



# MetroWest+

## Portishead Branch Line (MetroWest Phase 1)

TR040011

**Applicant: North Somerset District Council**

**6.25, Environmental Statement, Volume 4, Appendix 9.3A and 9.3B Bird Surveys**

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

**Regulations 2009, Regulation 5(2)(a)**

**Planning Act 2008**

**Author: CH2M**

**Date: November 2019**





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## Document history

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# Acronyms and Abbreviations

AWT	Avon Wildlife Trust
CIEEM	Chartered Institute of Ecology and Environmental Management
DCO	Development Consent Order
ES	Environmental Statement
JNCC	Joint Nature Conservation Committee
NSIP	Nationally significant infrastructure project
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WCA	Wildlife and Countryside Act
WeBS	Wetland Bird Survey



SECTION 1

# Introduction

## 1.1 Introduction

- 1.1.1 North Somerset District Council (“NSDC”) is making an application for a development consent order (“DCO”) to construct the Portishead Branch Line under the Planning Act 2008. The DCO Scheme will provide an hourly (or hourly plus) railway service between Portishead and Bristol Temple Meads, with stops at Portishead, Pill, Parson Street and Bedminster.
- 1.1.2 The scheme is one of several projects that form part of MetroWest, a programme of rail improvements in the West of England. MetroWest Phase 1 is being led jointly by NSDC and the West of England Combined Authority (“WECA”)<sup>1</sup>, as a third party promoted rail project, funded by the authorities and devolved funding sources from central government. The West of England Authorities are working with Network Rail, Great Western Railway and the wider rail industry to deliver the MetroWest Programme.
- 1.1.3 This report documents the ornithology of Portbury Wharf Nature Reserve and the ornithological features of interest of the Severn Estuary Special Protection Area (“SPA”) /Ramsar/Site of Special Scientific Interest (“SSSI”) and Schedule 1 species protected under the Wildlife and Countryside Act (“WCA”) 1981
- 1.1.4 In the Scoping Opinion issued by the Planning Inspectorate in 2015, Natural England commented that *“the new railway Portishead to Pill lies partly within the Portbury Wharf Nature Reserve/local site, which is adjacent to the Severn Estuary designated site. It is possible that bird species associated with the SSSI, SPA and Ramsar will be present in significant numbers at certain times of the year and that the reserve may provide functionally linked habitat. We recommend that the EIA includes consideration of potential impacts on birds to understand whether there may be indirect effects on the Severn Estuary designated site”*.
- 1.1.5 During consultations with Natural England, they also commented on the proximity of the DCO Scheme to the Severn Estuary SPA / Ramsar / SSSI in the vicinity of Pill. A wintering bird survey in the Pill Marshes area was undertaken in autumn and winter 2014/2015.
- 1.1.6 It has also come to light that two bird species listed under Schedule 1 of the WCA have been observed in the vicinity of the DCO Scheme, namely Barn owl *Tyto alba* and Peregrine falcon *Falco peregrinus*. Barn owl is resident in the Portbury Wharf Nature Reserve.
- 1.1.7 This report presents the ornithology of Portbury Wharf Nature Reserve, and also summarises the wintering bird survey at Pill (Appendix 9.3B, DCO

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<sup>1</sup> WECA has powers in relation to strategic transport, housing and adult skills for Bristol City Council (“BCC”), Bath and North East Somerset (“B&NES”), and South Gloucestershire Councils (“SGC”). NSDC is not part of WECA but works closely with WECA.

Document Reference 6.25) and the WCA Schedule 1 bird survey (Appendix 9.3C, DCO Document Reference 6.25).

## 1.2 The DCO Scheme

### Description of the DCO Scheme

- 1.2.1 The Portishead Branch Line was built in the 1860s. Passenger services continued between Portishead and Bristol until 1964, and freight services continued to 1981. The Royal Portbury Dock opened in 1978 and in 2002 the currently operational part of the former Portishead Branch Line was re-opened to service the port for freight only. The owner of the Royal Portbury Dock, Bristol Port Company, has commercial rights to run up to 20 freight trains per day in each direction along the operational railway line. The current volume of freight trains operating is substantially less than this. The section of the railway between Portishead and Pill remains disused.
- 1.2.2 The DCO Scheme comprises the nationally significant infrastructure project (“NSIP”) as defined by the Planning Act 2008 to construct a new railway between Portishead and the village of Pill, and associated works including a new station and car park at Portishead, a refurbished station and new car park at Pill and various works along the existing operational railway line between Pill and Ashton Junction where the scheme will join the existing railway. Ashton Junction is located close to the railway junction with the Bristol to Exeter Mainline at Parson Street.
- 1.2.3 Further information on the project is provided in the Environmental Statement (“ES”) Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7).

### Setting

- 1.2.4 The southern end of Portbury Wharf Nature Reserve adjoins the railway boundary of the disused railway corridor. The Portishead Ecology Park lies immediately to the west of the Nature Reserve. Both the Portbury Wharf Nature Reserve and the Portishead Ecology Park are now managed by North Somerset District Council.
- 1.2.5 Permanent and temporary land-take will be required from the Nature Reserve. It is proposed that part of the field at the southern end of the Nature Reserve is used as a temporary site compound during the construction phase and a smaller area is used as a permanent maintenance compound in the operation phase. The temporary construction compound and permanent maintenance compound at Sheepway are shown on the General Arrangement Plans Sheet 2 (DCO Document Reference 2.4). A plan of Sheepway permanent maintenance compound is shown on Sheepway Bridge Maintenance Compound and Landscaping Plan (DCO Document Reference 2.49).
- 1.2.6 Details of the works at Pill and their proximity to the Severn Estuary SPA/Ramsar/SSSI are presented in Appendix 9.3B (DCO Document Reference 6.25) and commentary on the ecological characteristics of the whole DCO Scheme are presented in the ES Chapter 9 Ecology and Biodiversity (DCO Document Reference 6.12).

SECTION 2

# Methodology

## 2.1 Review of information

2.1.1 Consideration was made of the DCO Scheme details in the light of all available information (citations, location maps etc. on JNCC and MAGIC websites) on nearby Natura 2000 SPA and Ramsar sites<sup>2</sup> designated for their bird interest. The following bird data were reviewed (looking especially at numbers of any species individually named in the designated site citations):

- Portbury Wharf Nature Reserve monitoring data provided by the Avon Wildlife Trust.
- Bristol Regional Environmental Records Centre data for the area.
- Bird survey information from the nearby Court House Farm Ecological Impact Assessment documents submitted to North Somerset District Council as part of planning application number 16/P/1987/F to develop the site for a cargo storage area.
- Wintering (2015/2016) bird survey reports for Pill Marshes (see Appendix 9.3B, DCO Document Reference 6.25).
- Reporting for 2017 survey of WCA Schedule 1 Bird species (see Appendix 9.3C, DCO Document Reference 6.25).
- Specialist advice obtained on WCA Schedule 1 species from a recognised local expert on peregrines and the Conservation Officer of the Hawk and Owl Trust (barn owls).

Based on the above it was possible to evaluate the numbers/population sizes of key bird species present (especially any SSSI, SPA, Ramsar listed and/or any National or Local Priority Species), and any species protected under Schedule 1 of the Wildlife and Countryside Act (1981 as amended) as well as the overall bird assemblages.

2.1.2 This information was then used to feed directly into and form part of an overall ecological impact assessment for the DCO Scheme, which is presented in the ES, Chapter 9 Ecology and Biodiversity (DCO Document Reference 6.12).

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<sup>2</sup> Special Areas of Conservation ("SAC") are not considered here, as the Severn Estuary SAC is concerned with aquatic habitats and does not include ornithological features in the site designation.

## 2.2 Evaluation

- 2.2.1 The ecological value of the bird population has been determined based on the guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016). The level of value of specific ecological receptors is assigned using a geographic frame of reference, with international value being most important, then national, regional, county, district, local and lastly, within the immediate zone of influence of the scheme area only.
- 2.2.2 The evaluation is made using a variety of characteristics, including the rarity of populations, either locally or within a wider area, the vulnerability of species (for example, to disturbance or fragmentation from other populations), and statutory recognition of biodiversity importance through inclusion in local or national biodiversity action plans. Note that legal protection is not in itself a consideration in the evaluation of species.

SECTION 3

## Bird assemblages

### 3.1 Baseline data from nearby Designated Sites

3.1.1 **Severn Estuary SPA.** This large site covers 73,715 ha in area, starting c.1.2 km north of the DCO Scheme in the vicinity of Portishead and within 40 m of temporary construction works and 80 m of the permanent works in Pill. This statutory site is of value at the international level as it is an EU Natura 2000 site. It is designated in particular due to important wintering populations of:

- Tundra (Bewick's) swan *Cygnus columbianus bewickii*,
- Curlew *Numenius arquata*,
- Dunlin *Calidris alpina alpina*,
- Pintail *Anas acuta*,
- Common redshank *Tringa totanus* and,
- Common shelduck *Tadorna tadorna*,
- plus an internationally important assemblage of over wintering waterfowl, and important numbers of ringed plover *Charadrius hiaticula* on passage.

3.1.2 **Severn Estuary Ramsar site.** This site covers a sub-area within the extents of the SPA but is still large in area. The site boundaries in the vicinity of the DCO Scheme are the same as for the SPA. This site is also of value at the international level as it is an EU Natura 2000 site. The citation lists a range of ecological interest features, but with regard to birds this site is designated due to the following:

- Ramsar criterion 4: It is of particular importance for migratory birds during spring and autumn,
- Ramsar criterion 5: Assemblages of international importance - 70,919 waterfowl (5 year peak mean 1998/99-2002/2003),
- Ramsar criterion 6: species/populations occurring at levels of international importance:
  - Tundra (Bewick's) swan,
  - Greater white-fronted goose *Anser albifrons albifrons*,
  - Common shelduck,
  - Gadwall *Anas strepera*,
  - Dunlin and
  - Common redshank.

- 3.1.3 In addition to this, species/populations identified subsequent to designation for possible future consideration under criterion 6 are as follows:
- Species regularly supported during the breeding season:
    - Lesser black-backed gull *Larus fuscus graellsii*
  - Species with peak counts in spring/autumn:
    - Ringed plover *Charadrius hiaticula*
  - Species with peak counts in winter:
    - Eurasian teal *Anas crecca* and
    - Northern pintail.
- 3.1.4 **Severn Estuary Site of Special Scientific Interest.** This site covers 15,950 ha; once again comprising a sub-area within the extents of the SPA/Ramsar site, but still large and extensive; with 82 separate units subject to condition assessment monitoring by Natural England. The site boundaries in the vicinity of the DCO Scheme are the same as for the SPA/Ramsar sites. This statutory site is of value at the national level as it is protected under the UK Wildlife and Countryside Act 1981 (as amended). The SSSI is of international importance for wintering and passage wading birds, with total winter populations averaging about 44,000 birds. Numbers can be considerably higher during severe winters when, owing to its mild climate, the Severn Estuary supports wader populations that move in from the colder coasts of Britain.
- 3.1.5 The SSSI holds most of the estuary's internationally important populations of:
- Curlew and
  - Redshank
- 3.1.6 It also supports most of the estuary's nationally important populations of:
- Ringed plover and
  - Grey plover *Pluvialis squatarola*.
- 3.1.7 Other waders which occur in significant numbers within the SSSI are:
- Common snipe *Gallinago gallinago*,
  - Knot *Calidris canutus*,
  - Whimbrel *Numenius phaeopus*, and
  - Turnstone *Arenaria interpres*.
- 3.1.8 The SSSI is internationally important for dunlin and supports about 7.5% of the British wintering population of this species. The estuary as a whole supports about 10.5% of the British wintering population and is the single most important wintering ground of dunlin in Britain.
- 3.1.9 In late winter and early spring the SSSI supports nationally important numbers of shelduck, following the partial dispersal from their moulting grounds in Bridgwater Bay. There are also significant numbers of wigeon *Anas penelope*.

- 3.1.10 **Portbury Wharf Nature Reserve.** This is a non-statutory nature reserve, a North Somerset Wildlife Site located on the land between Portishead and Royal Portbury Dock, adjacent to the Severn Estuary. Planning consent for the nearby Port Marine housing development was granted on condition that the developers designate a nature reserve on the adjoining land. The site was previously managed by the Avon Wildlife Trust, but the management has recently transferred to North Somerset Council.
- 3.1.11 Habitats present on site include a network of pools and lagoons surrounded by grazing marsh grassland and hay meadows and hedgerows close to the estuary, which provide wetland and terrestrial habitats suitable for a range of bird species as well as for species such as water vole *Arvicola amphibius*, otter *Lutra lutra*, uncommon invertebrates (e.g. hairy dragonfly *Brachytron pratense*) and foraging greater horseshoe bat *Rhinolophus ferrumequinum*. The pools and lagoons are located in the northern part of the site closer to the estuary foreshore, and grassland meadow and associated ditch/hedge habitats are mainly in the southern part closer to the DCO Scheme. The layout of the nature reserve and the extent of habitat types present is shown in Figure 1.
- 3.1.12 The southern end of the site adjoins the railway corridor, with part of the field at its southern end proposed as a site compound area during the construction phase and a smaller area as an ongoing maintenance compound in the operation phase.
- 3.1.13 Based on the wide range of bird and other notable species occurring here and uncommon habitats contained within the site boundaries, it is considered that the ecological features present at this non-statutory site are of value up to the county level.



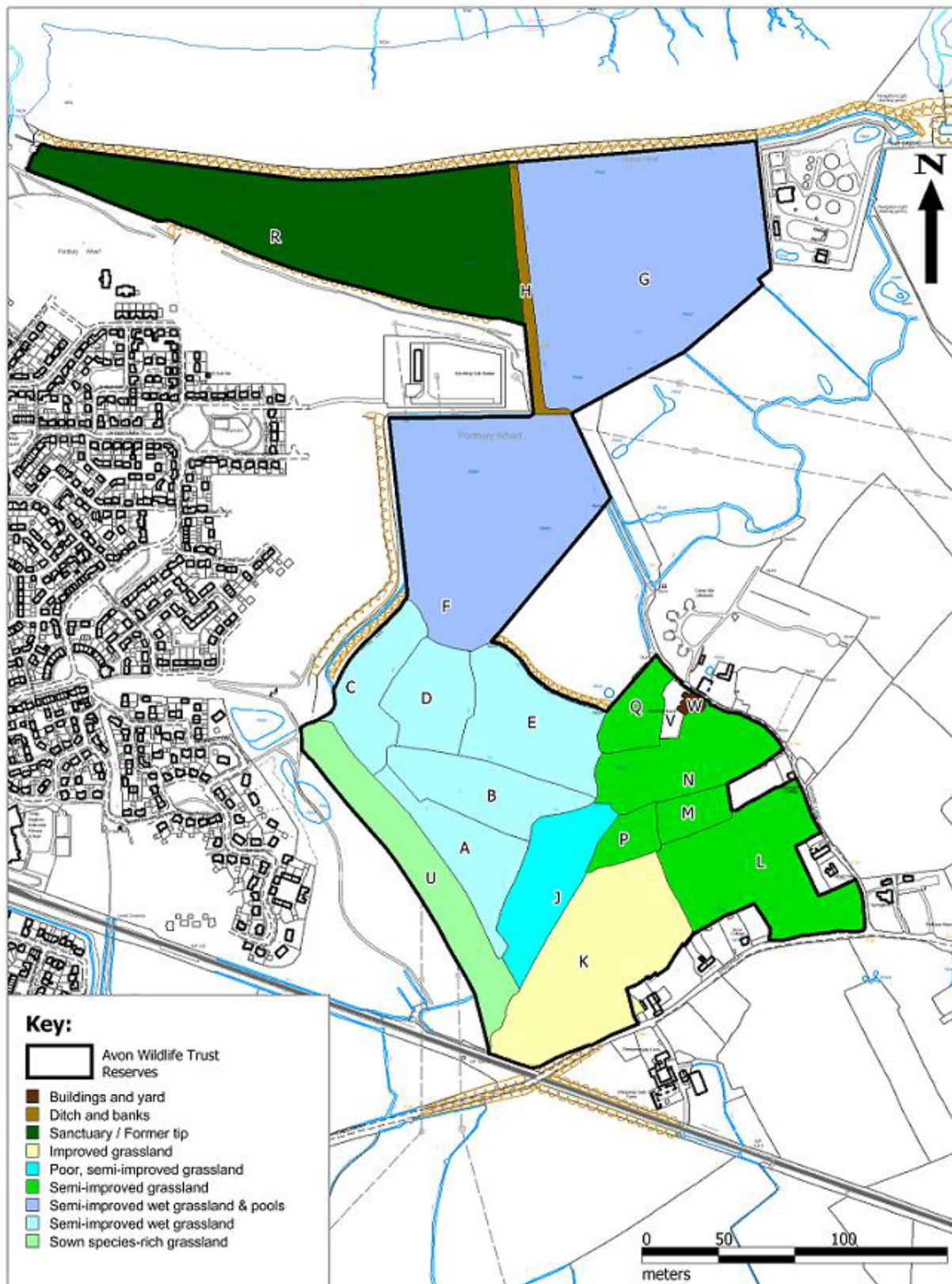


Figure 1 Layout of Portbury Wharf Nature Reserve



## 3.2 Portbury Wharf Nature Reserve Bird Data

3.2.1 Four years of Wetlands Bird Survey (“WeBS”) bird data have been provided by Avon Wildlife Trust (“AWT”) from 2011 to 2015 inclusive. In addition to this various other relevant data sources and reports including bird information were provided by AWT (such as Wildlife Monitoring Reports, AWT 2011 and 2012) and were analysed as part of this assessment. The following text summarises the information provided.

3.2.2 Many bird species are found at the site, including at least 13 that are Red-listed and 33 that are Amber listed as Birds of Conservation Concern with numerous waterbirds (i.e. waders, gulls, ducks and geese) as well as notable farmland birds such as skylark *Alauda arvensis*, reed bunting *Emberiza schoeniclus* and barn owl *Tyto alba*. Table 3.1 indicates those species recorded on site which are regarded as being of greatest ecological importance. Several of these species are national and/or local Priority Species such as skylark.

Table 3.1: Target species identified within Portbury Wharf Management Plan (Landmark Environmental Consultants 2008) and Key Species listed in Wildlife Monitoring Plan 2006-2009 (Port Marine Development, 2006)

<b>Portbury Wharf Management Plan - Target Bird Species</b>	<b>Wildlife Monitoring Plan 2006-2009 - Key Bird Species</b>
Great spotted woodpecker <i>Dendrocopos major</i>	Curlew
Linnet <i>Carduelis cannabina</i>	Redshank
Bullfinch <i>Pyrrhula pyrrhula</i>	Whimbrel
Mute swan <i>Cygnus olor</i>	Lapwing <i>Vanellus vanellus</i>
Wintering thrushes	Snipe
Song thrush <i>Turdus philomelos</i>	Shelduck
Reed bunting	Teal
Autumn migrant and wintering birds	Skylark
Nesting birds (including warblers)	Barn owl
	Short-eared owl <i>Asio flammeus</i>

3.2.3 The wintering waterfowl (i.e. duck and geese species) population is arguably the feature of highest ecological value (based on nearby SSSI/SPA/Ramsar citations).

3.2.4 In addition to this the site holds year-round interest for migrants (including scattered records for uncommon species such as ring ouzel *Turdus torquatus*, various warbler species including grasshopper warbler *Locustella naevia* and little ringed plover *Charadrius dubius*).

- 3.2.5 The site has apparently yet to attract breeding waders apart from occasional oystercatcher, but a wide range of bird species do breed here, including several waterfowl species such as gadwall, notable species such as barn owl (WCA Schedule 1) and lesser black-backed gull.
- 3.2.6 Information on the locations of bird nesting activity is limited, but indicates that this is largely concentrated in the northern part of the site in the vicinity of the North Pools and the Scrapes and the foreshore.
- 3.2.7 Three barn owl nest boxes are positioned across the site (all potentially suitable for roosting or nesting), with one of these located c.200 m from the southern end of the nature reserve. Breeding barn owls have been confirmed by AWT in at least one of these boxes in 2015, when four owlets were raised that year, and going back as far as 2010, but apparently no breeding activity has occurred within the reserve since 2015 although barn owls are considered to be resident.
- 3.2.8 It is anticipated that farmland birds which nest and forage in grassland subject to low management inputs are likely to be most numerous in the southern grassland meadows, with waterbirds mainly in the northern pool/lagoon area.

### 3.3 Data on SPA/Ramsar Interest Features

- 3.3.1 The most useful guide to SPA/Ramsar individually cited species can be derived using the WeBS data provided by AWT for Portbury Wharf Nature Reserve. WeBS data form the basis of five year “peak means” (i.e. the highest number of any given species at any one of the three monthly winter visits averaged over a five year time period) used in citations of Natura sites, so the figures produced are comparable and compatible with the numbers given within the citations. Therefore it is possible using these figures to calculate the percentage of the overall cited populations of a given species which could be present at a site. Only four years of WeBS data were available at the time of this study, so peak means were calculated for this period, which are considered likely to be broadly very similar to figures obtained over one more year. These data mainly relate to wintering waterbirds and are shown in Table 3.2. Breeding lesser black-backed gull is listed within the Ramsar citation so is also included in Table 3.3.

Table 3.2 Key winter bird data of relevance to SPA/Ramsar designation – i.e. WeBS data for wintering birds (no records obtained for other cited species)

Winter birds (Dec to Feb incl)	Notable spp.	Cited poptn size	% of cited poptn	4yr Peak Mean	2015*	2014	2013	2012
				(2012 to 2015)	Peak count	Peak count	Peak count	Peak count
Black-headed gull				32.8	28	29	44	30
Canada goose				9.75	9	7	15	8
Common gull				6.3	0	10	9	6
Coot				53	33	59	72	47
Cormorant				1.5	4	1	0	1
Curlew	SSSI/ SPA	3903	0.06	2.5	6	0	1	3
Gadwall	Ramsar	241	12.03	29	21	23	36	36
Herring gull				63.3	1	135	60	57
Jack snipe				1.8	0	0	0	7
Lapwing				45.3	50	44	19	68
Lesser black-backed gull				2.5	0	2	3	5
Little egret				0.3	0	1	0	0
Little grebe				9	7	8	10	11
Mallard				15.8	21	20	11	11
Moorhen				19.3	17	18	21	21
Mute swan				11.75	16	7	7	17
Pintail	SPA	599 (SPA), 756 (Ramsar)	0.05/ 0.03	0.3	0	0	0	1
Pochard				3.3	1	4	5	3
Scaup				0.3	0	0	1	0

Table 3.2 Key winter bird data of relevance to SPA/Ramsar designation – i.e. WeBS data for wintering birds (no records obtained for other cited species)

Winter birds (Dec to Feb incl)	Notable spp.	Cited poptn size	% of cited poptn	4yr Peak Mean	2015*	2014	2013	2012
				(2012 to 2015)	Peak count	Peak count	Peak count	Peak count
Shelduck	SPA	3330 (SPA), 3223 (Ramsar)	0.07/ 0.07	2.3	2	3	2	2
Shoveler				17.8	19	21	16	15
Snipe	SSSI			6.3	6	10	0	9
Teal	Ramsar	4456	0.31	13.8	8	19	15	13
Tufted				14	5	18	14	19
Water rail				0.5	2	0	0	0
Wigeon	SSSI			110	105	168	76	92
<b>Total water-fowl*</b>		<b>c.94K (SPA), 71K (Ramsar)</b>	<b>0.5 (SPA), 0.66 (Ramsar)</b>	<b>472.5</b>	<b>361</b>	<b>607</b>	<b>437</b>	<b>482</b>

Table 3.3 Key breeding bird data of relevance to SPA/Ramsar designation (no records obtained for other cited species)

Cited breeding birds (Mar to Jun incl)	Notable spp.	Populations of cited species	% of cited population	Peak Mean	2015*	2014	2013	2012
				2012 to 2015	Peak count	Peak count	Peak count	Peak count
Lesser black-backed gull	Ramsar	4,167 nests	0.06	2.5	8	9	12	4

- 3.3.2 Four of the cited bird species are present at very low percentages (less than 0.1%) of the cited population sizes with the exception of gadwall for which the nature reserve can hold up to c.12%, and teal on site are potentially up to 0.31% of the Ramsar populations of these species.
- 3.3.3 The overall waterfowl assemblage contains up to 0.5-0.66% of the populations of the designated sites as a whole.
- 3.3.4 These cited species and the assemblage as a whole are all anticipated to occupy the northern part of the site which starts approximately 600 m north of the DCO Scheme (although some ducks are likely to occur in the drainage ditches which lie in the southern part).

## 3.4 Wintering (2014/2015) bird survey reporting for Pill Marshes

### Summary of the survey results

- 3.4.1 A total of 10 waterfowl species were recorded during these surveys (see Appendix 9.3C (DCO Document Reference)). Two of these, redshank and curlew, are qualifying species for the Severn Estuary SPA/Ramsar site and low numbers of these species were recorded. Generally, one to six redshank were recorded feeding on the intertidal mud at low tide and a peak count of 28 was obtained on one occasion. A maximum of two curlew were recorded during the surveys, also restricted to the intertidal area. Waterfowl were not recorded using the Pill Marshes to a significant extent during the survey and no SPA/Ramsar qualifying species were recorded in this area.
- 3.4.2 A range of human disturbance to birds was identified during the surveys, comprising:
- Walkers (mainly dog walkers) using the Pill Marshes area throughout the tidal cycle (except on high spring tides when the saltmarsh becomes inundated).
  - Noise and visual disturbance from the existing residential areas, which directly adjoin the designated site boundaries.
  - Noise disturbance from the M5 Avonmouth Bridge.
  - Existing rail traffic along the Portbury freight line.
  - Noise and visual disturbance from the industrial activity on the north-eastern side of the River Avon.

## 3.5 Reporting for 2017 survey of WCA Schedule 1 Bird species

- 3.5.1 A survey of the WCA Schedule 1 bird species, barn owl and peregrine falcon, was undertaken in spring 2017, comprising a walk along the whole of the DCO Scheme between Portishead and the outskirts of Bristol on three separate occasions. The survey report is provided in Appendix 9.3C (DCO Document Reference 6.25).

### 3.5.2 Key findings:

- No positive sightings were made of barn owls during the walkovers of the DCO Scheme (although an adult bird was observed on 25 July 2017 approximately 550 m from the disused section of the railway at Portbury Wharf Nature Reserve).
- During the walkovers nine potential barn owl roosting/nesting locations and seven potential peregrine roosting/nesting locations were identified, and the desk study revealed one known location of barn owl breeding activity (Portbury Wharf Nature Reserve) and one nearby barn owl roosting location (a veteran oak tree at Court House Farm). Both of the desk study locations were assessed as far as was possible during site walkovers.
- The barn owl features were all within the section from Portishead to the start of the Avon Gorge, where there is suitable foraging habitat (rough meadow and grassland) in good quantities nearby in addition to the potential roost/nest features.
- The peregrine locations represent cliff habitats within the Avon Gorge where these birds could potentially nest. A potential peregrine nesting site was identified directly above the planned operational works corridor on a nest known to have been formerly occupied by breeding ravens, and an adult bird was seen sitting on the nest with another nearby on the second visit. However, no sign of young birds or feeding behaviour was seen either at or near the nest and no signs of peregrine activity were observed on the third visit. The location was watched for about an hour on both the second and third visits. So peregrine breeding appears not to have occurred here in 2017 (but may potentially occur in future years).

SECTION 4

# Conclusion

- 4.1.1 Using the WCA Schedule 1 bird survey and information gathered above, an impact assessment and robust mitigation strategy will be developed for the DCO Scheme.
- 4.1.2 Habitat Regulations Assessment screening will be required for the Severn Estuary SPA/Ramsar, including consideration of potential impacts on birds at Portbury Wharf Nature Reserve to understand whether there may be indirect effects on the Severn Estuary designated site. Consent for work near to the SSSI may be required by Natural England.





SECTION 5

# References

- Avon Wildlife Trust (Sept 2011), Wildlife Monitoring Report April 2010 to March 2011; Port Marine Development (Portbury Wharf), Portishead.
- Avon Wildlife Trust (Sept 2012), Wildlife Monitoring Report April 2011 to March 2012; Port Marine Development (Portbury Wharf), Portishead.
- Barn Owl Trust (2012), The Barn Owl Conservation Handbook
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- Department for Environment, Food & Rural Affairs and Welsh Government (2016), Guidance on providing and protecting habitat for wild birds - How to support wild birds by protecting their habitat and avoiding pollution if you're a local or other competent authority.
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# MetroWest+

## Portishead Branch Line (MetroWest Phase 1)

TR040011

6.25, Environmental Statement, Volume 4, Appendix 9.3B Wintering Bird Surveys  
The Infrastructure Planning (Applications: Prescribed Forms and Procedure)  
Regulations 2009, Regulation 5(2)(a)  
Planning Act 2008

Author: CH2M

Date: November 2019





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# Acronyms and Abbreviations

CIEEM	Chartered Institute of Ecology and Environmental Management
DCO	Development Consent Order
ES	Environmental Statement
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WeBS	Wetland Bird Survey

SECTION 1

# Introduction

## 1.1 Introduction

1.1.1 EAD was commissioned by CH2M HILL to complete the wintering bird surveys of Pill Marshes and the River Avon, centred on OS grid reference ST520766; refer to Figure 1. The surveys were undertaken to inform the assessment of potential impacts of the proposed Portishead Branch Line (MetroWest Phase 1) Development Consent Order Scheme ('the DCO Scheme') and were undertaken between October 2014 and January 2015.

## 1.2 Aim of survey

1.2.1 The survey was undertaken to establish the current use of Pill Marshes and the adjacent intertidal section of the River Avon by wintering waterfowl. Pill Marshes and the River Avon at this location lie within the Seven Estuary European Sites, comprising the Severn Estuary Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar Site ('the European Sites'), and are also designated as a Site of Special Scientific Interest (SSSI).

1.2.2 The DCO Scheme concerns the reinstatement of the abandoned railway line between Portishead and Pill, the refurbishment of Pill station and some small scale works along the existing Portbury freight line. A new railway passenger service would be provided, running 45 minute service during peak periods and hourly outside peak hours. At present, the Portbury Docks has permission to run up to 20 freight trains per day in each direction.

1.2.3 Refer to the Environmental Statement ("ES") Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7) for the fully detailed project description.

1.2.4 The permanent works for the DCO Scheme lies approximately 80 m from the boundary of the European Sites at their nearest point and the temporary construction works lie about 40 m distant. The wintering bird surveys were therefore undertaken to obtain an understanding of existing use of these areas by waterfowl to inform the assessment of the DCO Scheme under the Conservation of Habitats and Species Regulations 2010 (as amended) ('The Habitats Regulations'). In particular, surveys were undertaken to identify the current value of the area to wintering waterfowl species for which the European Sites have been designated, comprising:

- Tundra (Bewick's) Swan *Cygnus Columbianus bewickii*
- Curlew *Numenius arquata*
- Dunlin *Calidris alpina alpina*
- Pintail *Anas acuta*
- Redshank *Tringa totanus*
- Shelduck *Tadorna tadorna*
- Ringed Plover *Charadrius hiaticula* (on passage)

- Greater white-fronted goose *Anser albifrons albifrons*
- Gadwall *Anas Strepera*

1.2.5 The Conservation Objectives for the SPA are included in Annex A.

1.2.6 The Severn Estuary SAC is designated for its estuarine habitats and the migratory fish species sea lamprey, river lamprey and twaite shad; the potential impacts of the DCO Scheme on the interest features of the SAC are therefore not considered within this report.



SECTION 2

# Methodology

## 2.1 Overview

2.1.1 Surveys were undertaken between October 2014 and January 2015. A total of eight visits were undertaken, comprising one high-tide and one low-tide survey each month, using an adapted Wetland Bird Survey (“WeBS”) methodology (Gilbert *et al.*, 1998). Following consultation with Natural England, it was agreed that surveys during February and March were not required to inform the assessment of the DCO Scheme.

## 2.2 Methodology

2.2.1 During each survey, a transect was walked by an experienced ornithologist, enabling all parts of the survey area to be observed. The survey area was divided into three sectors to enable some understanding of the spatial distribution of birds within the survey area to be obtained (refer to Figure 1); the species and number of birds within each sector were recorded. Birds in flight were also recorded, although these were not included in total counts for each sector. Sources of disturbance to birds, such as dog walkers, were also noted. Surveys were undertaken no more than two hours either side of high and low tide respectively, in accordance with WeBS methodology. Surveys between October and December were undertaken by CH2M HILL, January surveys were undertaken by EAD.

2.2.2 The numbers of birds recorded in each sector were tabulated onto spreadsheets to enable subsequent analysis.



SECTION 3

# Results

## 3.1 Survey dates, time and weather

3.1.1 A summary of the survey dates, times and weather for the surveys is provided on Table 3.1. Tides are given as height in metres above Chart Datum at Avonmouth, based on data from the UK Hydrographic Office. Weather information includes cloud cover measured in oktas (i.e. the proportion of sky covered by cloud, ranging from 0/8 (no cloud) to 8/8 (complete cloud cover)), wind direction and strength (based on the Beaufort scale), air temperature and any precipitation noted during the survey. The October low tide survey was undertaken on 4 November as surveys did not commence until late October and this was the first opportunity to undertake a low tide survey during appropriate conditions.

Table 3.1: Summary of survey visits

Date	Tide (Time and height above Chart Datum at Avonmouth)	Time	Weather (Cloud cover, wind, temperature, precipitation)
<b>High tide</b>			
31/10/14	12:02; 10.8m	10:30-13:30	2/8, S3-4, 20°C
24/11/14	08:04; 13.2m	07:25-09:00	9/8 (mist)-0/8, 0-1, 0°C
8/12/14	08:03; 13.2m	07:25-08:50	1/8, 0-1, 4°C
22/1/15	08:22; 14.2m	07:50-09:45	8/8, NE1, 2°C
<b>Low tide</b>			
4/11/14	11:19; 1.9m	10:20-12:20	7/8, S2-3, 10°C, occasional rain
24/11/14	14:52; 1.5m	14:30-16:30	1/8, 1-2, 6°C
8/12/14	14:53; 1.5m	14:30-16:20	0/8, SW3-4, 6°C
22/1/15	15:18; 0.6m	14:00-15:45	7/8, NE1, 3°C

## 3.2 Bird survey data

3.2.1 A summary of the bird survey results is presented on Table 3.2 (low-tide counts) and Table 3.3 (high-tide counts). The full survey results are presented in Annex B. The location of the count sectors is shown in Figure 1.

Table 3.2: Summary of high-tide survey results

Species	Count			
	October	November	December	January
Mallard	0	0	0	6
Cormorant	0	0	0	0
Little Egret	0	0	0	0
Grey Heron	1	1	1	0
Common Snipe	0	0	0	1
Eurasian Curlew	0	0	0	2
Common Redshank	0	0	0	28
Black-headed Gull	0	0	0	60
Lesser Black-backed Gull	0	0	0	0
Herring Gull	0	0	0	2
Total	1	1	1	99

Table 3.3: Summary of low-tide survey results

Species	Count			
	October	November	December	January
Mallard	4	0	0	8
Cormorant	0	2	0	0
Little Egret	1	0	0	0
Grey Heron	1	0	0	1
Common Snipe	0	0	0	0
Eurasian Curlew	1	1	1	2
Common Redshank	6	2	1	4
Black-headed Gull	45	36	50	167
Lesser Black-backed Gull	1	0	0	0
Herring Gull	10	3	3	2
Total	69	44	55	184

- 3.2.2 The survey area comprised the Pill Marshes, an area of predominantly unmanaged saltmarsh dominated by sea couch (see Photograph 1), together with the River Avon channel, a steep-banked estuarine channel supporting intertidal mud habitats. The survey area is crossed by the M5 Avonmouth Bridge.



**Photo 1: Pill Marshes looking north towards the M5 Avonmouth Bridge, Oct 2014**

- 3.2.3 A total of 10 waterfowl species were recorded during the surveys, excluding those that were only recorded in flight. Of these, two were qualifying species for the Severn Estuary European Sites; redshank and curlew. Low numbers of these species were recorded. The peak count of redshank was 28 during the January high-tide survey, when 26 birds were recorded roosting together on the north-eastern bank of the river; the remaining two birds were recorded on the upper shore within Sector 2. Otherwise, records of this species were generally of one to six birds feeding on the intertidal muds at low tide. A maximum of two curlew were recorded during the surveys, also restricted to the intertidal area. Waterfowl were not recorded using the Pill Marshes to a significant extent; no European Site qualifying species (refer to Section 1.2) were recorded in this area.
- 3.2.4 No particular patterns of usage of the survey area by wintering birds were identified during the surveys. The lowest number of birds was recorded in Sector 1, downstream of the M5 Avonmouth Bridge. Very few birds were recorded at high tide; with the exception of the roosting redshank recorded during the January survey these comprised predominantly black-headed gulls and herring gulls on the water throughout the survey area. The highest number of birds was recorded in January; this may have reflected the very high spring tide on the day of the survey. There was also a notable passage of black-headed gulls at high tide during the January survey, with an estimated 1000 birds flying upstream in approximately 30 minutes.

3.2.5 A range of human disturbance was identified during the surveys, comprising:

- Dog walkers using the Pill Marsh area throughout the tidal cycle (except on high spring tides when the saltmarsh becomes inundated). Only low numbers of walkers were recorded during the surveys; it is considered likely that this would increase at weekends. The results of a pedestrian visitor survey undertaken in March 2015 are presented in Annex C. This survey confirmed low numbers of pedestrian visitors using the site; a total of 13 visitors in nine groups were recorded during one day. Eight of the nine visitor groups were walking dogs.
- Noise and visual disturbance from the existing residential areas, which directly adjoin the designated site boundaries.
- Noise disturbance from the M5 Avonmouth Bridge.
- Existing rail traffic along the Portbury freight line.
- Noise and visual disturbance from the industrial activity on the north-eastern side of the River Avon.

SECTION 4

## Evaluation of the survey area

### 4.1 Evaluation

- 4.1.1 The results indicate that the survey area is not currently of significant value at high or low tide for qualifying bird species of the Severn Estuary European Sites. Two qualifying bird species were recorded during the surveys; redshank (peak count 38) and curlew (peak count 2). Based on the five-year peak mean counts from the SPA designation (redshank 2330 / curlew 3903), this represents 1.6% and 0.05% of the Severn Estuary population respectively. Overall, low numbers of waterfowl were recorded during the surveys comprising common and widespread species in the UK. The bird assemblage of the survey area was assessed as being of Parish value in accordance with guidance published by CIEEM (2006).





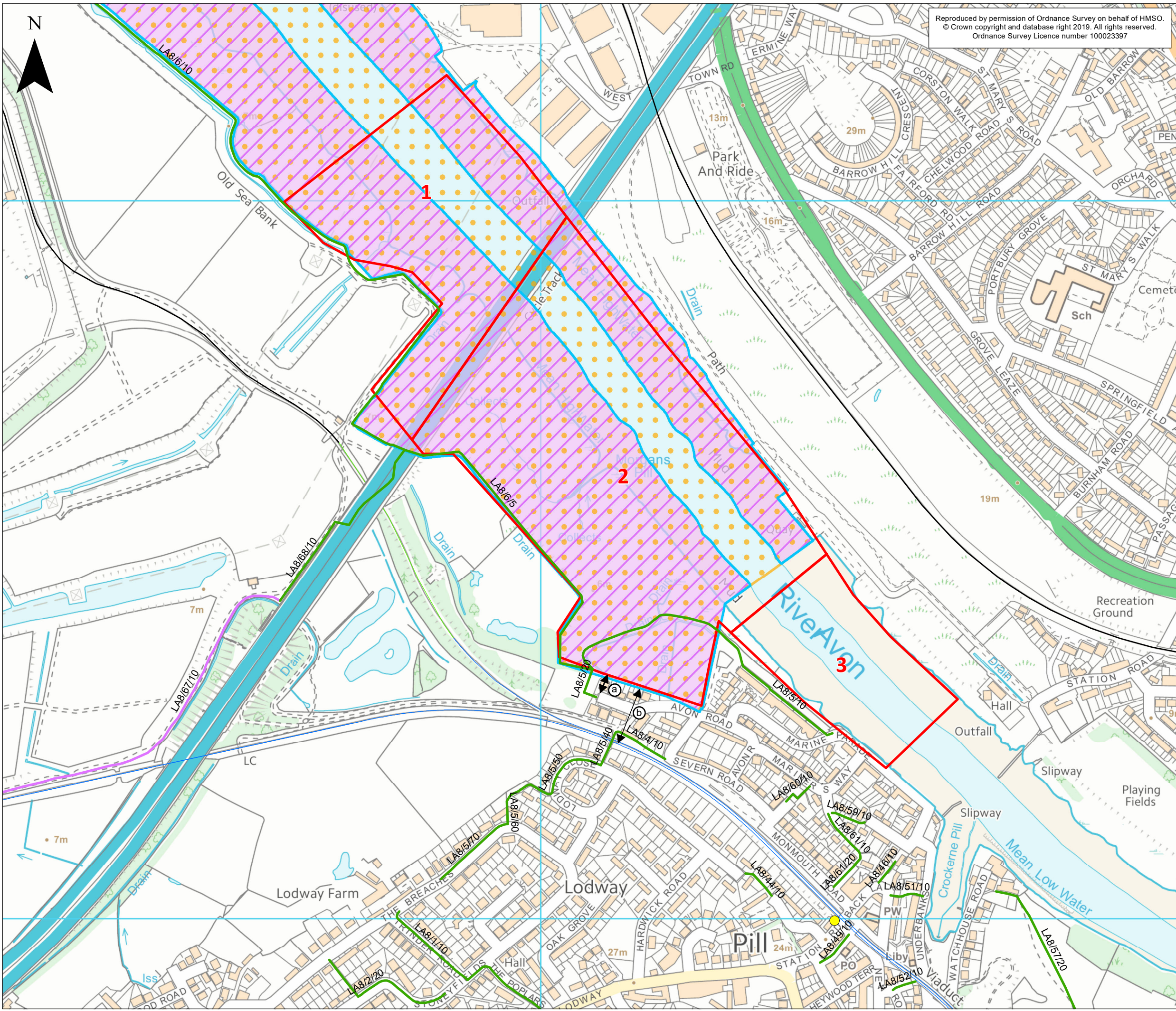
SECTION 5

# References

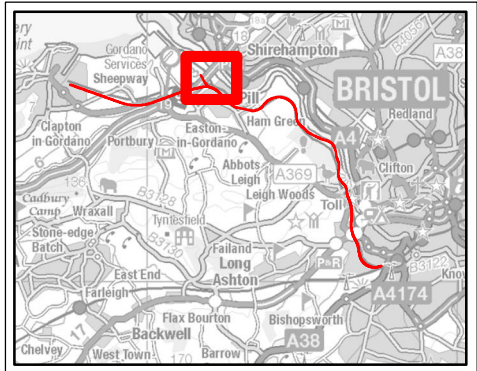
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**KEY**

- Portishead Branch Line**
- The Nationally Significant Infrastructure Project (NSIP) Works
  - The Associated Development Works
  - Bridleway
  - Footpath
  - Pill Railway Station
- Environmental Features**
- Ramsar Site
  - Special Area of Conservation (SAC)
  - Special Protection Area (SPA)
  - Site of Special Scientific Interest (SSSI)
  - Wintering Bird Survey Area Sections

**Note:**

- ⓐ 82.45 metres from Avon Road u/b to SAC
- ⓑ 30 metres diversion from end of Avon Road to SAC

0 100 200  
Metres

Rev	ES-A	MPC	CF	CF	28/10/2019	First draft

**Client**

**travelwest**  
 Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire  
 Councils working together to improve your local transport

**CH2M HILL**  
 Geospatial  
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 www.ch2m.com

**Project :**

Portishead Branch Line  
 (MetroWest Phase 1)

**Drawing :** Figure 1: Wintering Bird Survey at Pill  
 APFP Regulation 5(2)(a)

Drawn By : Martin Costello Date: 28/10/2019  
 Checked By : Carolyn Francis Date: 28/10/2019  
 Approved By : Carolyn Francis Date: 28/10/2019

Drawing No. : 674946-006-011 Revision ES-A

Drawing Scale : 1:5,000 @ A3





Annex A  
Severn Estuary SPA  
Conservation Objectives





## European Site Conservation Objectives for Severn Estuary Special Protection Area Site Code: UK9015022

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

**Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;**

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

### **Qualifying Features:**

A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)

A051 *Anas strepera*; Gadwall (Non-breeding)

A149 *Calidris alpina alpina*; Dunlin (Non-breeding)

A162 *Tringa totanus*; Common redshank (Non-breeding)

A394 *Anser albifrons albifrons*; Greater white-fronted goose (Non-breeding)

Waterbird assemblage





# Annex B

## Survey data



<b>WINTER BIRD SURVEY - OCTOBER 2014</b>		Area 1 (ST517771 to M5 bridge)		Area 2 (M5 bridge to ST523764 - Pill Foreshore)		Area 3 (Marine Parade to ST525762)		<b>TOTAL (excl. in flight)</b>
		<b>Count</b>	<b>Number</b>	<b>Count</b>	<b>Number</b>	<b>Count</b>	<b>Number</b>	
<b>Common name</b>	<b>Scientific name</b>	<i>High tide</i>	<i>Low tide</i>	<i>High tide</i>	<i>Low tide</i>	<i>High tide</i>	<i>Low tide</i>	
Mallard	<i>Anas platyrhynchos</i>		2				2	4
Cormorant	<i>Phalacrocorax carbo</i>			1*				0
Little Egret	<i>Egretta garzetta</i>				1			1
Grey Heron	<i>Ardea cinerea</i>			1	1			2
Peregrine	<i>Falco peregrinus</i>	1*						0
Eurasian Curlew	<i>Numenius arquata</i>				1			1
Common Redshank	<i>Tringa totanus</i>				5		1	6
Black-headed Gull	<i>Chroicocephalus ridibundus</i>		3	5*	29	2*	13	45
Lesser Black-backed Gull	<i>Larus fuscus</i>						1	1
Herring Gull	<i>Larus argentatus</i>		1	2*	7		2	10
Woodpigeon	<i>Columba palumbus</i>	2*		4*				0
Meadow Pipit	<i>Anthus pratensis</i>			3	1			4
Blue Tit	<i>Cyanistes caeruleus</i>			3*				0
Magpie	<i>Pica pica</i>			3	1			4
Jackdaw	<i>Corvus monedula</i>			2*	1*			0
Starling	<i>Sturnus vulgaris</i>			12*				0
Greenfinch	<i>Carduelis chloris</i>			2*				0
Goldfinch	<i>Carduelis carduelis</i>			8*				0
<b>TOTAL (excl. in flight)</b>		0	6	7	46	0	19	
SPA/Ramsar feature								
* recorded in flight								
High tide 31/10/14	10:30 to 13:30. 30% cloud cover, dry with a brisk southerly wind and seasonally warm at approximately 20°C. High tide 12:02 (10.8m)							
Low tide 4/11/14	10:20 to 12:20. 90% cloud cover, occasional rain, light southerly breeze, 10°C. Low tide 11:19 (1.9m) (spring tide).							

WINTER BIRD SURVEY - NOVEMBER 2014		Area 1 (ST517771 to M5 bridge)		Area 2 (M5 bridge to ST523764 - Pill Foreshore)		Area 3 (Marine Parade to ST525762)		TOTAL
		Count	Number	Count	Number	Count	Number	
Common name	Scientific name	High tide	Low tide	High tide	Low tide	High tide	Low tide (excl. in flight)	
Cormorant	<i>Phalacrocorax carbo</i>				2			2
Grey Heron	<i>Ardea cinerea</i>			1				1
Eurasian Curlew	<i>Numenius arquata</i>						1	1
Common Redshank	<i>Tringa totanus</i>						2	2
Black-headed Gull	<i>Chroicocephalus ridibundus</i>		9		19	15*	8	36
Herring Gull	<i>Larus argentatus</i>			1*	3			3
Woodpigeon	<i>Columba palumbus</i>			2*				0
Meadow Pipit	<i>Anthus pratensis</i>			4	5			9
Robin	<i>Erithacus rubecula</i>					1		1
Fieldfare	<i>Turdus pilaris</i>			3*				0
Long-tailed Tit	<i>Aegithalos caudatus</i>			4*				0
Blue Tit	<i>Cyanistes caeruleus</i>			2*				0
Magpie	<i>Pica pica</i>			2	1			3
Starling	<i>Sturnus vulgaris</i>			7*				0
Goldfinch	<i>Carduelis carduelis</i>			2*				0
<b>TOTAL (excl. in flight)</b>		0	9	7	30	1	11	
SPA/Ramsar feature								
* recorded in flight								
High tide 24/11/14	07:25 to 09:00. thick mist first thing, then clear and cold approximately 0°C. High tide 08:04 (13.02m) (spring tide). Sunrise 07:48							
Low tide 24/11/14	14:30 to 16:20. 10% cloud cover, clear, sunshine with light breeze, 6°C. Low tide 14:52 (1.5m) (spring tide). Sunset 16:06							

<b>WINTER BIRD SURVEY - DECEMBER 2014</b>		Area 1 (ST517771 to M5 bridge)		Area 2 (M5 bridge to ST523764 - Pill Foreshore)		Area 3 (Marine Parade to ST525762)		<b>TOTAL</b> (excl. in flight)
		<b>Count Number</b>	<b>Count Number</b>	<b>Count Number</b>	<b>Count Number</b>	<b>Count Number</b>	<b>Count Number</b>	
<b>Common name</b>	<b>Scientific name</b>	<i>High tide</i>	<i>Low tide</i>	<i>High tide</i>	<i>Low tide</i>	<i>High tide</i>	<i>Low tide</i>	
Cormorant	<i>Phalacrocorax carbo</i>				1*			0
Grey Heron	<i>Ardea cinerea</i>			1				1
Eurasian Curlew	<i>Numenius arquata</i>				1			1
Common Redshank	<i>Tringa totanus</i>						1	1
Black-headed Gull	<i>Chroicocephalus ridibundus</i>		1	92*	28	22*	21	50
Herring Gull	<i>Larus argentatus</i>				2		1	3
Woodpigeon	<i>Columba palumbus</i>			5*				0
Green Woodpecker	<i>Picus viridis</i>							0
Meadow Pipit	<i>Anthus pratensis</i>			1*	1			1
Fieldfare	<i>Turdus pilaris</i>	8*		5*				0
Great Tit	<i>Parus major</i>					1*		0
Carrion Crow	<i>Corvus corone</i>			1*				0
Starling	<i>Sturnus vulgaris</i>			60*				0
<b>TOTAL (excl. in flight)</b>		0	1	1	32	0	23	
SPA/Ramsar feature								
* recorded in flight								
High tide 08/12/14	07:25 to 08:50. Clear and dry, approx.. 10% cloud, 3-4°C. High tide 08:03 (13.20m) (spring tide). Sunrise 08:08							
Low tide 08/12/14	14:30 to 16:20. 5% cloud cover, clear, sunshine with brisk SW breeze, 6°C. Low tide 14:53 (1.5m)(spring tide). Sunset 15:57							

WINTER BIRD SURVEY - JANUARY 2015		Area 1 (ST517771 to M5 bridge)		Area 2 (M5 bridge to ST523764 - Pill Foreshore)		Area 3 (Marine Parade to ST525762)		TOTAL (excl. in flight)
		Count Number	Count Number	Count Number	Count Number	Count Number	Count Number	
Common name	Scientific name	High tide	Low tide	High tide	Low tide	High tide	Low tide	
Mallard	<i>Anas platyrhynchos</i>	2	8	4		2*		14
Cormorant	<i>Phalacrocorax carbo</i>		1*					0
Grey Heron	<i>Ardea cinerea</i>	1*	1					1
Buzzard	<i>Buteo buteo</i>			1*				0
Common Snipe	<i>Gallinago gallinago</i>			1				1
Eurasian Curlew	<i>Numenius arquata</i>			2	1		1	4
Common Redshank	<i>Tringa totanus</i>			2	1	26	3	32
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	42	33	10	35	8	99	227
		21*		1000*				0
Common Gull	<i>Larus canus</i>			2*				0
Herring Gull	<i>Larus argentatus</i>	1	1	1	1*		1	4
		1*						0
Great Black-backed Gull	<i>Larus marinus</i>		1*	1*				0
Woodpigeon	<i>Columba palumbus</i>	1*				1*		0
Collared Dove	<i>Streptopelia decaocto</i>					2*		0
Meadow Pipit	<i>Anthus pratensis</i>	1*			4	2*	2	6
Pied Wagtail	<i>Motacilla alba</i>						1	1
Grey Wagtail	<i>Motacilla cinerea</i>					1*		0
Jackdaw	<i>Corvus monedula</i>			7*				0
Linnet	<i>Carduelis cannabina</i>				4			4
Reed Bunting	<i>Emberiza schoeniclus</i>						1	1
<b>TOTAL (excl. in flight)</b>		45	43	20	45	34	107	
SPA/Ramsar feature								
* recorded in flight								
High tide 22/01/15	07:50 to 09:45. Cloud 8/8, NE1, 2°C, High tide 08:22 (14.2m) (spring tide). Sunrise 08:03							
Low tide 22/01/15	14:00 to 15:45. Cloud 7/8, NE1, 3°C Low tide 15:18 (0.6m) (spring tide)							

# Annex C

## Pedestrian Visitor Survey Data





**SUMMARY SHEET - Pedestrian Survey Form**

**LOCATION:** "Area 1" near the River Avon, Portbury Dock (see Figure 1)

**COUNT NO:** 1      **DATE:** 15-Mar-15

**WEATHER:** Grey, overcast, cold, light wind

Time	Age		Activity						TOTAL	Local				How often do you visit?				Seasonal Visitor
	Adult	Child	Walking	Dog Walking	Bird Watching	Cyclist	Other	Within 5 mins		Daily	Weekly	Monthly	All year					
10:10	1	3						4	Y					Y				
10:30	1		Running					1	Y								Spring / Summer	
10:45	1							1	Y					Y				
10:46	1							1	Y					Y				
10:57	1							1	Y					Y				
11:03	1							1	Y					Y				
11:16	1							1	Y					Y				
AM	7	3	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	
12:00	1	1						2	Y					Y				
02:39	1							1	Y					Y				
PM	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	
<b>TOTAL</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>COMMENTS</b>	Many dog walkers let their dogs off the lead, which meant they covered a wide area of the site during the visit																	
	Many dog walkers claimed they do not see many birds due to other dog walkers																	
	The survey was conducted on Mother's Day which could have reduced the number of people using the site.																	
	The roads and cycle route along the edge of the site were used a lot more than the site itself																	

**ENUMERATOR:** Andrew Wilkins

**ch2m.**<sup>SM</sup>