

- LEGEND**
- Onshore cable route - 500m buffer
 - Teesside A&B HVDC, Open trench
 - Teesside A&B HVAC, Open trench
 - Teesside A&B converter stations
 - Teesside A&B converter stations construction compounds (10,000m² per project)
 - Converter site
 - Water
 - Hedgerow
 - Fence
 - Tree
 - Miscellaneous
 - Arable
 - Allotment
 - Amenity grassland
 - Manure pile
 - Bare ground/hard standing
 - Bare ground
 - Building
 - Hardstanding
 - Private/residential
 - Swamp & Open Water
 - Standing water - eutrophic
 - Running water
 - Tall Herb & Fen
 - Tall herb and fen - tall ruderal;
 - Scattered tall ruderal;
 - Ruderal/disturbed
 - Marginal vegetation
 - Grassland Marsh
 - Neutral grassland - semi-improved
 - Improved grassland
 - Woodland & Scrub
 - Broadleaved woodland - semi-natural; Broadleaved woodland - semi-natural
 - Broadleaved woodland - plantation
 - Mixed woodland - plantation
 - Scrub

Data Source:
Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESSIDE A & B


DRAWING TITLE
Figure 4.8: Extended Phase 1 Habitat Survey - Section 6

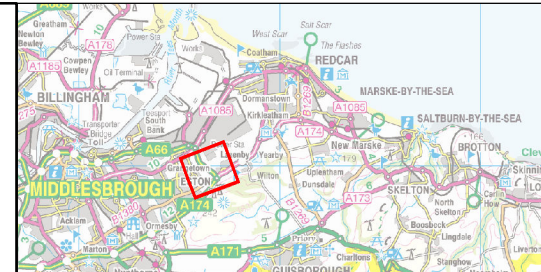
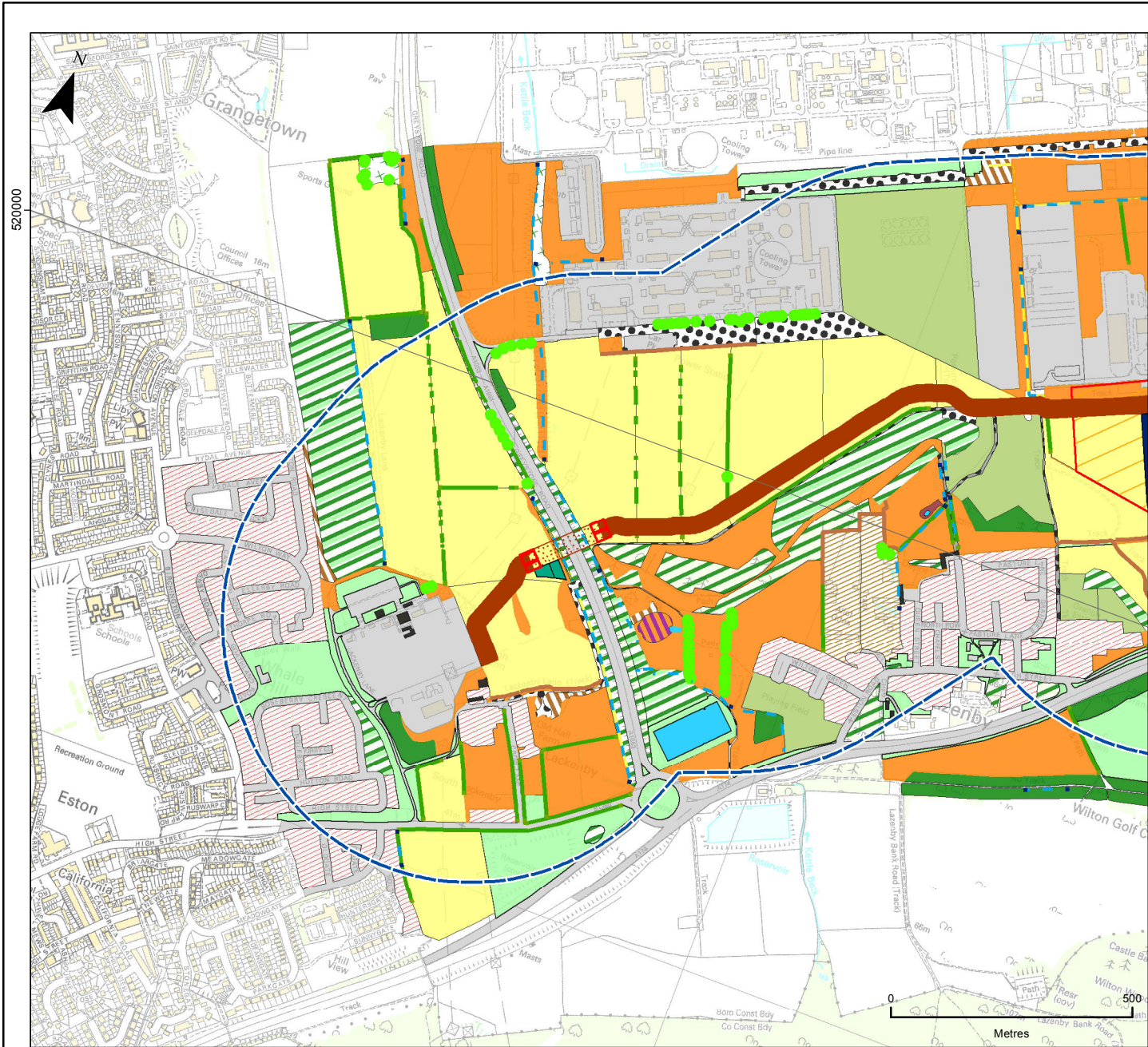
VER	DATE	REMARKS	Drawn	Checked
2	29/08/2013	Draft	SW	SDS
3	17/09/2013	Submit for PE13	SW	SDS
5	21/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER: **F-ONL-MA-207**

SCALE	1:12,500	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
-------	----------	-----------	----	-------	--------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.





- LEGEND**
- Onshore cable route - 500m buffer
 - Teesside A&B HVAC, Open trench
 - Teesside A&B HVAC, HDD
 - Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
 - Teesside A&B intermediate construction compound (784m²)
 - Water
 - Hedgerow
 - Fence
 - Tree
 - Miscellaneous**
 - Arable
 - Allotment
 - Amenity grassland
 - Bare ground/hard standing
 - Bare ground
 - Building
 - Hardstanding
 - Private/residential
 - Swamp & Open Water**
 - Standing water - eutrophic
 - Running water
 - Tall Herb & Fen**
 - Tall herb and fen - tall ruderal; Scattered tall ruderal; Ruderal/disturbed
 - Marginal vegetation**
 - Grassland Marsh**
 - Neutral grassland - semi-improved
 - Marsh/marshy grassland
 - Improved grassland
 - Woodland & Scrub**
 - Broadleaved woodland - semi-natural; Broadleaved woodland - semi-natural
 - Broadleaved woodland - plantation
 - Mixed woodland - plantation

Data Source:
Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESSIDE A & B


DRAWING TITLE
Figure 4.9: Extended Phase 1 Habitat Survey - Section 7

VER	DATE	REMARKS	Drawn	Checked
2	29/08/2013	Draft	SW	SDS
3	17/09/2013	Submit for PE13	SW	SDS
5	21/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER:
F-ONL-MA-208

SCALE	1:12,500	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
-------	----------	-----------	----	-------	--------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.



4.3.10 The following paragraphs provide some expansion on those habitats present which appear to represent BAP quality habitats. As in **Table 4.5**, the headings used are taken from the UK BAP priority listings. Where a habitat type is known exclusively or particularly from a designated site, it is considered under the site in question.

Broadleaved woodland

4.3.11 There were several pockets of woodland along the cable corridor; however most were either too small or not of sufficiently high quality to fall under the UK BAP or LBAP Priority Habitat designation. One area of woodland (see TN 1; **Figure 4.7**) may well qualify as LBAP priority habitat due to the presence of a diversity of broadleaved species (mature trees: ash *Fraxinus excelsior*, oak *Quercus spp.*), and a ground flora with ancient woodland indicators (dog's mercury *Mercurialis perenne*, ramsons *Allium ursinum* and bluebells *Hyacinthoides non-scripta*).

Coastal grassland

4.3.12 The coastal grassland was a narrow strip confined to the cliff tops and dune area (see TN 3; **Figure 4.3**). Some areas of the grassland appeared tussocky and species poor in nature. Whilst these areas of grassland supported flora different to that found in the nearby amenity, agriculturally improved or species poor semi-improved grassland, they were small and unlikely to qualify as Priority Habitat in BAP terms. They do however fall within the boundary of the Redcar to Saltburn Coast LWS.

Hedgerow

4.3.13 All hedgerows (of at least 20m length) consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by the 'Hedgerow' BAP Priority Habitat. Therefore, the majority of the hedgerows within the study area would be considered Priority Habitat, as the hedgerows were recorded as being species poor and dominated by hawthorn *Crataegus monogyna*.

Identification of Valued Ecological Resources (Habitats)

4.3.14 A summary has been provided of the main habitat types found within the study area. **Table 4.6** assigns a 'value' to each habitat type to inform the selection of habitat types considered to be VER.

Table 4.6 Identification of Valued Ecological Habitat Resources

Receptor	Key features	Geographical scale of importance	Rationale
Coastal grassland contained within the Redcar to Saltburn Coast LWS	Designated for its Coastal Grassland Habitat and Vascular Plants	County	LWS are non-statutory sites, often known as County Wildlife sites and as such are of County value. This site is small and not in a particularly favourable condition.
Hedgerows	Typically species-poor	County	The hedgerows are predominantly species poor and none qualify as

Receptor	Key features	Geographical scale of importance	Rationale
			'Important' under the Hedgerow Regulations. They are however an integral part of the agricultural landscape and help to provide connectivity between semi-natural habitat features and habitat resources for bats and farmland birds.
Woodland and scrub	Includes all woodland and scrub habitat types, which combined comprise 6.5% of the study area.	Local	There are a number of woodland habitats listed as Priority Habitats under the UKBAP and LBAP Broad Habitat Broadleaved, Mixed and Yew Woodland. Much of the woodland in the study area is planted and not of high ecological value but the plantations do supplement the hedgerow network.
Arable	Large arable fields divided by field drains and/or hedgerows represent the dominant habitat type (46.5% of cable corridor).	Local	Arable Field Margins are a UKBAP Priority Habitat however higher quality margins are not common within the study area. There is an Arable Field Margin Habitat Action Plan (HAP) cited in the Tees Valley LBAP. The farmland landscape of which arable fields are the major component supports a valuable farmland bird fauna.
Agriculturally improved grasslands	Agriculturally improved grassland is the second most frequent natural habitat type (11.5 %).	Local	The agriculturally improved grassland within the study area is of low ecological value. They play a supporting role in terms of supporting declining farmland birds, particularly species such as lapwing <i>Vanellus vanellus</i> .
Semi-improved grassland	Semi-improved grasslands account for 10%.	Local	Neutral grassland – Lowland Meadows is a UK BAP Priority Habitat, but the areas within the study area are all species poor and not considered priority habitat.
Ruderal habitats	Accounts for 0.2%.	Local	Ubiquitous habitat type with only common species recorded.
Wetland vegetation	Accounts for 0.1%.	Local	Limited in extent and not a valued habitat within the study area.
Open water	Open water includes ditches, ponds and streams and accounts for 0.4%.	Local	Limited in extent and not a valued habitat within the study area.
Developed land	Areas of hard standing, buildings and bare ground (23.9 %).	Local	Includes some residential gardens but is dominated by industrial areas with little value to wildlife.

4.3.15 The final scope of VER (habitats) includes:

- Coastal grassland within the Redcar to Cleveland LWS (which will be assessed under designated sites); and
- Hedgerows.

4.4 Species of principal importance - bats

Overview

- 4.4.1 As part of the desk study, existing records of bats and bat roosts within a 5km study area were obtained. Habitats considered suitable for roosting, foraging or commuting bats, and with the potential to be affected by the proposed development, were identified using online aerial photography, as part of the Extended Phase 1 Habitat Survey and via records data. The records data included existing records of bats and bat roosts within a 5km study area. Since suitable habitats were identified, bat activity surveys were undertaken.
- 4.4.2 A total of three transects were undertaken to cover the study area: Transect 1- Landfall to Grewgrass Farm; Transect 2 – Yearby and Transect 3 Wilton Complex (**Figure 4.10** to **Figure 4.13**). The transect surveys followed the standard survey methodology (Hundt 2012). Dusk activity surveys were undertaken in July 2012 and September 2012 and two further survey visits, undertaken at dusk and dawn within the same 24 hour period, were implemented in May/June 2013.
- 4.4.3 All survey data and findings are detailed in the Bat Technical Report (Peak Ecology 2013b) and summarised in the following sections.

Existing records

- 4.4.4 The Environmental Records and Information Centre (ERIC) and the Durham and North Yorkshire Bat Groups were contacted for records of bats or bat roosts within the 5km study area. They provided a single record of known bat roosts in the study area (see TN 1; **Figure 4.12**). The record is of a soprano pipistrelle *Pipistrellus pygmaeus* roost, approximately 75m from the cable route and located between Kirkleatham village and the A174. This record was supplied to within a 1km Ordnance Survey grid square and is likely to have been recorded in a building within Kirkleatham village, i.e. at an even greater distance from the cable route.

Summary of field surveys – Extended Phase 1 Survey

- 4.4.5 As part of the Extended Phase 1 Habitat Survey, habitats were assessed for their value to support roosting bats, based on criteria detailed within the 'Bat Surveys Good Practice Guidelines' (Hundt 2012). This assessment was based on the occurrence of habitat features within the landscape and the likelihood of bats being present within potential roost sites.
- 4.4.6 Trees on site were inspected from ground level for cavities, cracks, fissures, deadwood, woodpecker holes and dense coverings of ivy that could provide suitable roost sites for bats. No evidence of roosting bats was observed during any of the site visits. The cable route has been sited to avoid all impacts on mature trees and therefore surveys/mitigation for roosting bats was not required.
- 4.4.7 Hedgerows, ditches, linear features such as tree lines as well as woodland and ponds were present within the study area. These features are considered to present very good potential as commuting routes and opportunities for foraging

for bats. As a result, bat activity transects were undertaken, the overview of which is provided below.

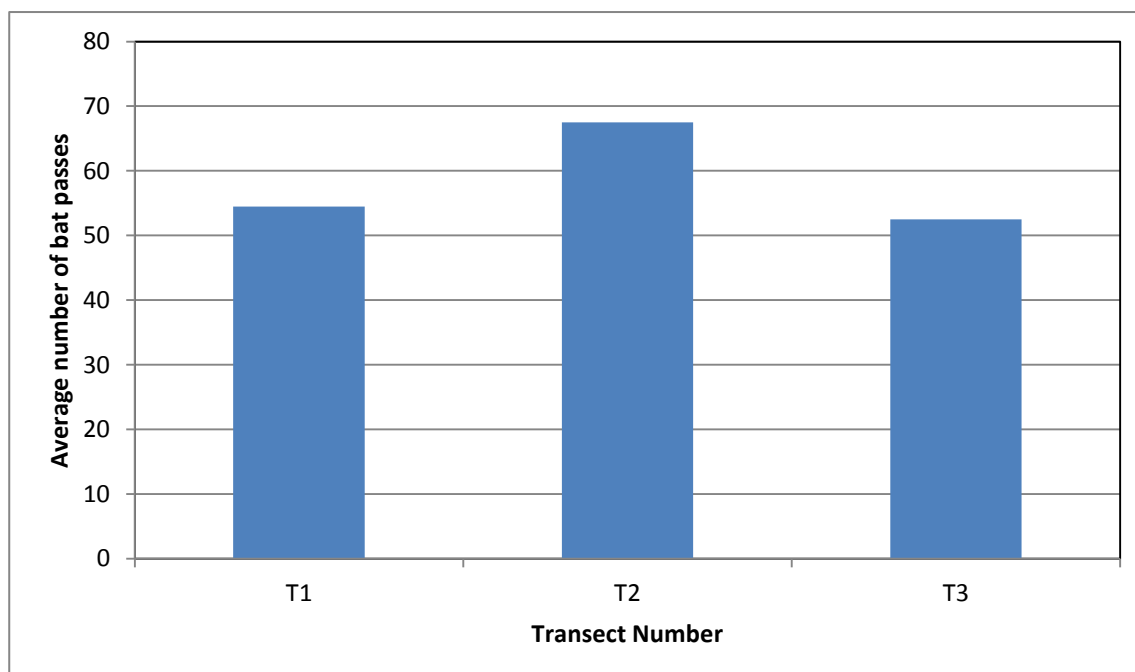
Summary of field surveys - bat activity transects

4.4.8 Bat activity was recorded during all three transects, although there was considerable variation between transects, as well as between each transect survey visit. This is likely to be representative of bat activity along the cable corridor, landfall and converter stations site, as bat activity varies with a number of factors such as the time of year, the weather conditions, random disturbance events and changes to roosting conditions.

4.4.9 Species recorded during the surveys were common and widespread including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle, Natterer's *Myotis nattereri*, Daubenton's *Myotis daubentonii* and Noctule *Nyctalus noctula*.

4.4.10 A summary of the average number of bat passes recorded during the three separate transects is displayed in **Graph 4.1**. The highest average number of bats recorded was during Transect 2 - Yearby. The habitat in this area comprises of areas of mature woodland and small water courses (Roger Dike and Main Dike and a number of ponds), connected by hedgerows and is considered good for foraging bats.

4.4.11 Transect 3 (Wilton Complex) had the lowest average levels of bat activity despite the numerous patches of woodland and stretches of open woodland around Wilton and Lazenby villages that would appear to provide good potential for foraging bats. The low average activity recorded during the transect is likely to be related to limited roosting opportunities in the area, as the availability and use of suitable summer roosting sites is likely to be directly related to the levels of foraging and commuting activity.



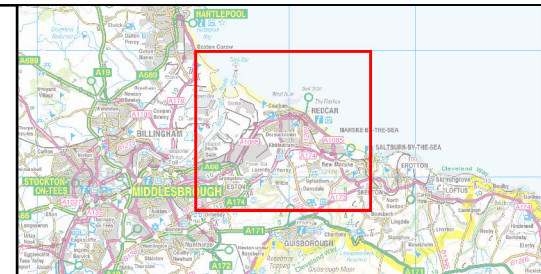
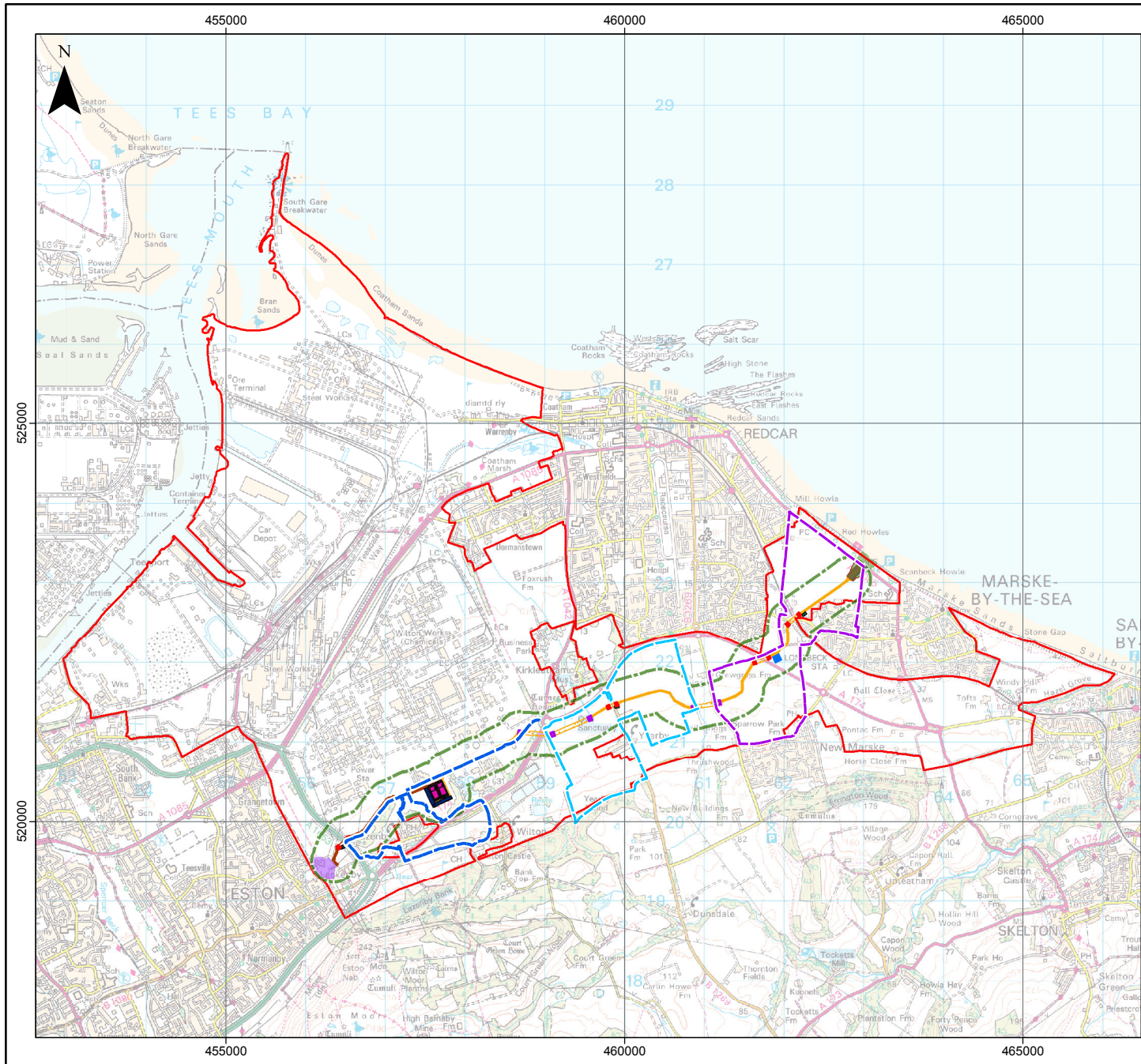
Graph 4.1 Average numbers of bat passes for each transect

4.4.12 In general, the landscape in the survey areas provided numerous opportunities for foraging and commuting bats, as seen in the results of the transect surveys. The most important habitat features for bat movement through the landscape have been identified (based on the high level of bat activity recorded during surveys), as detailed in **Table 4.7** and identified on **Figure 4.10** to **Figure 4.13**.

Table 4.7 Locations of important foraging/commuting routes along each transect

Transect number	Sections of hedgerow/woodland considered important for bats	Sections of watercourse considered important for bats
1 – Landfall to Grewgrass Farm	Woodland adjacent to railway along Green Lane	None identified
2 – Yearby	Hedgerows immediately south of Turners Arms Farm	Roger Dike, Mains Dike
3 – Wilton Works	Northern edge woodland strip to north west of Lazenby village	None identified

4.4.13 Overall, the bat species recorded within the study area are common and widespread and therefore the assemblage is considered to be of County value.



LEGEND

- Onshore scoping study area
- Cable route 250m buffer
- Teesside A&B cable landfall envelope
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B HVAC, Open trench
- Teesside A&B HVAC, HDD
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- Teesside A&B cable route primary construction compound (10,000m²)
- Teesside A&B intermediate construction compound (784m²)
- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m² per project)
- Lackenby 400kV substation

Bat Survey

- Transect 1
- Transect 2
- Transect 3

Data Source:
Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

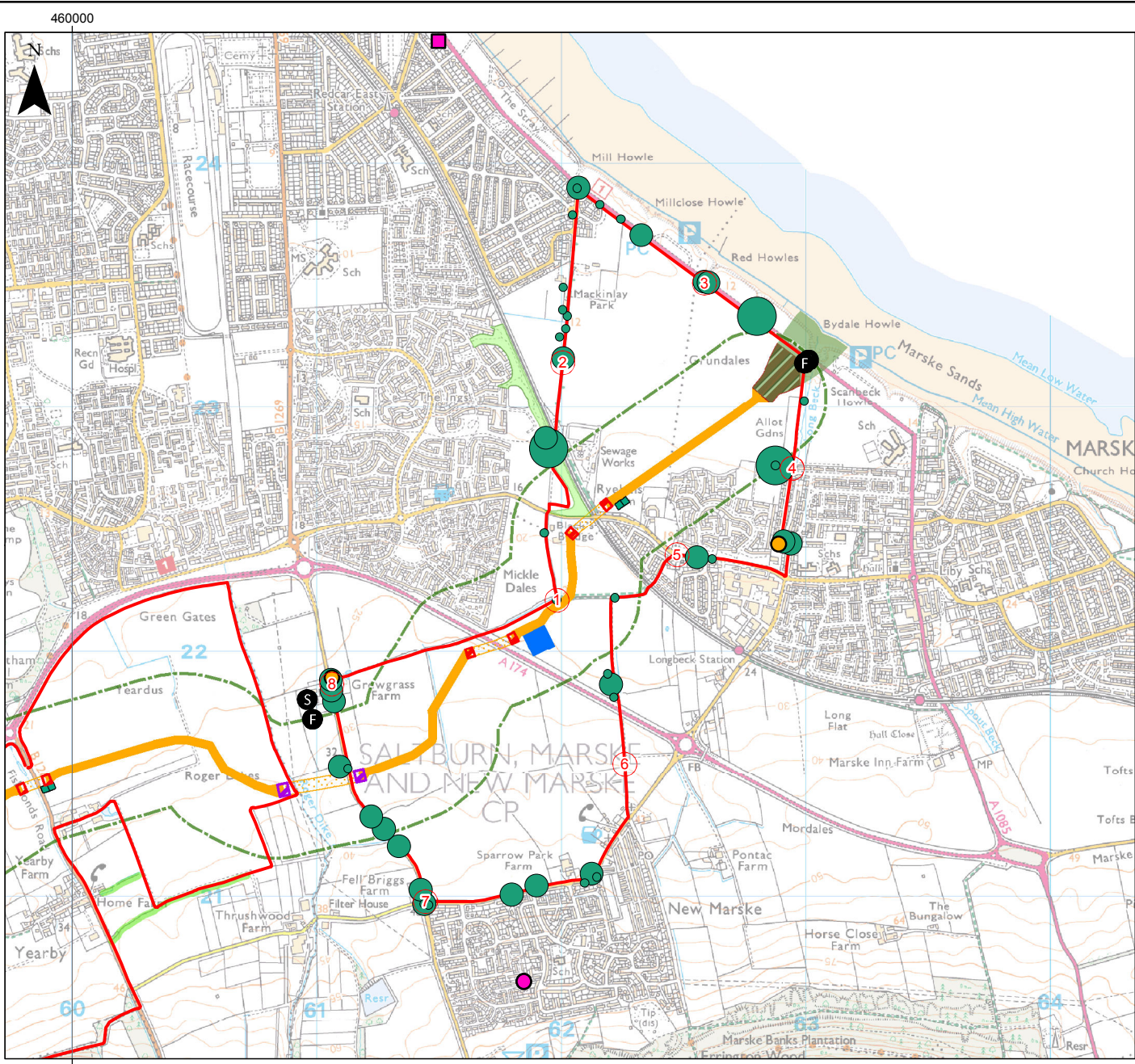
DRAWING TITLE
Figure 4.10: Bat Survey Overview

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PE13	SW	SDS
5	22/01/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER:
F-ONL-MA-211

SCALE	1:75,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
-------	----------	-----------	----	-------	--------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.



LEGEND

- Cable route 250m buffer
- Teesside A&B cable landfall envelope
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B landfall construction
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- Teesside A&B cable route primary construction compound (10,000m²)
- Teesside A&B intermediate construction compound
- Important foraging/commuting routes

Bat Transect

- Surveyed
- Point Count
- Start
- Finish

Bat Roost Records

- Environmental Records Information Centre - North East
- Local Bat Group

Bat Observations

- Pipistrelle species
- Noctule
- Common Pipistrelle
- Myotis

● 1 bat pass ● 2 - 5 bat passes ● > 5 bat passes

0 1
Kilometres

Data Source: Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.11: Bat Survey Transect 1

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PEI3	SW	SDS
5	23/01/2014	Pre-DCO submission review	SW	SDS

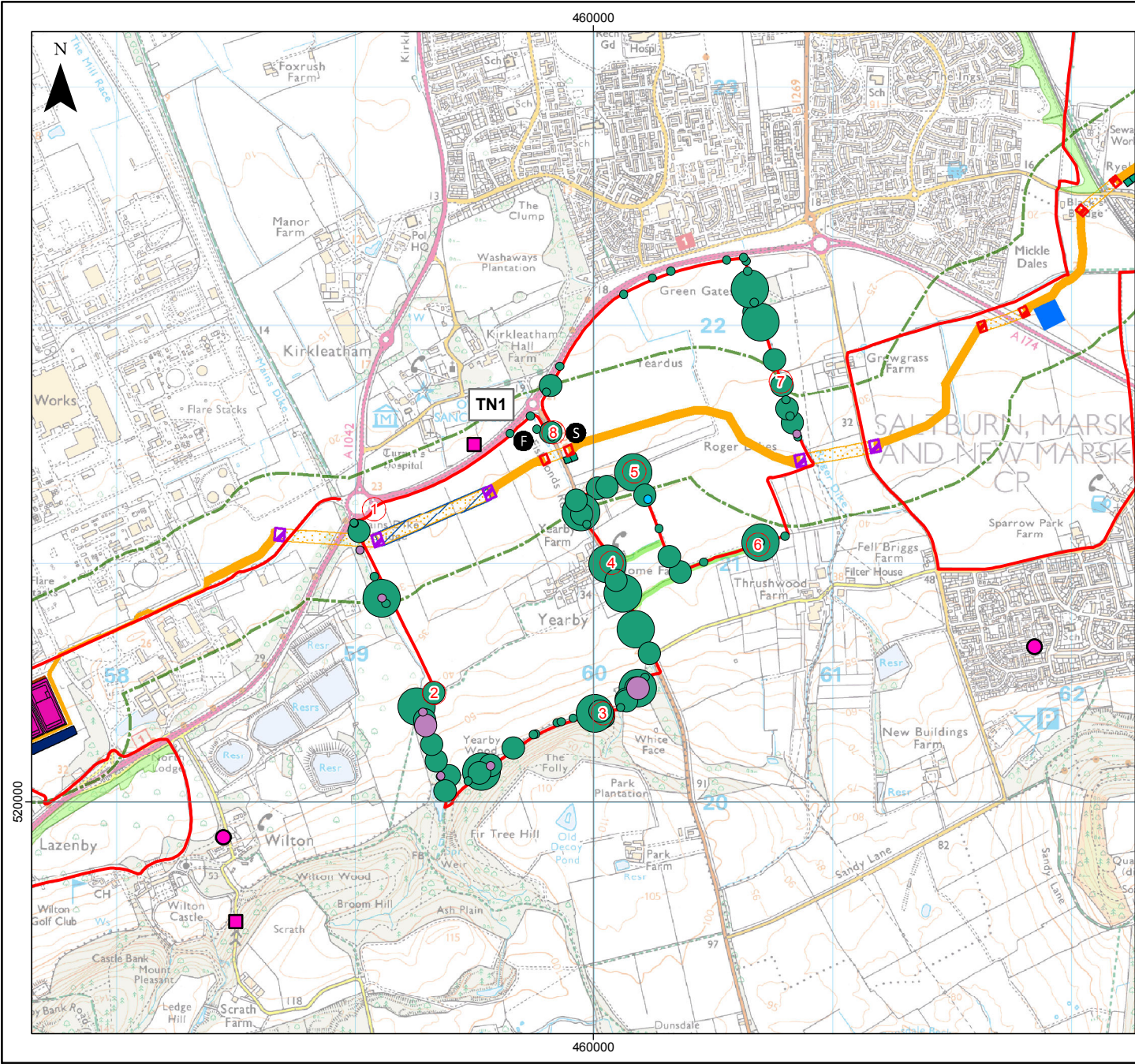
DRAWING NUMBER: **F-ONL-MA-212**

SCALE	1:25,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
-------	----------	-----------	----	-------	--------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.

460000

460000



LEGEND

- Cable route 250m buffer
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B HVAC, Open trench
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- HDD or open trench to be confirmed
- Teesside A&B cable route primary construction compound (10,000m²)
- Teesside A&B intermediate construction compound
- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m² per project)
- Important foraging/commuting routes

Bat Transect

- Surveyed
- Point Count

Bat Roost Records

- Finish
- Start
- Environmental Records Information Centre - North East
- Local Bat Group

Bat Observations

- Pipistrelle species
- Noctule
- Myotis
- Common Pipistrelle

● 1 bat pass ● 2-5 bat passes ● > 5 bat passes

0 1
Kilometres

Data Source: Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESIDE A & B

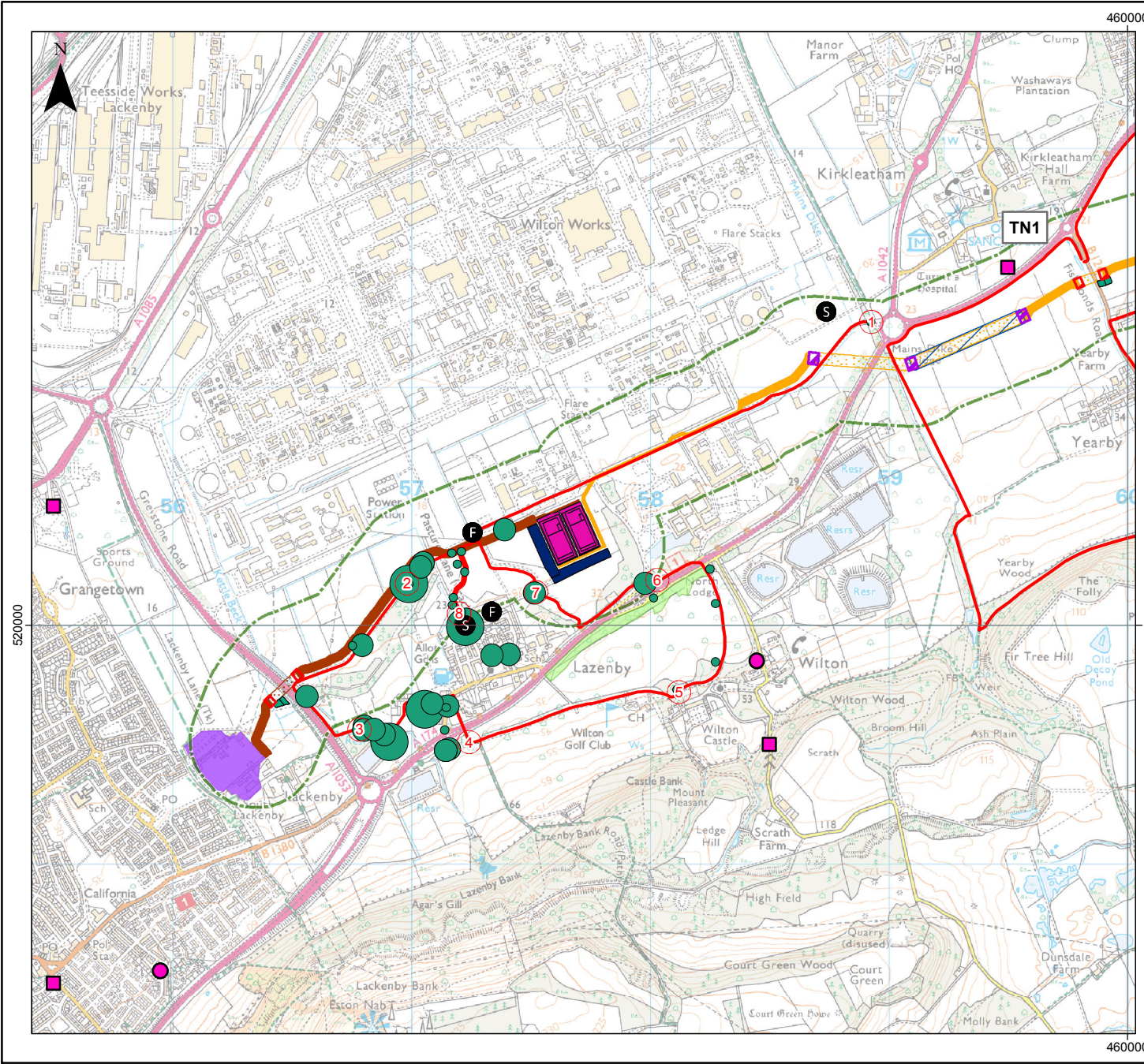
DRAWING TITLE
Figure 4.12: Bat Survey Transect 2

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PE13	SW	SDS
5	23/01/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER: **F-ONL-MA-213**

SCALE	1:25,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
-------	----------	-----------	----	-------	--------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.



LEGEND

- Cable route 250m buffer
- Teesside A&B HVDC, Open trench
- Teesside A&B HVDC, HDD
- Teesside A&B HVAC, Open trench
- Teesside A&B HVAC, HDD
- Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
- HDD or open trench to be confirmed
- Teesside A&B intermediate construction compound
- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m² per project)
- Lackenby 400kV substation
- Important foraging/commuting routes

Bat Transect

- Surveyed
- Point Count
- Finish
- Start

Bat Roost Records

- Environmental Records Information Centre - North East
- Local Bat Group

Bat Observations

- Pipistrelle species
- Noctule
- Myotis
- Common Pipistrelle
- 1 bat pass
- 2 - 5 bat passes
- > 5 bat passes

0 1 Kilometres

Data Source: Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.13: Bat Survey Transect 3

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PE13	SW	SDS
5	23/01/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER: **F-ONL-MA-214**

SCALE	1:25,000	PLOT SIZE	A4	DATUM	OSGB36	PROJECTION	BNG
-------	----------	-----------	----	-------	--------	------------	-----

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.

4.5 Species of principal importance – riparian mammals

Overview

4.5.1 Desk study records of water vole *Arvicola amphibius* and otter *Lutra lutra* were obtained from ERIC and have been mapped on **Figure 4.14**. The habitat within the study area included networks of field drains and larger watercourses which were considered to offer potential to support riparian mammals. Field surveys of all potential watercourses were undertaken in 2012 and spring 2013. The full survey results can be found in the ‘Riparian Mammal Technical Report’ (Peak Ecology 2013e).

Existing records

4.5.2 Five records of water vole were returned by the ERIC. The closest record was from a stretch of Kettle Beck, close to Grangetown, approximately 700m to the north-west of the cable route corridor. The remaining records were located more than 1km, outside of the study area.

4.5.3 One record of otter was returned by the ERIC. The record was from 2006 and from the A1042, north of Kirkleatham, approximately 250m north of the cable route corridor. No further details were provided with the record however it is considered likely that this is a record of an otter road collision fatality.

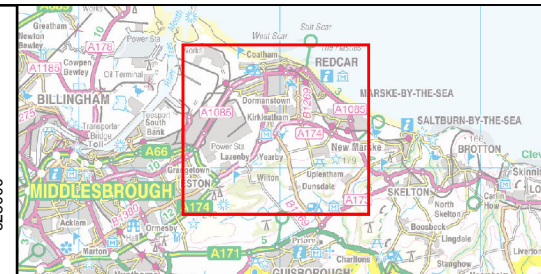
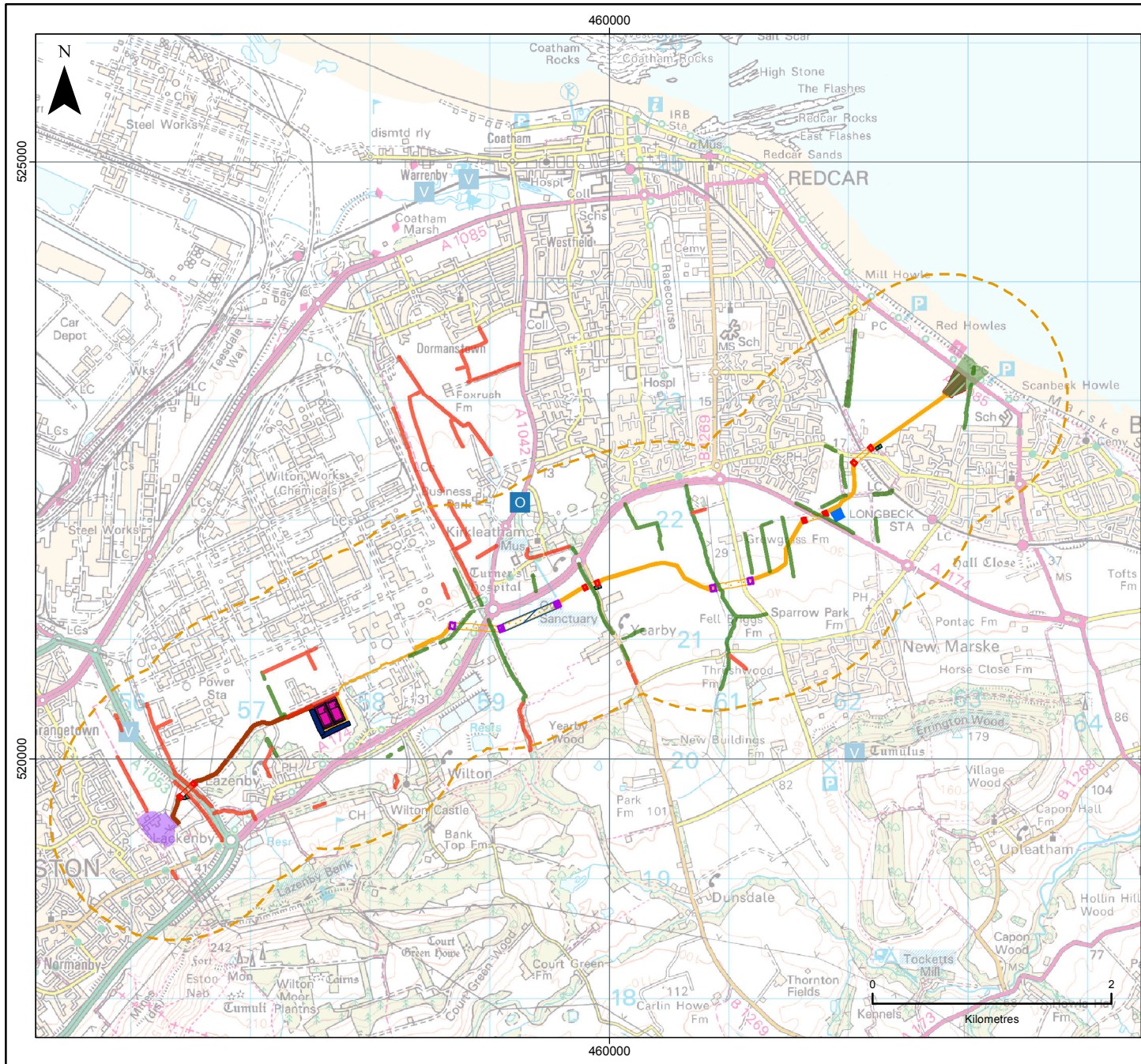
Summary of field survey

4.5.4 A total of 49 watercourses (predominantly ditches), were surveyed for riparian mammals during 2012 and 2013 (**Figure 4.14**). No signs of either water vole or otter were detected during the field surveys.

4.5.5 Of the 49 watercourses surveyed, 16 were considered unsuitable and 33 were recorded as having low potential to support water vole. Many contained minimal suitable aquatic or marginal vegetation and were located within small isolated clusters. None of the ditches were connected with Kettle Beck, where water vole had been previously recorded.

4.5.6 Overall, the majority of ditches were considered to be unsuitable for otter due to the absence of fish and other prey species.

4.5.7 Reviewing the desk study and field survey data, it is considered unlikely that riparian mammals are breeding or resident within the study area. Therefore neither species will be taken forward to the impact assessment stage. Due to the wide ranging nature of otters, it is possible that they may occasionally commute across the study area and therefore mitigation is proposed in Section 6.5 for reasons of legal compliance.



- LEGEND**
- Riparian mammal desk study area
 - Teesside A&B cable landfall envelope
 - Teesside A&B landfall construction envelope
 - Teesside A&B HVDC, Open trench
 - Teesside A&B HVDC, HDD
 - Teesside A&B HVAC, Open trench
 - Teesside A&B HVAC, HDD
 - Teesside A&B major horizontal directional drill entry or exit locations (2,000m²)
 - Teesside A&B minor horizontal directional drill entry or exit locations (1,200m²)
 - HDD or open trench to be confirmed
 - Teesside A&B cable route primary construction compound (10,000m²)
 - Teesside A&B intermediate construction compound (784m²)
 - Teesside A&B converter stations
 - Teesside A&B converter stations construction compounds (10,000m² per project)
 - Lackenby 400kV substation
- Species**
- European Otter
 - European Water Vole
- Otter and Water Vole Survey**
- Surveyed - no otter or water vole evidence
 - Not Surveyed

Data Source:
Ordnance Survey data © Crown copyright and database right, 2014

PROJECT TITLE
DOGGER BANK TEESSIDE A & B

DRAWING TITLE
Figure 4.14: Riparian mammals

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PE13	SW	SDS
4	21/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER:
F-ONL-MA-210

SCALE 1:50,000 PLOT SIZE A4 DATUM OSGB36 PROJECTION BNG

The concepts and information contained in this document are the copyright of Forewind. Use or copying of the document in whole or in part without the written permission of Forewind constitutes an infringement of copyright. Forewind does not warrant that this document is definitive nor free of errors and does not accept liability for any loss caused or arising from reliance upon information provided herein.

4.6 Species of principal importance – birds

Overview

- 4.6.1 Birds were identified as an assemblage of potential conservation interest and as such have received a relatively large amount of survey effort. This was due to the project including a coastal element (at the landfall) and the early feedback received from stakeholders (**Table 2.2**).
- 4.6.2 The assessment work described herein utilises the following Technical Reports:
- Breeding Birds Survey 2012 (Peak Ecology 2012);
 - Wintering Birds Survey, November 2011 – March 2012 (Peak Ecology 2013a);
 - Autumn Passage and Wintering Birds, September 2012 – March 2013 (Peak Ecology 2013g);
 - Golden Plover and Lapwing at the Landfall – desk based assessment and additional field surveys (Peak Ecology 2014a).

Breeding birds

- 4.6.3 A total of three transects (Transect 1 – Landfall to Yearby; Transect 2 – Yearby to Wilton and Transect 3 – Lackenby, close to the converter stations site) were surveyed for breeding birds between April and June 2012. A summary of the results is provided below with the full results provided in Peak Ecology (2012). **Figure 4.15** to **Figure 4.18** provides a summary of the breeding bird survey data.
- 4.6.4 During surveys, the total number of species recorded on Transect 1 was 45; 42 on Transect 2 and 35 on Transect 3. **Table 4.8** provides a summary of the breeding bird survey data and the proportion of these that fall within different categories of conservation interest. The latter categories include being listed on Birds of Conservation Concern (BoCC) (Eaton *et al.* 2009) as Red, Amber or Green listed; inclusion as a specially protected bird on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); or listed on the UKBAP as a priority species. Some species are listed on the BoCC list and UKBAP and/or Schedule 1.

Table 4.8 Numerical summary of breeding bird survey data

Conservation status	Transect 1 Landfall to Yearby	Transect 2 Yearby to Wilton	Transect 3 Lackenby
Red listed*	10 (22%)	5 (12%)	6 (17%)
Amber listed**	12 (27%)	10 (24%)	9 (25%)
Green listed***	21 (47%)	25 (60%)	16 (45%)
Schedule 1 protected	2 (4%)	2 (5%)	4 (11%)
UK BAP species	0 (0%)	0 (0%)	0 (0%)
Feral or	12 (27%)	7 (17%)	9 (26%)

Conservation status	Transect 1 Landfall to Yearby	Transect 2 Yearby to Wilton	Transect 3 Lackenby
introduced species			
Total number of species	45	42	35

* Red list criteria: globally threatened, historical population decline in UK during 1800–1995, severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969), severe (at least 50%) contraction of UK breeding range over last 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 last 25 years, moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period, moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period, moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period, rare breeder; 1–300 breeding pairs in UK, rare non-breeders; less than 900 individuals, localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders, internationally important; at least 20% of European breeding or non-breeding population in 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

- 4.6.5 The total number of species recorded during surveys is not considered particularly high when the length of the transect is considered and the fact that each was repeated three times. In line with the survey methodology used, a (small) proportion of the species recorded were non-breeding birds that might have been foraging on or flying over the site.
- 4.6.6 On surveys between the landfall and Yearby (Transect 1), of the 45 species recorded, this included a total of 22 Red and Amber listed species, or 49% of the species recorded, which is the highest of the three transects. Lackenby (Transect 3) only recorded 43% Red and Amber listed species and at Yearby to Wilton (Transect 2), only 36%.
- 4.6.7 Along Transect 1, ten of the Red list species recorded were breeding including house sparrow *Passer domesticus*, grey partridge *Perdix perdix*, skylark *Alauda pratensis*, spotted flycatcher *Muscicapa striata*, song thrush *Turdus philomelos*, starling *Sturnus vulgaris*, marsh tit *Poecile palustris*, linnets *Carduelis cannabina* and yellowhammer *Emberiza citrinella*. Overall the species were representative of urban habitats and farmland, including declining farmland bird species such as grey partridge, skylark, linnets and yellowhammer (all Red listed). There were also a number of species typically associated with wetland and scrub, such as the Red listed marsh tit, and the Amber listed willow warbler *Phylloscopus trochilus*, whitethroat *Sylvia communis* and reed bunting *Emberiza schoeniclus*. Of note were the six to eight pairs of bullfinch *Pyrrhula pyrrhula* and linnets recorded as probable breeders.
- 4.6.8 An additional species of note recorded on Transect 3 was a grasshopper warbler *Locustella naevia*, a species often associated with damp scrub, although only present as one pair of possible breeders.

- 4.6.9 Given the primarily industrial and intensive agricultural land within the study area, this breeding bird fauna is considered valuable. Furthermore, it is clear that relatively small areas of scrub and wetland contribute significantly to the mosaic of habitats including hedgerows, woodlands, grasslands and arable fields. Scrub habitats are often treated as being of low ecological value but at Teesside they would appear to have value in supporting a relatively rich breeding birds fauna considered to be of County value.

