in this report follows that of the 9th Edition of the British Ornithologists’ Union official list of species recorded in Great Britain as of December 2017 (Dudley et al., 2017).

2.6 Data Mapping and Interpretation

The data from the three visits has been plotted using ArcGIS (version 10.6).

An assessment of the breeding bird community of the survey area was undertaken based on the methodology described by Fuller (1980). The breeding bird community was assessed on the basis of species richness. The conservation importance of a site with respect to species richness is set against the criteria in Table 2.3.
Table 2.3: Species richness criteria

<table>
<thead>
<tr>
<th>Conservation Importance</th>
<th>National</th>
<th>Regional</th>
<th>County</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of species</td>
<td>85+</td>
<td>70-84</td>
<td>50-69</td>
<td>25-49</td>
</tr>
</tbody>
</table>

Source: Based on Fuller, 1980

For the purposes of assessing any individual species assemblages, data on the national and local distribution and abundance of birds was taken from the following sources:

- The British Trust for Ornithology Bird Atlas 2007-2011 project;
- Birds of Conservation Concern 4 (BoCC4);
- Birds of Conservation Concern in Wales 3 (BoCCW3); and

Red, Amber and Green lists are taken from BoCC4. Any bird species listed on BoCCW3 supersedes the status set out in BoCC4. This enables the bird status to be assessed in Wales rather than the United Kingdom as a whole.
3 Legislation, Ecology and Species Status

3.1 Legislation and Policy

The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 form the cornerstones for species and habitat protection in England and Wales. In the UK, all wild birds (irrespective of species), their nests and their eggs are protected by the Wildlife and Countryside Act 1981 (as amended). Offences under this Act include:

- Intentionally killing, injuring or taking any wild bird;
- Intentionally taking, damaging or destroying the nest of any wild bird whilst it is in use or being built; and
- Intentionally taking or destroying the egg of any wild bird.

Birds listed on Schedule 1 of the above Act have further protection making it an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the independent young of such a bird.

3.1.1 Environment (Wales) Act 2016

Under the Environment (Wales) Act 2016, public bodies, including Local Authorities are required ‘to seek to maintain and enhance biodiversity in Wales’ when carrying out their normal functions. Under Section 7 of the Act, a list of species and habitats of ‘principal importance to the conservation of biodiversity in Wales’ was drawn up, this acts as an aid to guide public bodies in implementing their duty. The Local Authority must consider the impact of the proposed works on protected habitats and species.

3.1.2 Local Biodiversity Action Plan

The Local Biodiversity Action Plan for Newport details how the protection of habitats and woodlands will be achieved. Whilst no specific bird sections are detailed within the report, the following species are mentioned within habitat action plans:

- Spotted fly-catcher (*Muscicapa striata*);
- Dunnock (*Prunella modularis*);
- Wood warbler (*Phylloscopus sibilatrix*);
- Marsh tit (*Poecile palustris*);
- Pied flycatcher (*Ficedula hypoleuca*);
- Song thrush (*Turdus philomelos*);
- Hawfinch (*Coccothraustes coccothraustes*);
- Bullfinch (*Pyrrhula pyrrhula*);
- Lesser spotted woodpecker (*Dendrocopos minor*);
- Bittern (*Botaurus stellaris*);
- Cetti’s warbler (*Cettia cetti*);
- Reed bunting (*Emberiza schoeniclus*);
- Willow tit (*Poecile montanus*);
- Curlew (*Numenius arquata*);
- Lapwing (*Vanellus vanellus*);
- Tree sparrow (*Passer montanus*);
- Grasshopper warbler (*Locustella naevia*);
- Yellow wagtail (*Motacilla flava*);
- Cuckoo (*Cuculus canorus*);
- Kestrel (*Falco tinnunculus*);
- Barn owl (*Tyto alba*);
- Grey partridge (*Perdix perdix*);
- Skylark (*Alauda arvensis*);
- Linnet (*Linaria cannabina*); and
- Starling (*Sturnus vulgaris*).

### 3.2 National Status

#### 3.2.1 Birds of Conservation Concern (BoCC)

The fourth review of the status of birds within Great Britain was undertaken in 2015. Two hundred and forty-four species were assessed and assigned to the Red, Amber or Green lists regarding conservation concerns. Criteria for assessment included the conservation status of these species on a global scale, European scale and national scale, as well as historical records and population trends. The findings showed that 67 species of bird, regularly occurring within the UK, are now on the Red list, 20 of these being added to the red list since the previous review in 2009 (Eaton et al., 2015). This list is complemented by the BoCCW3 which reviews up to date information on the status of birds in Wales. For this assessment, the BoCCW3 has been used to assess the status of birds nationally.

Bird species in the red and amber lists will be subject to at least one of the relevant factors listed below (RSPB, 2018):

#### Red list criteria
- Globally threatened;
- Historical population decline in the UK 1800-1995;
- Severe (at least 50%) decline in the UK breeding population over the past 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969); and
- Severe (at least 50%) contraction of the UK breeding range over the past 25 years, or the longer-term period.

#### Amber list criteria
- Species with unfavourable conservation status in Europe (SPEC – Species of European Conservation Concern);
- Historical population decline during 1800-1995, but recovering; population size has more than doubled over the past 25 years;
- Moderate (25-49%) decline in the UK breeding population over the past 25 years, or the longer-term period;
- Moderate (25-49%) contraction of the UK breeding range over the past 25 years, or the longer-term period;
● Moderate (25-49%) decline in the UK non-breeding population over the past 25 years, or longer-term period;
● Rare breeder; 1-300 breeding pairs in the UK;
● Rare non-breeders; less than 900 individuals;
● Localised at least 50% of the UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders; and
● Internationally important; at least 20% of the European breeding or non-breeding population in the UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively).

Green list
● Species that occur regularly in the UK but do not qualify under any or the above criteria.

3.3 Ecology Context and Local Status
On the basis of the species and habitats present within the survey area, a brief summary of the breeding preferences and habitat use has been set out below in respect of (i) nesting birds (all species); and (ii) protected birds (Cetti’s warbler and Kingfisher).

3.3.1 Nesting Birds (All Species)
Birds typically nest between March and August (inclusive) although this is recognised to be extended for some species (i.e. woodpigeon (Columba palumbus)) and can be affected by prevailing seasonal and weather conditions. Some species will have multiple broods during this time, with each clutch fledging after approximately 6 weeks although this can vary depending on the species. Further information on specific birds are available through sources such as the RSPB website.

The types of habitats found within the survey area and relevant to the construction works, which are likely to support breeding birds include:

● Woodland/woodland edge;
● Scrub;
● Reens and reed beds;
● Buildings; and
● Vehicles and machinery idle on-Site for prolonged periods.

3.3.1.1 Cetti’s warbler
Cetti’s warbler typically breeds between April and July and can have multiple broods within this period. The typical fledging time for young is estimated to be approximately 14 to 16 days (BTO, 2018 & RSPB, 2018).

This species is typically associated with dense marshy vegetation such as reedbeds and other marginal vegetation close to waterbodies.

There were known to be only 60 pairs of Cetti’s warbler across Gwent in 2015 (British birds, 2017) whilst the most recent bird report (2016) has recorded at least 70 territorial males in Newport Wetlands Reserve and a further 11 singing males within Llanwern Steelworks itself.
3.3.1.2 Kingfisher

Kingfisher typically breeds between the end of March and July and can have multiple broods within this period. The typical fledging time for young is estimated to be approximately 25 days (10-12 days later when foraging is poor) (BTO, 2018 & RSPB, 2018).

This species is typically associated with river systems and marshes.

There were known to be 145 records of kingfisher across Gwent in 2016 which included three confirmed reports of breeding near the River Usk, the River Ebbw and on the Monmouthshire and Brecon canal.
4 Results

4.1 Desk Study
A desk study was undertaken to identify key species and habitats near and adjacent to the survey area. The results are presented in the following sections.

4.1.1 Statutory Designated Sites
There is one statutory designated site within 2.0km of the survey area, the River Usk (lower Usk), that is noted for having a good range of breeding birds associated with riverine habitats (CCW, 1996). Details of the designated site and distance from works are provided below in Table 4.1.

Table 4.1: Statutory Designated Site

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Details</th>
<th>Distance and Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Usk (lower Usk)</td>
<td>SSSI</td>
<td>The River Usk (Lower Usk) is a rare example of a large mesotrophic lowland river which has not been subject to significant modification by man. Of particular significance to the river’s morphology and biology are the extensive deposits of fluvi-glacial and alluvial material in the Usk valley, between Abergavenny and Newport. The river shows a clear downstream succession in plant communities due in part to the rapid transition from mesotrophic to nutrient rich in its lower reaches and increasing salinity as it nears its confluence with the Severn Estuary. The invertebrate fauna is characteristic of a large lowland river. Of special interest are the craneflies associated with silty river margins in the vicinity of Newbridge on Usk. The fish fauna is of international significance including several rare and scarce species and there is an expanding population of otters. Several scarce higher plant species occurring along the river’s tidal reaches are also of special interest. Whilst not a special feature of the site, there is a good range of breeding birds associated with the riverine habitats. The SSSI incorporates adjacent areas of riparian habitat which directly support the special interest of the river. These include woodlands dominated by alder (Alnus glutinosa) and willow (Salix spp., marshy grassland, stands of tall herbs, swamp and fen vegetation, salt-marsh and coastal grassland.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.8km W</td>
<td></td>
</tr>
</tbody>
</table>

4.1.2 Non-Statutory Designated Sites
There are 26 non-statutory designated sites within 2.0km of the survey area, four of which note the presence of Cetti’s warbler, these are detailed in Table 4.2 below:

---

1 Site of Special Scientific Interest (SSSI)
Table 4.2: Non-Statutory Designated Sites (Referencing Cetti’s Warbler)

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Details</th>
<th>Distance and Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ringland Way Marsh</td>
<td>Site of Importance</td>
<td>Reedswamp and marsh, with wet grassland areas; supports bird species</td>
<td>Adjacent – West of the</td>
</tr>
<tr>
<td></td>
<td>for Nature Conservation (SINC)</td>
<td>including Cetti’s warbler and reed bunting (a Species of Principal</td>
<td>survey area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Importance).</td>
<td></td>
</tr>
<tr>
<td>Greenmoor Pool</td>
<td>SINC</td>
<td>Formerly standing water which now supports reed swamp (a priority habitat), which itself supports bird populations including Cetti’s warbler.</td>
<td>Adjacent – East of the survey area</td>
</tr>
<tr>
<td>Solutia Site</td>
<td>SINC</td>
<td>A series of improved and semi-improved grasslands with traditional ditches and ponds; site supports a range of species including nesting birds such as Cetti’s warbler, and invertebrates including hairy dragonfly.</td>
<td>1.5km South West</td>
</tr>
<tr>
<td>Elver Pill Reen, Grassland &amp; Pond</td>
<td>SINC</td>
<td>Lagoon with mosaic of swamp and marshy and dry semi-improved neutral grassland; supports Cetti’s warblers.</td>
<td>1.9km South</td>
</tr>
</tbody>
</table>

The location of Ringland Way Marsh and Greenmoor Pool in relation to the survey area are illustrated in Figure 4.1 below:

Figure 4.1: Location of SINCs Adjacent to the Survey Area

Source: Contains OS data © Crown Copyright and database right 2018
4.1.3 Biological Records

4.1.3.1 SEWBReC Data

A number of Schedule 1 bird species records were returned from within 2.0km of the survey area, many of which appear to be associated with open wetland habitats in the local area such as the Gwent Levels. Those considered of relevance to the survey area (given the habitats present) are listed in Table 4.3 below, along with the number of records present and closest record for each species:

<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Number of records</th>
<th>Closest Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barn owl</td>
<td>Tyto alba</td>
<td>1</td>
<td>1.1km</td>
</tr>
<tr>
<td>Cetti’s warbler</td>
<td>Cettia cetti</td>
<td>7</td>
<td>0.1km</td>
</tr>
<tr>
<td>Kingfisher</td>
<td>Alcedo atthis</td>
<td>2</td>
<td>1.2km</td>
</tr>
</tbody>
</table>

Source: SEWBReC

In addition, a number of ‘priority species’ (those listed as species of principal importance under Section 7 of the Environment (Wales) Act 2016) were returned from within 2.0km of the survey area, including house sparrow (Passer domesticus), dunnock, song thrush, lapwing, bullfinch, lesser spotted woodpecker (Dendrocopos minor), grasshopper warbler, black headed gull (Chroicocephalus ridibundus), kestrel, cuckoo, linnet (Linaria cannabina), and starling.

4.1.3.2 Gwent Bird Report (2016)

The Gwent Bird Report has recorded a number of breeding bird species in the local area including the following species (noted as being recorded from Llanwern Steelworks):

- Cetti’s warbler;
- Greylag goose (Anser anser);
- Shelduck (Tadorna tadorna);
- Mandarin duck (Aix galericulata);
- Gadwall (Anas strepera);
- Teal (Anas crecca);
- Pintail (Anas acuta);
- Shoveler (Anas clypeata);
- Pochard (Aythya ferina);
- Tufted duck (Aythya fuligula);
- Little grebe (Tachybaptus ruficollis);
- Water rail (Rallus aquaticus);
- Coot (Fulica atra);
- Snipe (Gallinago gallinago);
- Woodcock (Scolopax rusticola);
- Lesser black-backed gull (Larus fuscus);
- Wood warbler;
● Lesser whitethroat (*Sylvia curruca*);
● Whitethroat (*Sylvia communis*); and
● Pied wagtail (*Motacilla alba yarrellii*).

### 4.1.3.3 M4 Corridor around Newport Data

A review of M4 Corridor around Newport data has identified breeding bird species south of the survey area, in surveys undertaken in 2014, 2015 and 2016. All these surveys identified the presence of Cetti’s warbler, which is a known species in the area and well recorded (Arup, 2014a; Thomson Ecology, 2016), with the nearest record 1.0km directly south of the survey area (Thomson Ecology, 2016).

Other breeding bird species identified through the M4 Corridor around Newport surveys include a number of Section 7 species under the Environment (Wales) Act 2016. These include, but not limited to; house sparrow, song thrush, bullfinch, kestrel, dunnock, tree sparrow, starling, curlew, and lapwing (Arup, 2014a; Arup 2014b; Thomson Ecology, 2016; RPS, 2016a).

### 4.2 Field Surveys

A total of 42 species were recorded during the breeding bird surveys. A full species list is provided in Appendix B. Records of species for which there are statutory instruments governing their protection and a duty to conserve (herein referred to as notable species) include the following (note that some species are cited in more than one statutory and conservation categories):

- Two^2^ species listed on Annex I of the Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) or those recognised by the Rare Breeding Birds Panel (RBBP) were identified on within the survey area;
- Six species listed on the Newport Local Biodiversity Action Plan (LBAP); and
- Six species of principal importance.

‘Birds of Conservation Concern’, a measure to convey concern and help set priorities for conservation action (Eaton et al., 2015), were recorded and include:

- Six Red Listed (BoCC) species;
- Ten Amber Listed (BoCC) species; and
- Twenty-six Green Listed (BoCC) species.

Red, Amber and Green Listed species recorded within the survey area are concluded from BoCC4 and BoCCW3 as detailed in Section 2.6.

Table 4.4 provides a summary of the number of species of birds with the probability of breeding within the survey area (Table 2.2 gives the criteria for each of the breeding evidence categories).

### Table 4.4: Number of Bird Species with Evidence or Likelihood of Breeding in the Survey Area

<table>
<thead>
<tr>
<th>Breeding Status</th>
<th>Number of Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed breeding species</td>
<td>12</td>
</tr>
<tr>
<td>Probable breeding species</td>
<td>13</td>
</tr>
<tr>
<td>Possible breeding species</td>
<td>12</td>
</tr>
</tbody>
</table>

^2^ Kingfisher was recorded incidentally during other surveys by ecologists.
4.3 Breeding Status and Conservation Importance

4.3.1 Breeding Status

The breeding status of species, in accordance with the evidence categories described in Table 2.2, is described below with the status of protected and/or notable species summarised in Table 4.5.

Table 4.5: Notable Species Recorded during the Surveys

<table>
<thead>
<tr>
<th>Species</th>
<th>Breeding Evidence</th>
<th>Sch 1</th>
<th>Section 7</th>
<th>Likely Territories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cetti’s warbler</td>
<td>Possible</td>
<td>X</td>
<td>X</td>
<td>Yes – outside of the survey area adjacent to Ringland Way Marsh SINC</td>
</tr>
<tr>
<td>Kingfisher</td>
<td>Probable</td>
<td></td>
<td></td>
<td>Yes – recorded on two occasions at Monks’ Ditch (including a pair)</td>
</tr>
<tr>
<td>Song thrush</td>
<td>Probable</td>
<td></td>
<td></td>
<td>Yes – males recorded singing on two or more occasions in the same areas</td>
</tr>
<tr>
<td>Dunnock</td>
<td>Probable</td>
<td></td>
<td></td>
<td>Yes - males recorded singing on two or more occasions in the same areas</td>
</tr>
<tr>
<td>Bullfinch</td>
<td>Confirmed</td>
<td></td>
<td></td>
<td>Yes – males recorded in suitable habitat on two or more occasions in the same areas</td>
</tr>
<tr>
<td>Linnet</td>
<td>Possible</td>
<td>X</td>
<td>X</td>
<td>No – only recorded on a single occasion within the survey area</td>
</tr>
</tbody>
</table>

4.3.1.1 Territories of Notable

4.3.1.2 Confirmed Breeding Species

A total of 11 Green List species were confirmed to be breeding within the survey area: great tit (Parus major), blackcap (Sylvia atricapilla), chiffchaff (Phylloscopus collybita), robin (Erithacus rubecula), moorhen (Gallinula chloropus), great spotted woodpecker (Dendrocopos major), green woodpecker (Picus viridis), rook (Corvus frugilegus), blue tit (Cyanistes caeruleus), wren (Troglodytes troglodytes) and blackbird (Turdus merula). One Amber List species was also confirmed to be breeding within the survey area; Bullfinch.

4.3.1.3 Probable Breeding Species

Two Red List species were considered to be probable breeding species. Whitethroat and willow warbler (Phylloscopus trochilus) were both recorded singing on all three survey visits within similar locations.

Six Amber List species were considered to be probable breeding species. Multiple singing dunnock were recorded on all three survey visits with a pair also observed on the first visit. Long-tailed tits (Aegithalos caudatus) were heard singing within the survey area as well as families being recorded on visit three. Song thrush (Section 7 species of Principle Importance
and listed within Newport LBAP) was recorded singing on all three survey visits. Goldcrest (Regulus regulus) were recorded singing on all three survey visits.

A pair of cormorants (Phalacrocorax carbo) were observed incidentally on an ecological survey. The Schedule 1 species kingfisher was also observed in a pair incidentally on another ecological survey.

Five Green List species were recorded as probable breeders. Reed warbler (Acrocephalus scirpaceus) was heard singing on all three survey visits and was observed nest building on visit three. A pair of carrion crows (Corvus corone) were observed on the second visit along with a singing male on the third visit. Goldfinch (Carduelis carduelis) was heard singing recorded on two survey visits. Woodpigeon was recorded singing on all three survey visits. Coal tit (Periparus ater) was also recorded singing on all three survey visits;

4.3.1.4 Possible Breeding Species

Eight Green List species were considered to be possibly breeding within the survey area due to the evidence listed below:

- Cetti’s warbler (also a Schedule 1 species and listed within Newport LBAP): singing males during all three survey visits. None within the survey area were recorded in the same location (See Section 5.1.5.2);
- Treecreeper (Certhia familiaris): observed in suitable habitat on two survey visits;
- Jay (Garrulus glandarius): observed in suitable habitat on two survey visits;
- Magpie (Pica pica): observed in suitable habitat on three survey visits;
- Jackdaw (Coloeus monedula): observed in suitable habitat on three survey visits;
- Chaffinch (Fringilla coelebs): observed within suitable habitat on all three survey visits and singing on one survey visit;
- Garden warbler (Sylvia borin): one male recorded singing on a single survey visit; and
- Nuthatch (Sitta europea): observed in suitable habitat on one survey visits.

Three Amber List species were also considered to be possibly breeding. A stock dove (Columba oenas) was recorded singing on the last survey visit. Mallards (Anas platyrhynchos) were also recorded in their suitable habitat on all three survey visits. Greenfinch (Chloris chloris) were recorded singing on a single survey visit.

One Red List species were also considered to be possible breeding. Linnet (Linaria cannabina) (Section 7 species of Principle Importance and listed within Newport LBAP) was recorded singing on the final survey visit.
5 Conclusion and Recommendations

5.1 Interpretation and Conclusions

5.1.1 Overall Species Assemblage Summary

A total of 42 species were recorded during the breeding bird surveys. Records of species for which there are statutory instruments governing their protection and a duty to conserve (herein referred to as notable species) include the following (note that some species are cited in more than one statutory and conservation categories):

- Two species listed on Annex I of the Birds Directive or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) or those recognised by the Rare Breeding Birds Panel (RBBP) were identified within the survey area;
- Six species listed on the Newport Local Biodiversity Action Plan; and
- Six species of principal importance;

‘Birds of Conservation Concern’, a measure to convey concern and help set priorities for conservation action (Eaton et al, 2015), were recorded and include:

- Six red listed (BoCC) species;
- Ten amber listed (BoCC) species; and
- Twenty-six green listed (BoCC) species.

5.1.2 Breeding Bird Species Richness

Considering the number of species recorded during the surveys (n=37, Table 4.4) and the species likely to be present but were not recorded during the breeding bird surveys (n=1) i.e. tawny owl (Strix aluco) recorded during bat surveys, the breeding bird community conservation importance of the survey area can be classified as ‘Local’.

5.1.3 Amber and Red Listed Species

Of the Amber and Red List species the majority of species are not considered to be range restricted but are common and widespread in Wales (BTO, 2013). Those with a reduced UK breeding distribution according to the Bird Atlas 2007-2010 such as kingfisher have a good coverage of confirmed breeding sites in south-east Wales and western England and throughout coastal UK habitats respectively.

5.1.4 Spatial Distribution

The distribution of observations, the number of species and abundance was relatively even across the survey area (Appendix C). Willow warbler, reed warbler, Cetti’s warbler and kingfisher were all recorded in close proximity to reens within the survey area including Monks’ Ditch.

---

1 Kingfisher was recorded incidentally during other surveys by ecologists.
5.1.5 Schedule 1 Species

5.1.5.1 Kingfisher

Kingfisher have been recorded as probably breeding within the survey area with a pair recorded at Monks’ Ditch (Appendix D). The banks of the watercourse provide suitable nesting habitats for this species and as such their presence within the survey area cannot be ruled out.

5.1.5.2 Cetti’s Warbler

Cetti’s warbler have been recorded as possibly breeding within the survey area with a likely territory held outside the survey area indicating that this species is probable breeding here (Appendix D). Ringland Way Marsh SINC is designated due to reedswamp and marsh, with wet grassland areas which supports Cetti’s warbler as per Table 4.2. The territories held likely incorporate the SINC habitats as this is typical habitat of breeding Cetti’s warbler.

5.2 Assessment and Recommendations

The current proposals for the Scheme involve work within woodland, scrub and reens/marginal habitats, all suitable for use by breeding birds. The survey work has confirmed that birds are actively using the survey area for nesting and foraging with a number of species confirmed breeding within the survey area. The works could result in destruction or damage to active birds’ nests, disturbance to Schedule 1 species (should they be present) and an overall reduction in suitable nesting bird habitat.

The assessment of impacts on breeding birds from Phase 1 of the Llanwern Rail Facilities Programme is included in a separate Ecological Impact Assessment (EcIA) which sets out site specific recommendations (Mott MacDonald 2018, Report Reference: 367590-WTD-CAR-2648). However, on the basis of the results of this report, the following general recommendations are made:

5.2.1 Avoidance and Mitigation

To avoid adverse effects on nesting birds, works should avoid areas where birds (particularly protected and notable bird species) are likely to breed, such as reedbeds and surrounding woodland within wetland areas.

Any vegetation clearance should be undertaken outside of the bird breeding season (March to August inclusive) to avoid disturbance to nesting birds. In particular, works near to Monks’ Ditch should be targeted for clearance outside of the breeding bird period to avoid any potential impacts on kingfisher (See Section 5.2.1.1). Where this is not possible, works should only be undertaken once a suitably qualified ecologist has confirmed that no active birds’ nests are present. Vegetation clearance during breeding bird season should be undertaken following a method statement and ecological supervision.

Where vegetation is removed there is likely to be a reduction in nesting, foraging and resting habitats for breeding birds. It is advised that the removal of established vegetation such as dense scrub and mature trees is minimised or avoided where possible. Habitat affected by the Scheme should not be allowed to become fragmented and isolated, and connectivity corridors should be retained or established where possible.

5.2.1.1 Kingfisher

Works in close proximity to Monks’ Ditch should be undertaken outside of breeding bird season. Where this is not possible, an experienced ornithologist should survey the banks prior to any
works commencing on-Site. This pre-works survey will determine activity on-Site and if this species is confirmed breeding on-Site, a method statement for works on-Site will be required to ensure there is no disturbance to this species. It is anticipated that a buffer would be required around active nesting burrows to avoid potential disturbance. This is to be agreed as part of consultation with the local authority and a suitably qualified ecologist.

Disturbance to Schedule 1 bird species during the breeding bird season cannot be licensed for development purposes.

Where the loss of woodland, scrub or reens cannot be avoided, this should be mitigated through enhancing the remaining habitat (through woodland management or erection of bird boxes) and/or compensatory woodland planting.

5.2.2 General Construction Safeguards

In addition to the specific measures outlined above, general construction safeguards can be implemented to avoid the risk of birds using vehicles and other machinery for nesting. These are as follows:

- Avoid leaving vehicles and machines parked near boundary fences, walls and close to vegetation;
- Any gaps in excess of 22mm in diameter may be sufficient for birds to enter. Where possible, vehicles and other machinery that is idle can have any holes and ledges temporarily blocked with soft packaging materials;
- As set out above, daily checks of vehicles and other machinery, for nests should be undertaken before any vehicles or machines are started; and
- Any stockpiles on-Site should be netted to avoid bird species using gaps within the stockpiles.
6 References

- British Trust for Ornithology (BTO) website: [Online] Available at: https://www.bto.org/ [Last accessed: September 2018].


Appendices

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A. Site Location Plan
## B. Species List

<table>
<thead>
<tr>
<th>British Vernacular Name</th>
<th>Scientific Name</th>
<th>Annex 1 Schedule 1</th>
<th>LBAP</th>
<th>Birds of Conservation Concern (UK)</th>
<th>Birds of Conservation Concern (Wales)</th>
<th>Breeding Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey heron</td>
<td>Ardea cinerea</td>
<td>Green</td>
<td>Amber</td>
<td>No Evidence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buzzard</td>
<td>Buteo buteo</td>
<td>Green</td>
<td>Green</td>
<td>No Evidence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mallard</td>
<td>Anas platyrhynchos</td>
<td>Green</td>
<td>Green</td>
<td>Possible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrion crow</td>
<td>Corvus corone</td>
<td>Green</td>
<td>Green</td>
<td>Probable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great Tit</td>
<td>Parus major</td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cetti’s warbler</td>
<td>Cettia cetti</td>
<td>GREEN</td>
<td>GREEN</td>
<td>Possible</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-tailed tit</td>
<td>Aegithalos caudatus</td>
<td>Green</td>
<td>Amber</td>
<td>Probable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willow warbler</td>
<td>Phylloscopus trochilus</td>
<td>Amber</td>
<td>Red</td>
<td>Probable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blackcap</td>
<td>Sylvia atricapilla</td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chiffchaff</td>
<td>Phylloscopus collybita</td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treecreeper</td>
<td>Certhia familiaris</td>
<td>Green</td>
<td>Green</td>
<td>Possible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robin</td>
<td>Erithacus rubecula</td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenfinch</td>
<td>Chloris chloris</td>
<td>Green</td>
<td>Amber</td>
<td>Possible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goldfinch</td>
<td>Carduelis carduelis</td>
<td>Green</td>
<td>Green</td>
<td>Probable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cormorant</td>
<td>Phalacrocorax carbo</td>
<td>Green</td>
<td>Amber</td>
<td>Probable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moorhen</td>
<td>Gallinula chloropus</td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Recorded as probable breeders outside of the survey area adjacent to Ringland Way Marsh SINC.
<table>
<thead>
<tr>
<th>British Vernacular Name</th>
<th>Scientific Name</th>
<th>Annex 1</th>
<th>Schedule 1</th>
<th>Section 7</th>
<th>LBAP</th>
<th>Birds of Conservation Concern (UK)</th>
<th>Birds of Conservation Concern (Wales)</th>
<th>Breeding Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lapwing</td>
<td><em>Vanellus vanellus</em></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>Red</td>
<td>Red</td>
<td>No Evidence</td>
<td></td>
</tr>
<tr>
<td>Herring gull</td>
<td><em>Larus argentatus</em></td>
<td>✓</td>
<td></td>
<td></td>
<td>Red</td>
<td>Red</td>
<td>No Evidence</td>
<td></td>
</tr>
<tr>
<td>Stock dove</td>
<td><em>Columba oenas</em></td>
<td></td>
<td></td>
<td></td>
<td>Amber</td>
<td>Amber</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>Wood pigeon</td>
<td><em>Columba palumbus</em></td>
<td></td>
<td></td>
<td></td>
<td>Green</td>
<td>Green</td>
<td>Probable</td>
<td></td>
</tr>
<tr>
<td>Kingfisher</td>
<td><em>Alcedo atthis</em></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Amber</td>
<td>Amber</td>
<td>Probable</td>
<td></td>
</tr>
<tr>
<td>Great spotted woodpecker</td>
<td><em>Dendrocopos major</em></td>
<td></td>
<td></td>
<td></td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
</tr>
<tr>
<td>Green woodpecker</td>
<td><em>Picus viridis</em></td>
<td></td>
<td></td>
<td></td>
<td>Green</td>
<td>Green</td>
<td>Confirmed</td>
<td></td>
</tr>
<tr>
<td>Jay</td>
<td><em>Garrulus glandarius</em></td>
<td></td>
<td></td>
<td></td>
<td>Green</td>
<td>Green</td>
<td>Possible</td>
<td></td>
</tr>
<tr>
<td>Magpie</td>
<td><em>Pica pica</em></td>
<td></td>
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C. Breeding Birds Survey Results Plan
South Wales Metro - Task Order 26
Breeding Bird Survey Results
Evidence of Breeding
Page 1 of 33

Breeding evidence
- Confirmed
- Possible
- Probable

Key to Symbols
- Survey area
- Waterbody
- Breeding evidence

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Breeding Bird Survey Results
Evidence of Breeding

Scale 1:1,000

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Transport for Wales
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Client

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Informal: INF

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Legend

- B Blackbird
- W Blackcap
- WT Blue Tit
- BT Bullfinch
- BTz Buzzard
- CT Carrion Crow
- CH Chaffinch
- CC Chiffchaff
- CT Coal Tit
- CA Corman
- SD Stock Dove
- GW Garden Warbler
- GC Goldcrest
- GD Goldfinch
- GS Great Spotted Woodpecker
- ST Great Tit
- G Green Woodpecker
- GR Greenfinch
- H Grey Heron
- D Dunnock
- HM Herrigel Gull
- J House Martin
- JD Jackdaw
- JY Jay
- K Kingfisher
- L Lapwing
- LN Linnet
- LT Long-tailed Tit
- MG Maggie
- MA Mallard
- MH Moorhen
- NW Nuthatch
- RW Reed Warbler
- ROB Robin
- ROOK Song Thrush
- TR Treecreeper
- WH Whitethroat
- WW Willow Warbler
- WP Wood Pigeon
- WR Wren

Due to overlapping symbols, some of the labels have been slightly moved to make all records visible.

All territories are presumed either probable or confirmed.
Breeding evidence

- Confirmed
- Probable

Key to Symbols

- Survey area
- Waterbody
- Breeding evidence

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South Wales Metro - Task Order 26
Breeding Bird Survey Results
Evidence of Breeding Page 3 of 33

Transport for Wales
Southgate House
Wood Street
Cardiff CF10 1EW
United Kingdom

Blackbird
Blackcap
Blue Tit
Bullfinch
Buzzard
Carrion Crow
Chaffinch
Chiffchaff
Coal Tit
Cormorant

Stock Dove
Garden Warbler
Goldcrest
Goldfinch
Great Spotted Woodpecker
Great Tit
Green Woodpecker
Greenfinch
Grey Heron

Herring Gull
House Martin
Jackdaw
Kingfisher
Lapwing
Linnet
Long-tailed Tit
Maggie

Moorhen
Nuthatch
Reed Warbler
Robin
Rook
Song Thrush
Tree creeper
White throated
Willow Warbler
Wood Pigeon

Wren
Breeding evidence

- **Confirmed**
- **Possible**
- **Probable**
- **No evidence**

**Key to Symbols**

- **Survey area**
- **Waterbody**

**Legend**

- **B Blackbird**
- **BC BCap**
- **BT Blue Tit**
- **BZ Bullfinch**
- **BZ Buzzard**
- **CH Chaffinch**
- **CC Chiffchaff**
- **CT Coal Tit**
- **CA Cormorant**
- **GD Stock Dove**
- **GC Goldcrest**
- **GO Goldfinch**
- **G Great Spotted Woodpecker**
- **ST GRed Tit**
- **G Green Woodpecker**
- **GR Grey Heron**
- **H Dunnock**
- **HM Herring Gull**
- **JD Jackdaw**
- **J Jay**
- **K Kingfisher**
- **L Lapwing**
- **LE Linnet**
- **LT Great Tit**
- **MG Magpie**
- **MA Mardall**
- **MH Moorhen**
- **NW Nuthatch**
- **RW Reed Warbler**
- **R Robin**
- **RO Rook**
- **ST Song Thrush**
- **TC Treecreeper**
- **WH Whitethroat**
- **WP Willow Warbler**
- **WR Wren**

**Survey area**

- **Waterbody**

**Breeding evidence**

- **Confirmed**
- **Possible**
- **Probable**
- **No evidence**

**Client**

- Transport for Wales
- Southgate House
- Wood Street
- Cardiff
- CF10 1EW
- United Kingdom

**Title**

- South Wales Metro - Task Order 26
- Breeding Bird Survey Results
- Evidence of Breeding
- Page 5 of 33

**Scale**

- 1:1,000

**Date**

- 28/09/18

**For Information**

- P1

**Designated**

- MOTT
- MACDONALD
- M

**Drawn**

- G Starr
- T Ruff
- G O'Donovan

**Eng Check Coordination Approved**

- Z Costas
- L Woolley
- C Probert

**Security**

- INF

**P1**
## South Wales Metro - Task Order 26
### Breeding Bird Survey Results
#### Evidence of Breeding

**Location Map**

**Key to Symbols**
- **Survey area**
- **Waterbody**

**Breeding evidence**
- Confirmed
- No evidence
- Possible
- Probable

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**Survey area**

**Waterbody**

**Breeding evidence**

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**Birds Listed**
- Blackbird
- Blackcap
- Blue Tit
- Bunting
- Buzzard
- Carriion Crow
- Chaffinch
- Chiffchaff
- Coal Tit
- Cormorant
- Common Gull
- Goldcrest
- Goldfinch
- Great Spotted Woodpecker
- Great Tit
- Green Woodpecker
- Grey Heron
- Dunnock
- Jackdaw
- Kingfisher
- Lapwing
- Linnet
- Long-tailed Tit
- Magpie
- Mallard
- Moorhen
- Nuthatch
- Reed Warbler
- Robin
- Song Thrush
- Treecreeper
- Whitethroat
- Willow Warbler
- Wood Pigeon
- Woodpigeon
- Wren

**Scale at A3**

**Status**
- For Information

**Client**
- Transport for Wales
- Southgate House
- Wood Street
- Cardiff, CF10 1EW
- United Kingdom
Breeding evidence

- Confirmed
- No evidence
- Possible
- Probable

Key to Symbols

- Survey area
- Waterbody
- Breeding evidence

Client
Transport for Wales
Southgate House
Wood Street
Cardiff, CF10 1EW
United Kingdom

Title
South Wales Metro - Task Order 26
Breeding Bird Survey Results
Evidence of Breeding
Page 20 of 33

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UNITED KINGDOM

967590-MMD-26-XX-DR-C-0491

0 20 40 60 80 100
B Blackbird
BC Blackcap
BT Blue Tit
BF Bullfinch
BZ Buzzard
CC Carrion Crow
CH Chaffinch
CC Chiffchaff
CT Coal Tit
CA Cormorant

SD Stock Dove
GC Goldcrest
GD Goldfinch
GS Great Spotted Woodpecker
ST Great Tit
G Green Woodpecker
GR Grey Heron
H Dunnock

HG Herring Gull
HM House Martin
JJD Jackdaw
J Jay
K Kingfisher
L Lapwing
LI Linnet
LT Long-tailed Tit
MG Magpie
MA Mallard

MH Moorhen
NW Nuthatch
RW Reed Warbler
RO Robin
ST Song Thrush
TC Treecreeper
WH Whitethroat
WR Willow Warbler
WP Wood Pigeon

Wren

Survey area
Waterbody
Breeding evidence
- Confirmed
- Possible
- Probable

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Data:
- Client: Mott MacDonald
- Title: South Wales Metro - Task Order 26
- Description: Breeding Bird Survey Results
- Page: 22 of 33

Symbols:
- Survey area
- Waterbody
- Breeding evidence
- Confirmed
- Possible
- Probable

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Transport for Wales
Southgate House
Wood Street
Cardiff CF10 1EW
United Kingdom
Breeding evidence

- **Confirmed**
- **Possible**
- **Probable**
- **No evidence**

**Key to Symbols**

- Survey area
- Waterbody

**Survey area**

- **Blackbird**
- **Blue Tit**
- **Bullfinch**
- **Bunting**
- **Chaffinch**
- **Chiffchaff**
- **Coal Tit**
- **Cormorant**
- **Great Spotted Woodpecker**
- **Green Woodpecker**
- **Grey Heron**
- **Dunnock**
- **House Martin**
- **Jackdaw**
- **Jay**
- **Lapwing**
- **Linnet**
- **Long-tailed Tit**
- **Maggie**
- **Mallard**
- **Moorhen**
- **Nuthatch**
- **Reed Warbler**
- **Robin**
- **Song Thrush**
- **Treecreeper**
- **White-throat**
- **Willow Warbler**
- **Wood Pigeon**
- **Wren**

**Breeding Bird Survey Results**

Client:
Transport for Wales
Southgate House
Wood Street
Cardiff, CF10 1EW
United Kingdom

Title:
South Wales Metro - Task Order 26
Breeding Bird Survey Results
Evidence of Breeding
Page 26 of 33

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W mottmac.com

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- All territories are presumed either probable or confirmed.

**Survey area**

- **Blackbird**
- **Blue Tit**
- **Bullfinch**
- **Bunting**
- **Chaffinch**
- **Chiffchaff**
- **Coal Tit**
- **Cormorant**
- **Great Spotted Woodpecker**
- **Green Woodpecker**
- **Grey Heron**
- **Dunnock**
- **House Martin**
- **Jackdaw**
- **Jay**
- **Lapwing**
- **Linnet**
- **Long-tailed Tit**
- **Maggie**
- **Mallard**
- **Moorhen**
- **Nuthatch**
- **Reed Warbler**
- **Robin**
- **Song Thrush**
- **Treecreeper**
- **White-throat**
- **Willow Warbler**
- **Wood Pigeon**
- **Wren**
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**Breeding evidence**

- **Confirmed**
- **Possible**
- **Probable**

**Keys to Symbols**

- **Survey area**
- **Waterbody**

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**Key to Symbols**

- Survey area
- Waterbody
- Breeding evidence

**Legend**

- B: Blackbird
- BT: Blue Tit
- BC: Bullfinch
- BF: Bunting
- BZ: Buzzard
- CH: Chaffinch
- CC: Chiffchaff
- CT: Coal Tit
- CA: Cormorant
- GD: Goldfinch
- ST: Starling
- DC: Dunnock
- SC: Sedge Warbler
- SW: Song Thrush
- WR: Wren
- H: Herring Gull
- MA: Mallard
- SB: Swift
- RO: Robin
- TW: Treecreeper

**Birds**

- Blackbird
- Blue Tit
- Bullfinch
- Bunting
- Buzzard
- Chaffinch
- Chiffchaff
- Coal Tit
- Cormorant
- Goldfinch
- Starling
- Dunnock
- Sedge Warbler
- Song Thrush
- Wren
- Herring Gull
- Mallard
- Swift
- Robin
- Treecreeper

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  - Cardiff, CF10 1EW
  - United Kingdom

**Title**

- South Wales Metro - Task Order 26
- Breeding Bird Survey Results
- Evidence of Breeding

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**Survey area**

- Survey boundaries

**Waterbody**

- Water bodies

**Breeding evidence**

- Confirmed
- Possible
- Probable
D. Protected and/or Notable Species Plan
### Breeding Bird Survey Results

#### Protected and Notable Species Plan

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<th>Waterbody</th>
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<td>Designations</td>
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<td>Red list species</td>
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<td>Amber list species</td>
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#### Survey Area

- Bullfinch (BF)
- Dunnock (D)
- Herring Gull (HG)
- Lapwing (L)
- Linnet (LI)
- Mallard (MA)
- Stock Dove (SD)
- Song Thrush (ST)
- Willow Warbler (WW)

#### Waterbody

- Greenfinch (GR)
- Cormorant (CA)
- Whitethroat (WH)
- Goldcrest (GC)
- Cetti’s Warbler (CW)
- Kingfisher (KF)

#### Designations

- Schedule 1 species
- Red list species
- Amber list species

#### Schedule 1 Species

- Red Listed, LBAP, S7
- Amber Listed, LBAP, S7
- Amber Listed

#### Red Listed

- Red Listed, LBAP, S7

#### Amber Listed

- Amber Listed

#### Amber Listed, Annexe 1, Schedule 1

- Amber Listed, Annexe 1, Schedule 1

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#### Scale at A3

- Status
- Rev
- Security

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South Wales Metro - Task Order 26
Breeding Bird Survey Results
Protected and Notable Species Plan
Page 2 of 15
Survey area

Designations
- Schedule 1 species
- Red list species
- Amber list species

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United Kingdom

Title:
South Wales Metro - Task Order 26 
Breeding Bird Survey Results
Protected and Notable Species Plan
Page 4 of 15

Key to Symbols:
- BF: Bullfinch
- D: Dunnock
- HG: Herring Gull
- L: Lapwing
- Li: Linnet
- MA: Mallard
- SD: Stock Dove
- ST: Song Thrush
- WW: Willow Warbler

- LG: Long-tailed Tit
- GR: Greenfinch
- CA: Cormorant
- WA: Whistling
- GC: Goldcrest
- CW: Cetti's Warbler
- KG: Kingfisher

Schedule 1 species: LBAP, S7
Red list species: LBAP, S7
Amber listed: LBAP, S7

Key to Designations:
- !: Schedule 1 species
- !: Red list species
- !: Amber list species

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Drawn:
GIS Check:
Eng Check:
Coordination:
Approved:

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W mottmac.com
Survey area

Waterbody

Designations

Schedule 1 species
Red list species
Amber list species

Bullfinch
Dunnock
Herring Gull
Lapwing
Linnet
Mallard
Stock Dove
Song Thrush
Willow Warbler

Long-tailed Tit
Greenfinch
Cormorant
Whitethroat
Goldcrest
Cetti’s Warbler
Green Listed, Schedule 1, LIPAP
Amber Listed, Annex 1, Schedule 1

Amber Listed, LIPAP, S7
Amber Listed, LIPAP, S7
Red Listed, LIPAP, S7
Red Listed, LIPAP, S7

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Breeding Bird Survey Results
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Breeding Bird Survey Results

Protected and Notable Species Plan

South Wales Metro - Task Order 26

Survey area

Waterbody

Designations

- Schedule 1 species
- Red list species
- Amber list species

List of Species

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Designated

- Schedule 1 species
- Red list species
- Amber list species

Legend

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### Bullfinch (BF)
- D. (Dunnock)
- H. (Herring Gull)
- L. (Lapwing)
- U. (Linnet)
- M. (Mallard)
- S. (Stock Dove)
- W. (Willow Warbler)

### Long-tailed Tit (LT)
- G. (Greenfinch)
- C. (Cormorant)
- W. (Whitethroat)
- G. (Goldcrest)
- C. (Cetti’s Warbler)
- K. (Kingfisher)

### Schedule 1 species
- LBAP
- S7

### Red list species
- LBAP
- S7

### Amber list species
- LBAP
- S7
# Breeding Bird Survey Results

## Protected and Notable Species Plan

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**Legend**

- Survey area
- Waterbody
- Schedule 1 species
- Red list species
- Amber list species