

**LEGEND**

- Cable route 250m buffer
- Onshore scoping 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 (2,000m<sup>2</sup>)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m<sup>2</sup>)
- HDD or open trench to be confirmed
- Teesside A&B cable route primary construction compound (10,000m<sup>2</sup>)
- Teesside A&B intermediate construction compound (784m<sup>2</sup>)
- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m<sup>2</sup> per project)
- Lackenby 400kV substation
- Vantage Point
- Direction of Observation

0 3  
Kilometres

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

PROJECT TITLE  
**DOGGER BANK TEESSIDE A & B**

DRAWING TITLE  
**Fig 4.19: Wintering Bird Survey overview**

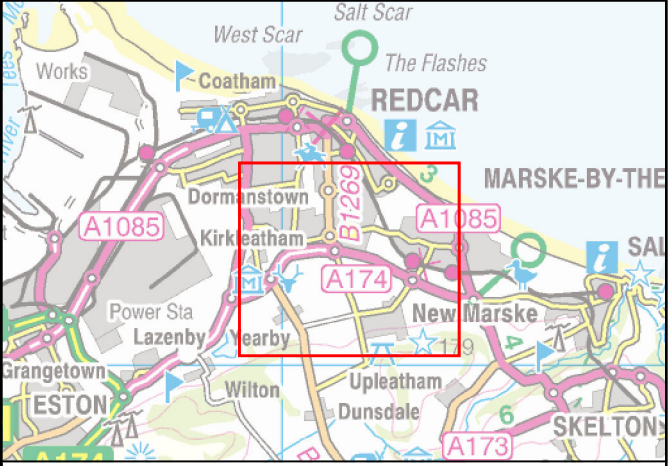
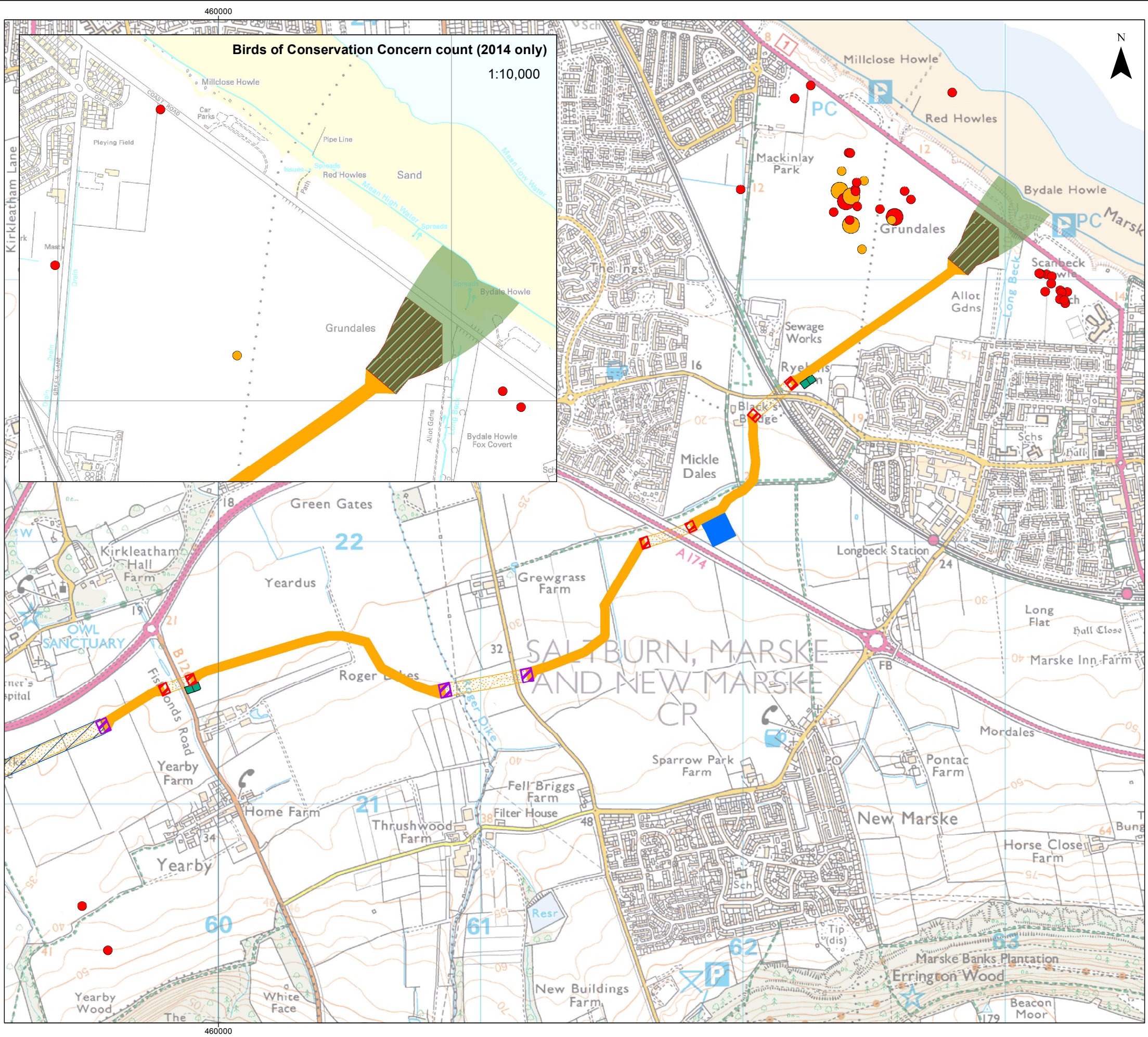
VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PEI3	SW	SDS
5	21/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER: **F-ONL-MA-219**

SCALE	PLOT SIZE	DATUM	OSGB	PROJECTION	BNG
1:50,000	A3				

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**LEGEND**

- 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 major horizontal directional drill entry or exit locations (2,000m<sup>2</sup>)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m<sup>2</sup>)
- HDD or open trench to be confirmed
- Teesside A&B cable route primary construction compound (10,000m<sup>2</sup>)
- Teesside A&B intermediate construction compound (784m<sup>2</sup>)

**Birds of Conservation Concern count (2011 - 2014)**

- European Golden Plover (Amber Status) - Count < 100
- Northern Lapwing (Red Status) - Count < 100
- European Golden Plover (Amber Status) - Count > 100
- Northern Lapwing (Red Status) - Count > 100

0 1  
Kilometres

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

PROJECT TITLE  
**DOGGER BANK TEESSIDE A & B**

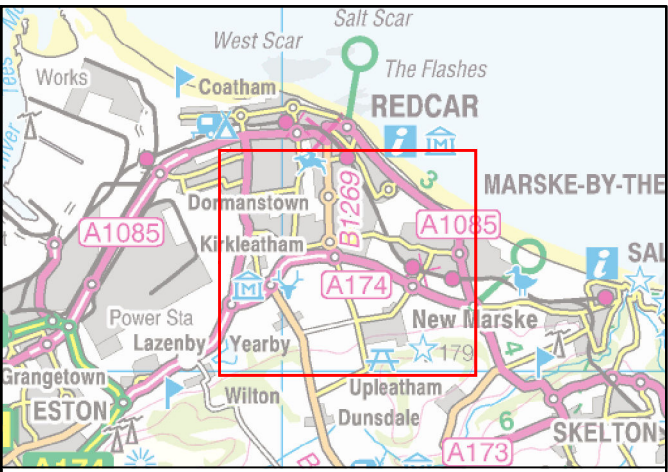
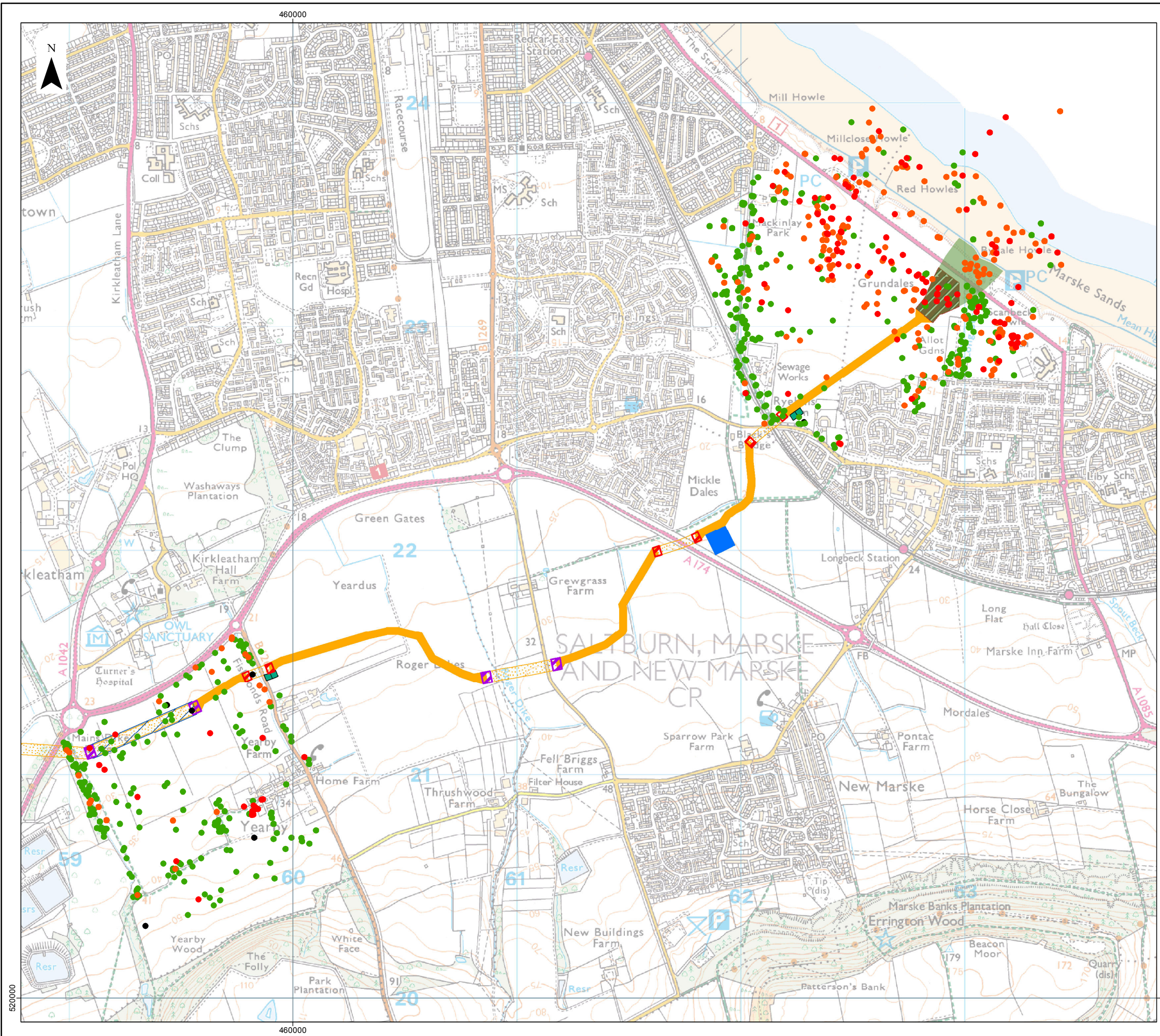
DRAWING TITLE  
**Figure 4.20:  
Wintering bird survey: Lapwing &  
Golden Plover distribution & density**

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PEI3	SW	SDS
4	21/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER:  
**F-ONL-MA-220**

SCALE	PLOT SIZE	DATUM	OSGB	PROJECTION	BNG
1:15,000	A3				





**LEGEND**

- 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 major horizontal directional drill entry or exit locations (2,000m<sup>2</sup>)
- Teesside A&B minor horizontal directional drill entry or exit locations (1,200m<sup>2</sup>)
- HDD or open trench to be confirmed
- Teesside A&B cable route primary construction compound (10,000m<sup>2</sup>)
- Teesside A&B intermediate construction compound (784m<sup>2</sup>)

**Birds of Conservation Concern**

- No Status
- Red
- Amber
- Green

0 1  
Kilometres

Data Source:  
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PROJECT TITLE  
**DOGGER BANK TEESSIDE A & B**

DRAWING TITLE  
**Fig 4.21: Wintering Bird Survey Overview (Presence)**

VER	DATE	REMARKS	Drawn	Checked
2	31/07/2013	Draft	SW/LC	SDS
3	30/08/2013	Submit for PEI3	SW	SDS
4	21/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER: **F-ONL-MA-221**

SCALE	PLOT SIZE	DATUM	OSGB	PROJECTION	BNG
1:17,500	A3		OSGB		BNG

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## 2012 – 2013 Surveys of the Landfall and Cable Corridor

### Site 1 Coastal fields between Redcar and Marske-by-the-Sea

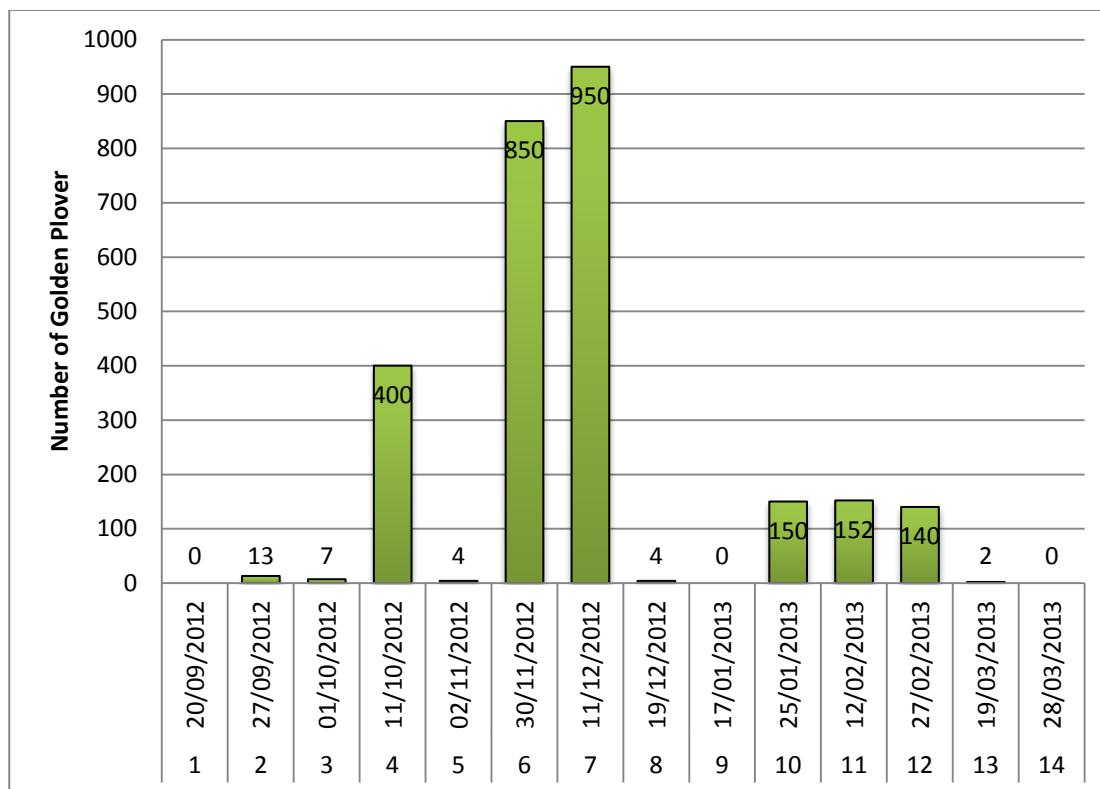
4.6.18 The results of the 2012 - 2013 surveys of the coastal fields at the landfall (Site 1) recorded a total of 69 species with the categories of conservation interest summarised in **Table 4.10**. Some species are listed on both a BoCC list and UKBAP and/or Schedule 1.

**Table 4.10** Numerical summary of wintering bird survey data (2012 – 2013)

Conservation status	Site 1 (Coastal fields between Redcar and Marske-by-the-Sea)
Red listed	11
Amber listed	31
Green listed	24
Schedule 1 protected	3
UK BAP species	10
Feral or introduced species	3
<b>Total number of species</b>	<b>69</b>

4.6.19 Key species recorded during the surveys included golden plover, lapwing, starling, redwing *Turdus iliacus* and fieldfare *Turdus pilaris*.

4.6.20 Golden plover were recorded on 11 out of 14 survey visits with fluctuating abundance between late September and early March (**Graph 4.2**) with a peak (950) in the early December visit. Between the two survey visits in December, there was significant rainfall causing the fields to become waterlogged and consequently only four birds were recorded on the second December survey. No golden plover were recorded after early March and only low numbers were recorded in late January and February.



**Graph 4.2 Total number of golden plover per survey at landfall arable fields**

4.6.21 Lapwing were also recorded in high numbers, mixed within the flock of golden plover on a total of 12 of the 14 survey visits. Whilst numbers of lapwing were significantly lower than that of golden plover, the fluctuations in numbers mimicked that of the golden plover. Numbers of lapwing were at their highest during November 2012 with 200 birds recorded within the eastern half of the arable fields.

4.6.22 Starlings were recorded at the coastal car park on all 14 survey visits. Numbers were at their highest during the two surveys undertaken in September and November 2012 (1,011, 3,884, 2,000, and 1,710 respectively). All other visits recorded birds in much lower numbers fluctuating between seven and 700.

**Site 2 Field along cable corridor between Yearby and Wilton**

4.6.23 A total of 36 species were recorded, of which three were Schedule 1, seven were UKBAP, seven Red Listed, nine Amber Listed and a further 16 species which were Green listed, with another four introduced or feral bird species recorded.

4.6.24 A total of ten of the birds within the species list for this area were only recorded as flying over the site. These were herring gull *Larus argentatus*, black-headed gull *Chroicocephalus ridibundus*, common gull *Larus canus*, kestrel *Falco tinnunculus*, mallard *Anas platyrhynchos*, pink-footed goose *Anser brachyrhynchus*, common buzzard *Buteo buteo*, raven *Corvus corax*, and Canada goose *Branta canadensis*.

- 4.6.25 Of the 26 other species recorded, 13 of these birds are associated with the hedgerows surrounding the arable fields and the adjacent areas of woodland habitat. Many of these birds are resident birds which are likely to stay within the surrounding area even outside of the breeding season.
- 4.6.26 In general, all bird species were recorded in low numbers on all of the survey visits to the inland fields with the exception of mixed flocks of feral pigeon *Columba livia*, wood pigeon *Columba palumbus* and carrion crow *Corvus corone*.
- 4.6.27 On three visits, up to four quail *Coturnix coturnix* were recorded within the field margins of the arable field. Whilst quail have been known to be in the area during the summer and autumn within Redcar and Cleveland, they are a migratory species leaving the UK in the winter months. As such, the small numbers recorded within the inland fields are likely to be birds that were not ready for migration at the end of the autumn and have stayed.

## 2014 Desk Study and Surveys of the Landfall

### Site 1 Coastal fields between Redcar and Marske-by-the-Sea

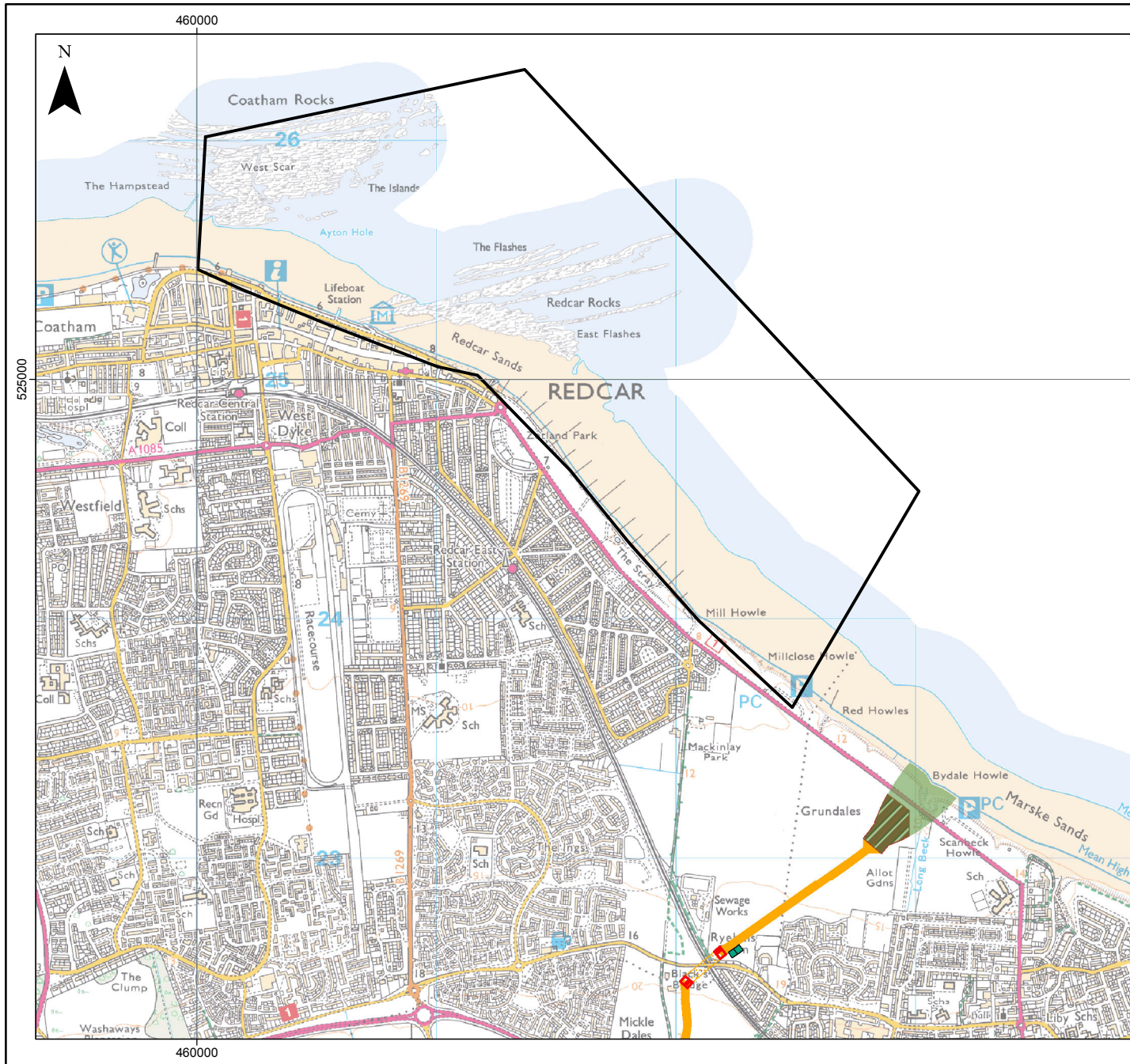
#### *Review of designated sites for nature conservation*

- 4.6.28 In response to the feedback given by Natural England in December 2013 (**Table 2.2**), a detailed desk based assessment was undertaken which collates all the existing known information on golden plover and lapwing abundance within the vicinity of the coastal landfall site (**Figure 4.19**). A detailed review of the field survey results from the 2011 - 2012 and 2012 - 2013 surveys has also been undertaken.
- 4.6.29 A total of eight statutory designated sites were recorded within 10km of the cable landfall area, of these five (Teesmouth and Cleveland Coast SPA, Tees and Hartlepool Foreshore and Wetlands SSSI, South Gare and Coatham Sands SSSI, Seal Sands SSSI and Seaton Dunes and Common SSSI) are designated in part, due to the habitats they contain supporting important assemblages of migratory and overwintering wildfowl and wading birds.
- 4.6.30 In particular, Tees and Hartlepool Foreshore and Wetlands SSSI (approximately 3.6km north west) comprises several coastal areas which are an integral part of the complex of wetlands, estuarine and maritime sites supporting the internationally important population of wildfowl and waders on the Tees Estuary. In winter, counts have shown that proportions of the total Tees population of lapwing and golden plover have been recorded on Saltholme Pool (approximately 11.5km west) and Dorman's Pools (11km west).
- 4.6.31 Seal Sands SSSI are the only extensive area of intertidal mudflats, with tidal channels on the East coast of England between the Lindisfarne National Nature Reserve to the north and the Humber Estuary to the south, a distance of 200 miles. These mudflats are of great ornithological importance attracting large numbers of migratory wildfowl (c. 4,000) and wading birds (c. 24,000) especially during the winter months. The mudflats are used as feeding ground by wading birds including lapwing.



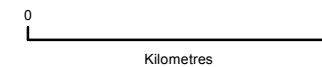
*Review of existing records*

- 4.6.32 Within the desk study information provided by Teesmouth Bird Club (Peak Ecology 2013c), a description of the fields at the landfall was given, including a brief statement on the use of the fields by golden plover and lapwing, as detailed below:
- 4.6.33 Being so close to the coast, the fields are a magnet for feeding waders, particularly during periods of hard weather and at high tide. Flocks of over 2,000 Lapwings and 1,700 Golden Plovers have been recorded, while small numbers of Ruff are seen during the autumn. Historically, Stead (1969) stated that “large flocks” of Golden Plovers favoured these fields. A personal count by the author of this report on 12th February 2008 produced 1,000 Golden Plovers, 1,500 Lapwings and 500 Wood Pigeons, all of which were feeding or roosting. Turnstone, Oystercatcher, Redshank and Curlew also use the fields for feeding, particularly after heavy rain when muddy pools collect. Whooper Swans, Pink-footed Geese and occasional Brent Geese drop in as they pass through on migration and over the years the site has attracted a number of national rare and scarce birds, including American Golden Plover, Buff-breasted Sandpiper, Dotterel and Short-toed Lark.
- 4.6.34 As part of the original desk study search no specific data was provided with regards to dates and counts of birds.
- 4.6.35 The BTO were consulted with regards to WeBS data on golden plover and lapwing within the nearest and most appropriate site to the landfall. There is a WeBS site which has been created along the coastline at Redcar. The southern tip of the WeBS site falls just inside the landfall area for the project. On request of the data, BTO informed Peak Ecology that although the site had been created, BTO had not yet received any data for the area, and expect that no surveys have been conducted in this area to date.
- 4.6.36 **Figure 4.22** shows the area of land covered by the Redcar to Marske WeBS area.



**LEGEND**

- Teesside A&B cable landfall envelope
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- Teesside A&B converter stations
- Teesside A&B converter stations construction compounds (10,000m<sup>2</sup> per project)
- Lackenby 400kV substation
- Redcar to Marske WeBS area



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PROJECT TITLE  
**DOGGER BANK TEESSIDE A & B**

DRAWING TITLE  
**Figure 4.22: Redcar to Marske WeBS area**

VER	DATE	REMARKS	Drawn	Checked
1	24/02/2014	Pre-DCO submission review	SW	SDS

DRAWING NUMBER: **F-ONL-MA-222**

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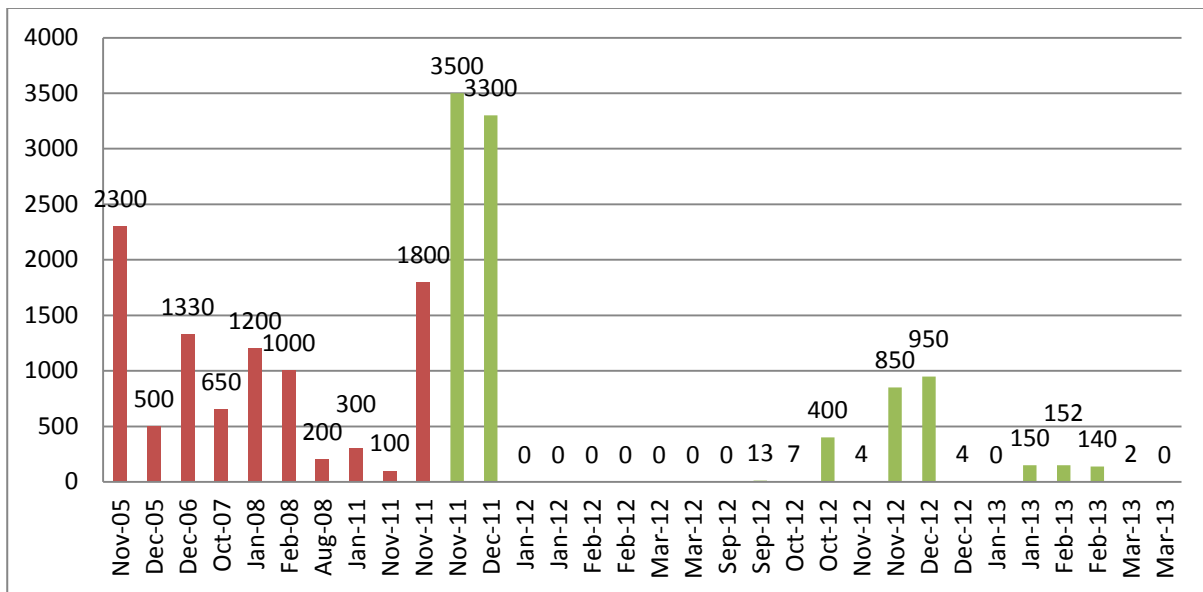




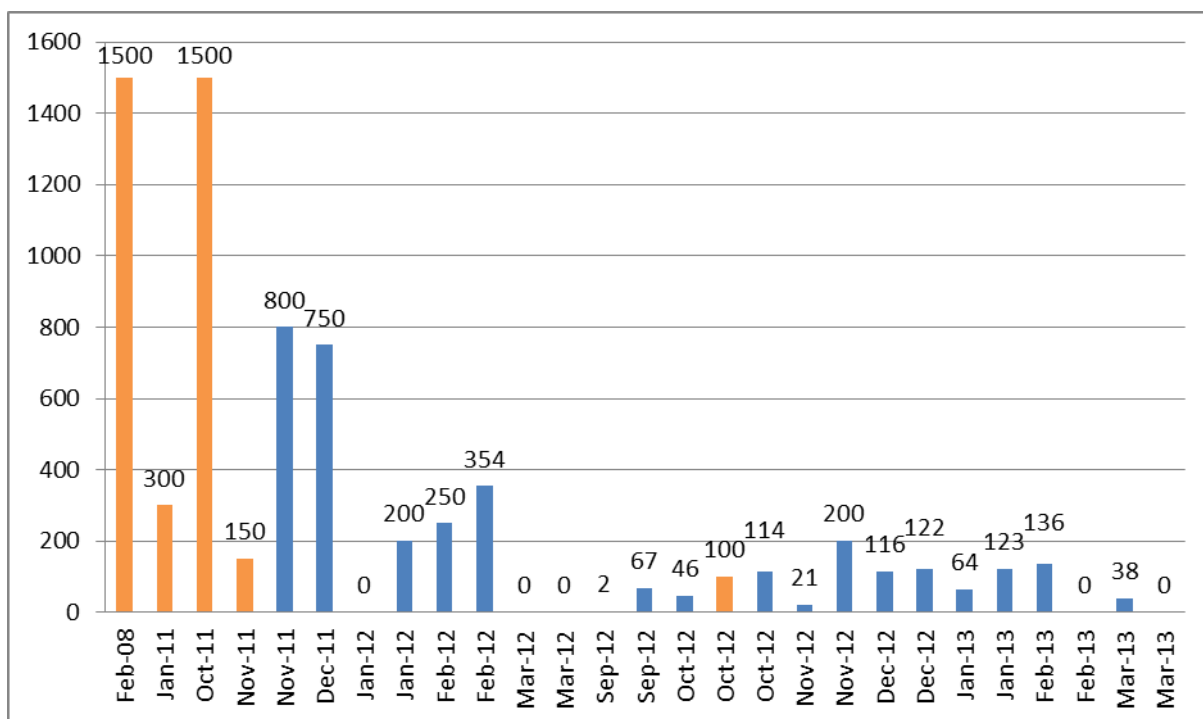
4.6.37 Teesmouth Bird Club provided all their up-to-date data on the numbers of golden plover and lapwing at the landfall coastal fields (**Figure 4.19**). A total of ten records of golden plover and five records of lapwing were returned covering a period from November 2005 to October 2012. Records from 2013 had not yet been submitted by most members of the bird club. Of the records returned, golden plover had a peak count of 2,300 in November 2005. Three records were returned within the January – March period, 1200 golden plover during January 2008, 1000 birds in February 2008 and 300 golden plover recorded in January 2011. Of the five lapwing records returned, lapwing had two peak counts of 1,500 during February 2008 and October 2011. Only two records were returned within the January – March period. The first record being the peak count in February 2008, and another record of 300 lapwings during January 2011.

*Review of field surveys 2011 - 2012 and 2012 - 2013*

- 4.6.38 As part of the detailed desk study undertaken in relation to golden plover and lapwing, the previous field survey data (2011 - 2012 and 2012 - 2013) obtained for the species was reviewed.
- 4.6.39 Of a total of 22 survey visits, golden plovers were recorded on 13 survey visits. Peak counts of 3,500 golden plover were recorded in November 2011, and the second highest count of 3,300 in December 2011. These were the only two visits during the 2011/2012 wintering bird survey when golden plover were recorded. During the 2012/ 2013 surveys lower numbers of golden plover were recorded over a prolonged period. Peak counts were recorded in December 2012 of 950, and secondly in November 2012 (850).
- 4.6.40 Lapwing were recorded on 17 out of 22 survey visits. Lapwing were also recorded in high numbers mixed within the flock of golden plover.
- 4.6.41 A peak count of 800 lapwing were recorded in November 2011, with the second highest count of 750 in December 2011. Lapwings were recorded on many of the survey visits, however sometimes in relatively low numbers. Whilst numbers of lapwing were significantly lower than that of golden plover, the fluctuations in numbers mimicked that of the golden plover.
- 4.6.42 A summary of the desk study data obtained from Teesmouth Bird Club has been combined with the field study results for 2011 - 2012 and 2012 - 2013 (**Graph 4.3** and **Graph 4.4**). Please note, records appearing in red refer the desk study data obtained from Teesmouth Bird Club, whilst those records in green are from data collated during field surveys.



**Graph 4.3** Combined golden plover records and fields survey data for 2011 - 2012 and 2012 - 2013



**Graph 4.4** Combined lapwing records and fields survey data for 2011 - 2012 and 2012 - 2013

*Potentially available alternative habitats*

- 4.6.43 The detailed desk study also located similar alternative habitat in the proximity of the landfall coastal fields that could be used by golden plover and/or lapwing.
- 4.6.44 Many of the arable fields at the landfall during the winter of 2012 - 2013 had a tall stubble remaining from the crop planted earlier in the year. This has been

due to the farmer being unable to plough the fields at the end of the crop season due to a very wet autumn leaving much of the fields heavily water logged.

- 4.6.45 From the aerial photography and map assessment, there appears to be a limited number of arable fields, along the coastline in this area, with many fields appearing to be improved grassland grazed by either sheep, cattle or horses. The nearest arable fields to the site appear to be to the east of Saltburn-by-the-Sea (NZ 678 214) (**Figure 4.23**), and differs from the landfall, as the fields are located at the top of a steep bank compared to the lower lying landfall. These fields are approximately 5km from the landfall.
- 4.6.46 The second area lies further still, to the east of Skinningrove (NZ 721 199) (**Figure 4.23**). Whilst these fields are approximately 9.7km from the landfall there are closer to sea level and therefore more similar to the landfall than those fields located at Saltburn-by-the-Sea.
- 4.6.47 The remainder of the coastal area appears to be largely residential housing and improved grassland to the east of the landfall, whilst to the north, the area is dominated by industrial areas, with the exception of Coatham Marsh LNR, which contains relict salt marsh and coastal wetland habitats.

