

**UK – Norway Electricity Interconnector (NSN Link)  
Winter and Breeding Bird Survey 2012 to 2014**

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<b>CONTENTS</b>	<b>PAGE</b>
1.0 INTRODUCTION.....	1
2.0 SCOPE AND PURPOSE.....	1
3.0 SITE DESCRIPTION .....	2
4.0 SURVEY METHODS.....	3
Desktop Survey .....	3
Winter Bird Survey Method 2012 to 2013 .....	3
Breeding Bird Survey Method 2013.....	4
Winter Bird Survey Method 2013 to 2014 .....	4
5.0 SURVEY RESULTS .....	6
Desktop Survey .....	6
Winter Bird Survey 2012-2013 .....	9
Winter Bird Survey 2013-2014 .....	12
Breeding Bird Survey .....	16
6.0 IMPLICATIONS .....	19
7.0 RECOMMENDATIONS.....	22
8.0 REFERENCES.....	23

## **TABLES**

Table 1	SSSI/SPA species and BoCC/protected species recorded within the route corridor during the winter bird survey 2012-2013.
Table 2	SSSI/SPA species and BoCC/protected species recorded within the River Blyth estuary survey area during the winter bird survey 2013-2014.
Table 3	SSSI/SPA species and BoCC/protected species recorded at the landfall site and the River Wansbeck during the winter bird survey 2013-2014.
Table 4	SSSI/SPA species and BoCC/protected species recorded at the substation site during the winter bird survey 2013-2014.
Table 5	SSSI/SPA and BoCC/protected species recorded within the route corridor in the breeding bird survey 2013.

## **APPENDICES**

Appendix 1:	Survey dates and weather information 2012-2013
Appendix 2:	Natural England letter
Appendix 3:	Protected site citation sheets and information

## **DRAWINGS**

G2336.056	Winter bird survey area 2012-2013
G2336.085D	NSN landfall and cable route options
G2336.173	Statutory and Non-Statutory Nature Reserves
G2336.130	Winter Bird Survey 2012-2013 – Visit 1 High Tide
G2336.131	Winter Bird Survey 2012-2013 – Visit 2 High Tide
G2336.132	Winter Bird Survey 2012-2013 – Visit 3 High Tide

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G2336.133 Winter Bird Survey 2012-2013 – Visit 4 High Tide  
G2336.135 Winter Bird Survey 2012-2013 – Visit 5 High Tide  
G2336.136 Winter Bird Survey 2012-2013 – Visit 6 High Tide  
G2336.137 Winter Bird Survey 2012-2013 – Visit 1 Low Tide  
G2336.138 Winter Bird Survey 2012-2013 – Visit 2 Low Tide  
G2336.139 Winter Bird Survey 2012-2013 – Visit 3 Low Tide  
G2336.140 Winter Bird Survey 2012-2013 – Visit 4 Low Tide  
G2336.141 Winter Bird Survey 2012-2013 – Visit 5 Low Tide  
G2336.142 Winter Bird Survey 2012-2013 – Visit 6 Low Tide  
G2336.148 Breeding Bird Survey 2013 – Visit 1  
G2336.149 Breeding Bird Survey 2013 – Visit 2  
G2336.176 Winter Bird Survey 2013-2014 – Visit 1, High/Ebb Tide  
G2336.177 Winter Bird Survey 2013-2014 – Visit 1, Low Tide  
G2336.178 Winter Bird Survey 2013-2014 – Visit 2, High Tide  
G2336.179 Winter Bird Survey 2013-2014 – Visit 2, Low Tide  
G2336.180 Winter Bird Survey 2013-2014 – Visit 3, High Tide  
G2336.181 Winter Bird Survey 2013-2014 – Visit 3, Low Tide  
G2336.182 Winter Bird Survey 2013-2014 – Visit 4, Low Tide  
G2336.183 Winter Bird Survey 2013-2014 – Visit 4, High Tide

## **1.0 INTRODUCTION**

- 1.1 NSN Link Ltd and Statnett (the Norwegian equivalent to National Grid) are jointly developing a project to install an UK – Norway interconnector (NSN Link) between the UK and Norway to enable the import and export of electricity between these countries (North Sea Network NSN). TEP is an environmental consultancy working for NSN Link on the UK terrestrial elements of the project.
- 1.2 NSN is presently applying for a connection into the existing National Grid system at Blyth substation. Marine cables would fall to land to the north of Cambois beach and south of the River Wansbeck estuary at Cambois slipway. Terrestrial underground cables would run between the landfall and a converter station site at East Sleekburn near the existing National Grid substation. The converter station would convert the high voltage direct current (HVDC) used in the subsea transmission to high voltage alternating current (HVAC) for use in the UK transmission system.
- 1.3 The landfall is within the Northumberland Shore SSSI and is approximately 1km south of the Northumbria Coast SPA and Ramsar site. The qualifying features for the SPA are breeding little tern and overwintering purple sandpiper and turnstone.
- 1.4 The proposed converter station site is approximately 600m east of the A189 near the existing National Grid Substation.
- 1.5 TEP has acquired and reviewed a copy of the Blyth-Cambois Wader Study undertaken by SKM Enviros for Northumberland County Council in July 2011. The purpose of the SKM Enviros study was to identify key areas of use by SSSI and SPA bird species in the Blyth-Cambois area and this formed part of the evidence base in the preparation of Northumberland County Council's Core Strategy.
- 1.6 Although the affected areas are considered to have low potential for SPA/SSSI species, NSN considered it prudent to undertake ornithological survey to ensure sufficiently robust data on which to carry out environmental assessment of the effects of the NSN Link.

## **2.0 SCOPE AND PURPOSE**

- 2.1 The purpose of this study is to gain more information on the birds which use habitat near to the proposed NSN Link.
- 2.2 Surveys of wintering and breeding bird communities were carried out to identify areas of ecological value and if possible reduce the impacts on birds and their habitats.

### **3.0 SITE DESCRIPTION**

- 3.1 The study area incorporates the stretch of coastline and associated land to the north of Blyth, south of Ashington and East of Bedlington in the county of Northumberland in northeast England. The field survey area covered the landfall, the HVDC corridor from the landfall at North Cambois to the converter station, the converter station site and the HVAC cable route from the converter station to Blyth substation, together with a buffer area.
- 3.2 The study area stretches from south of Newbiggin Bay and includes the land around the mouth of the River Wansbeck and as far south as the River Blyth.
- 3.3 The landfall is the intertidal zone and beach located to the south of the Wansbeck estuary at North Cambois. There are several meters of steep man made coastal defences to the south of the slipway separating the intertidal and terrestrial habitats. To the north of the slipway the low cliffs are a natural form.
- 3.4 The proposed HVDC cable route is dominated by arable land in the northern section, with areas of semi-improved neutral grassland, plantation woodland and tall ruderal vegetation. The route then largely follows an existing track between an industrial development and an old coal stocking yard and crosses a ditch into an arable field where the converter station would be sited.
- 3.5 The site of the converter station is an arable field, bordered by a band of mixed plantation woodland and a defunct species poor hedgerow.
- 3.6 The route for the HVAC cable from the new converter station to the existing Blyth electricity substation crosses semi-improved neutral grassland with scattered scrub, hedgerows, a network of ditches and a number of largely ephemeral water bodies.
- 3.7 The wider area contains estuarine habitat where the rivers Wansbeck and Blyth meet the sea and some dune habitat near South Cambois beach. This coastline is part of the Northumberland Shore SSSI, the Northumbria Coast SPA and the Cresswell and Newbiggin Shores SSSI.

## 4.0 SURVEY METHODS

### Desktop Survey

- 4.1 The RSPB were consulted in February 2013 to obtain bird records for the survey area and a 5km survey buffer.

### Blyth-Cambois Wader Study 2010/1011

- 4.2 All elements of the proposed NSN development are within the area covered by the Blyth-Cambois Wader Study (SKM Enviros, 2011) as indicated on Drawing G2336.056 Extent of Winter Bird Survey 2012-2013. The wader study also included land up to 1.5km to the west of the A189 spine road and land between the Sleekburn Brook and the Blyth estuary, also known as the Mount Pleasant Peninsula (see Drawing G2336.056).
- 4.3 The Blyth-Cambois Wader Study included a detailed desktop study where a number of relevant bird surveys undertaken between 2000 and 2010 were reviewed. SKM also undertook a nocturnal survey between November 2010 and March 2011 inclusive. The SKM nocturnal survey focussed on a period two hours either side of high tide to determine how SPA/SSSI wader species used fields at night time. A disturbance survey study was also undertaken of birds using inter-tidal areas on the coast adjacent to Cambois on eight visits between September 2010 and March 2011.
- 4.4 The 'Fields East of A189 Spine Road' were not subject to winter diurnal survey in the 2010/11 season, however in previous surveys (2007-2009) there were no SSSI/SPA waders recorded on this area of land. The 'Fields North of Wansbeck' were subject to winter diurnal survey in the 2010/11 season; however both these areas were considered to have low potential for waders.

### Winter Bird Survey Method 2012 to 2013

- 4.5 During TEP's winter bird survey, experienced ornithologists Tim Ross CEnv MCIEEM, Christopher Bell and Colin Davies surveyed wader and wildfowl activity on the following areas and as indicated on TEP Drawing Ref G2336.056:
- fields to the east of the A189;
  - fields to the north of the River Wansbeck;
  - intertidal area between Sandy Bay Caravan Park and Cambois; and
  - the RWE site and the land to the north of the River Blyth (incidental observations only).
- 4.6 The survey included observations of waders and shore birds with a focus on SSSI/SPA designated species. Birds of Conservation Concern (BoCC) were also recorded; these are defined as red and amber-listed species, birds protected under Schedule 1 of the Wildlife and Countryside Act 1981, and birds considered species of principal importance under Section 41 of the Natural Environments and Rural Communities Act 2006.
- 4.7 The winter survey involved monthly visits from October to March inclusive. Each of the six survey visits was conducted over two days in order to gain maximal coverage of habitats at times of peak bird activity.
- 4.8 The high tide was targeted as this is the time period when waders and wildfowl are most likely to be using fields close to the coast for activities such as feeding or roosting. The survey visits were therefore timed to cover a period of three hours either side of high tide. During this time a comprehensive transect survey was

carried out from publicly accessible viewpoints including the beach, roads and public rights of way.

- 4.9 On the other day of each survey visit, wader and wildfowl counts were undertaken at low tide on all inter-tidal areas from Sandy Bay to South Cambois. This was to ensure complete coverage of the survey area including insight into how birds use the inter-tidal areas at low tide. The winter survey dates, tide and weather conditions are listed at Appendix 1.

#### **Breeding Bird Survey Method 2013**

- 4.10 Two breeding bird surveys were undertaken on the 16<sup>th</sup> May and 26<sup>th</sup> June 2013 by experienced ornithologists Christopher Bell and Tim Ross. During each visit, transects were walked through the proposed route corridor shown in Drawing TEP ref G2336.056; the survey transect passed within 100m of all land within the corridor. The route was walked at a steady pace with observation stops at regular intervals.
- 4.11 All bird activity encountered, including songs, calls, flight lines, feeding, nesting, and territorial behaviour was recorded and mapped. Both breeding bird surveys were conducted between half an hour after dawn and midday to coincide with peak bird activity.

#### **Survey Coverage and Data Analysis**

- 4.12 At the time that TEP's winter and breeding bird surveys were conducted, the precise location of the landfall and route corridor had not yet been decided. The 2012-2013 winter bird survey covered a wider area which is illustrated in Drawing G2336.056. The 2013 breeding bird survey covered two route corridor options and landfall locations as well as a 100m survey buffer which extended beyond the route corridors.
- 4.13 Geographical Information Systems (GIS) analysis was used to overlay the Cambois Slipway route corridor (hereafter referred to as the route corridor) onto mapped bird survey data. After this the bird records which fell within this route corridor were selected and tallied using pivot tables. The following results section focusses primarily on the species recorded within the proposed route corridor with additional reference to records from the wider survey area.

#### **Winter Bird Survey Method 2013 to 2014**

- 4.14 The winter bird survey was repeated between December 2013 and March 2014 with survey effort concentrated on designated areas close to the proposed development. Statutory and non-statutory nature conservation sites located close to the route corridor are shown in Drawing G2336.173.
- 4.15 The River Blyth estuary and the River Sleekburn were surveyed at two occasions on each survey visit to gain further insight into how tide influences bird usage of these watercourses. These sites constitute the Blyth and Sleekburn Estuary LWS and part of the Northumbria Shore SSSI. It is therefore important to gain a full understanding of the likely impacts of the development on ornithological assemblages at these designated sites.
- 4.16 The landfall site is situated within the Northumbria Coast SSSI and this region was surveyed again in the 2013-2014 winter bird survey to gain further insight into how this location is used by SPA and SSSI bird species.



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4.17 The Wansbeck Estuary LWS comprises the stretch of the River Wansbeck on either side of the Barrage by the A189 spine road. The coastal region of this LWS was also surveyed during the 2013-2014 winter bird survey to ensure that all protected sites for birds were revisited.

4.18 Fields to the south of the River Wansbeck were surveyed to cover the areas affected by the route corridor. The site of the proposed convertor station was also surveyed since substantial habitat loss would occur in this location.

**Natural England Consultation**

4.19 The proposed winter bird survey method was discussed with Natural England in autumn 2012. This was followed up with a site visit in September 2013 to present the preliminary survey findings and to discuss the landfall construction in the SSSI. A letter from the 11<sup>th</sup> September 2013 containing Natural England's summary of the site visit is presented in Appendix 2.

## 5.0 SURVEY RESULTS

### Desktop Survey

#### Protected sites

5.1 Citation papers for the relevant SSSI/SPA/Ramsar sites are presented at Appendix 3.

#### *Northumberland Shore SSSI*

5.2 The Northumberland Shore SSSI includes most of the shoreline between the Scottish border and the Tyne estuary in North East England and provides vital habitat for wintering shorebirds. The potential landfall site at North Cambois falls within the SSSI (Drawing G2336.085D).

5.3 Turnstone and purple sandpiper are cited as overwintering in internationally important numbers. Sanderling, ringed plover, redshank and golden plover winter here in numbers which are nationally important. The Northumberland Shore SSSI also holds large wintering populations of curlew, oystercatcher, lapwing, dunlin, knot and bar-tailed godwit.

#### *Northumbria Coast SPA/Ramsar*

5.4 The Northumbria Coast SPA incorporates much of the coastline between the Tweed and Tees estuaries in North East England. Protected areas are mainly discrete sections of rocky shore and pebble beaches. Sections of the SPA/Ramsar are located 500m to the north of the River Wansbeck and south of South Cambois. The proposed landfall is not within the SPA/Ramsar.

5.5 Three bird species, including wintering turnstone, purple sandpiper and breeding little tern, form the qualifying features of this SPA.

5.6 Turnstone and purple sandpiper overwinter in internationally important numbers on this coastline. The SPA turnstone population is 1,739 individuals (five-year peak mean 1992/3-1996/7). The SPA purple sandpiper population is 787 individuals (five-year peak mean 1992/3-1996/7).

5.7 The Northumbria Coast SPA provides breeding grounds for little tern which nest in internationally important numbers. The SPA little tern population is 40 pairs (five-year peak mean 1992/3-1996/7).

5.8 The Ramsar citation sheet confirms that the Northumbria Coast Ramsar site supports:

- Nationally important numbers of **turnstone** during the winter period (978 individuals representing an average of 1% of the GB population – 5 year peak mean 1998/9-2002/3);
- Nationally important numbers of **purple sandpiper** during the winter period (291 individuals representing an average of 1.6% of the GB population – 5 year peak mean 1998/9-2002/3);
- Nationally important numbers of **little tern** during the breeding period (43 pairs representing an average of 2.2% of the GB population – 5 year peak mean 1998/9-2002/3).

*Cresswell and Newbiggin Shores SSSI*

- 5.9 This SSSI is north of the Wansbeck estuary. This area gains protection due to its outstanding and unique geological features. There are no ecological qualifying features for Cresswell and Newbiggin Shores SSSI and so it is not considered further in this report.

*Blyth and Sleekburn Estuary LWS*

- 5.10 The Blyth and Sleekburn Estuary Local Wildlife Site (LWS) is split into two distinct sections including the Sleekburn estuary to the north and the Blyth estuary to the south. The Blyth Estuary is confined by existing urban development and is affected by disturbance since there is good access to the Blyth estuary. The main river channel is flanked by mudflats at low tide and small areas of saltmarsh habitat are also present. However the mudflats at the east end of the Blyth estuary, closest to the proposed development, are not included in the LWS, presumably because the mudflats are covered by the Northumberland Coast SSSI.

- 5.11 The Sleekburn estuary is a smaller watercourse which has a more natural structure and is less subject to disturbance. The Sleekburn estuary is located closer to the proposed development; approximately 150m to the south of the main works area. This part of the Sleekburn estuary is comprised by mudflats whereas saltmarsh habitat predominates further upstream, west of the A189 spine road.

*Wansbeck Estuary LWS*

- 5.12 This Wansbeck Estuary LWS is located at the north end of the survey area approximately 60m from the landfall area associated with the proposed works at its closest point. The Wansbeck estuary LWS is broadly split into two parts; the coastal habitats associated with the estuary and the freshwater habitats upstream of the Wansbeck barrage. The construction of the barrage resulted in a much reduced coastal estuarine area on the Wansbeck, and a large freshwater artificial lake used for recreational purposes. Birds mentioned on the site citation include mute swan, oystercatcher, herring gull, sandwich tern, mallard, shelduck, cormorant, black-headed gull, meadow pipit, linnets and sand martin.

Bird records

- 5.13 The RSPB records search undertaken in February 2013 did not reveal any SPA or SSSI bird records for the last ten years either within the survey area or the 5km survey buffer. The only BoCC recorded within time frame was the amber-listed swift.

- 5.14 The Blyth-Cambois Wader Study undertaken by SKM Enviros for Northumberland County Council in July 2011 identifies areas of land associated with the NSN Link development as being of low potential for SPA and SSSI species (SKM Enviros, 2011). Bird records from the Blyth-Cambois Wader Study relating to different parts of the TEP winter bird survey area are summarised below.

*Cambois beach*

- 5.15 34 purple sandpiper were recorded at Crab Law to the south of the TEP survey area in winter 2008-2009. A peak count of 51 turnstone was recorded on the rocky shore at low tide to the south of the Blyth estuary.

- 5.16 Desktop survey records indicate that peak counts of SPA and SSSI birds tend to be recorded at low tide. High tide roosts were recorded at north Blyth beach in the mouth of the Blyth estuary and alongside East Pier near Blyth, well to the south of the Blyth estuary. A peak count of 70 ringed plover was recorded at North Blyth

beach in winter 2008-2009. Overall peak counts for SPA/SSSI species tended to be recorded in the south at the Blyth estuary and around Blyth. High disturbance on the sandy beach at Cambois was identified as a likely factor influencing the bird distribution.

- 5.17 Nocturnal bird surveys on the beach in winter 2010-2011 only recorded low numbers of waders.

*Fields north of the River Wansbeck*

- 5.18 No SPA species were identified for this location. A peak count of 118 golden plover was recorded in the 2010 nocturnal survey, although counts were generally much lower than this. Smaller numbers of oystercatcher, lapwing and curlew were also recorded.

*Fields east of A189 Spine Road*

- 5.19 No SPA or SSSI species were identified for this location within the Blyth-Cambois Wader Study. This location includes the entire west section of the proposed NSN Link corridor.

## Winter Bird Survey 2012-2013

### Survey findings for the route corridor

- 5.20 44 species in total were recorded in the winter surveys within the NSN Link route corridor. There were 29 BoCC and protected species observed including 16 amber-listed, 11 red-listed, 12 Section 41 and four Schedule 1 species. Table 1 summarises the protected and BoCC species recorded as well as those bird species recorded which are mentioned in the citations for the Northumberland Shore SSSI and Northumbria Coast SPA.
- 5.21 The results of the 2012-2013 winter bird survey are illustrated in Drawings G2336.130 to G2336.142.

**Table 1. SSSI/SPA species and BoCC/protected species recorded within the route corridor during the winter bird survey 2012-2013.**

Species	Number of Birds						BoCC			
	V1	V2	V3	V4	V5	V6	A	R	S41	SCH1
<i>SPA/SSSI species</i>										
Curlew (SSSI)		5	5	7	12		✓		✓	
Lapwing (SSSI)			5			189		✓	✓	
Oystercatcher (SSSI)		2	2			1	✓			
Redshank (SSSI)		1		11			✓			
Sanderling (SSSI)		16	4	22						
Turnstone (SPA/SSSI)				4			✓			
<i>BoCC and Schedule 1 species</i>										
Black-headed gull				3	3	1	✓			
Dunnock				1	1		✓		✓	
Fieldfare		20		34	2			✓		✓
Great Black-backed gull		6	5	2		1	✓			
Greenshank				1						✓
Greylag goose				1			✓			
Herring gull			8		11	8		✓	✓	
House sparrow	10	38		32	14	15		✓	✓	
Kittiwake				1			✓			
Lesser redpoll					1			✓	✓	
Mallard		4				7	✓			
Meadow pipit		1	3	3			✓			
Mistle thrush	1						✓			
Red throated diver	8						✓			✓
Redwing		45	8					✓		✓
Reed bunting				1	7		✓		✓	
Siskin			2				✓			
Skylark				4	1			✓	✓	
Starling						2		✓	✓	

Species	Number of Birds						BoCC			
	V1	V2	V3	V4	V5	V6	A	R	S41	SCH1
Snipe			1				✓			
Song thrush			1		1			✓	✓	
Tree sparrow				1		10		✓	✓	
Yellowhammer					70			✓	✓	

Key: V = survey visit no., A = amber-listed, R = red-listed, S41 = Section 41, SCH1 = Schedule 1.

#### *SPA species*

- 5.22 The only species listed as a qualifying feature for the Northumbria Coast SPA recorded within the NSA Link route corridor was turnstone. Four turnstone were observed on the 21<sup>st</sup> of January (Drawing G2336.133) on the beach at high tide to the south of Wansbeck estuary.

#### *SSSI species*

- 5.23 Sanderling were recorded within the route corridor on three of the six visits, with a peak count of 22 individuals recorded during visit four (Drawing G2336.133). They were observed utilising intertidal habitat at high and low tide along the extent of the coastline surveyed. Both Turnstone and Sanderling are qualifying features of the Northumberland Shore SSSI and overwinter in numbers of international and national importance respectively.
- 5.24 Other SSSI wader species included oystercatcher observed in low numbers on three occasions within the proposed route corridor. This species was recorded feeding along the coast at low tide. Curlew were recorded within the corridor across the winter survey season with a peak count of 12 observed on visit five (Drawing 2336.135). This group was recorded using the fields east of the A189 north of Wembley Gardens at high tide. Redshank were recorded using the intertidal habitat to feed with a peak count of 11 individuals recorded within the route corridor on visit four (Drawing G2336.133). A flock of 189 lapwing constituted the majority of records for this species within the route corridor observed on visit six (Drawing G2336.136). This species was using the field east of the A189 immediately north of East Sleekburn at high tide.

#### *Schedule 1 Species*

- 5.25 Fieldfare were recorded within the proposed route corridor on three of the winter visits with small flocks recorded in December and January. Flocks of 20 and 34 individuals were observed on the fields east of the A189 between the River Wansbeck and Wembley Gardens on separate visits.
- 5.26 Redwing were also recorded on separate visits in December. A flock of 45 individuals were observed to be utilising the same habitat as the fieldfare to the south of the River Wansbeck in early December (Drawing G2336.131). Later in the month 8 individuals were counted further south, north of East Sleekburn and east of the A189.
- 5.27 A single greenshank was observed within the proposed route corridor. This individual was observed using the intertidal zone to the south of the Wansbeck estuary.

5.28 Fieldfare, redwing or greenshank only occur within the survey area during the winter period with each species nesting in Scotland or further to the north during the breeding period, when these species are subject to additional statutory protection.

*BoCC Species*

5.29 House sparrow and to a lesser extent tree sparrow were recorded on multiple survey visits. These species were largely concentrated in the fields below the River Wansbeck and the residential areas around Wembley Gardens. Herring gull was another Section 41 species which was regularly recorded, with a total of 27 individuals observed across the winter season.

5.30 In late February a flock of 70 Yellowhammer were recorded east of the A189 and north of Wembley Gardens (Drawing G2336.135). In the same area seven reed bunting were also observed during the same survey visit. Dunnock, lesser redpoll, greylag goose, snipe and kittiwake were all recorded infrequently in low numbers.

5.31 Amber-list species recorded on more than one occasion included meadow pipit, which were mostly observed in the fields south of the River Wansbeck. Mallard were also recorded around the River Wansbeck with 11 records in total.

Overall findings for winter bird survey area

5.32 As well as including the route corridor, the winter bird survey area incorporated land as far north as Sandy Bay Caravan Park on the north side of the River Wansbeck, as far south as the River Blyth and as far west as the A189 spine road (Drawing G2336.056).

5.33 A total of 71 bird species were recorded across all six winter bird survey visits in the wider winter bird survey area. Of these, 49 were BoCC and protected species with 29 amber-listed, 13 red-listed, 15 Section 41 and ten Schedule 1 species recorded.

*SPA species*

5.34 Turnstone was the only SPA species recorded within the survey area during the winter bird survey; a peak count of 8 birds being recorded in intertidal habitat north of the Wansbeck estuary close to the Northumbria Coast SPA boundary (Visit 3 Drawing G2336.132). Small numbers of turnstone were recorded on all survey visits except for visit 5 when the species was not recorded.

*SSSI Species*

5.35 None of the peak counts recorded for SSSI species were recorded during low tide counts providing further evidence that the wider survey area is of greater importance at high tide. Peak numbers of the SSSI species golden plover (5 individuals) were observed on visit 2 flying over fields north of the River Wansbeck (Drawing G2336.131). A peak count of 40 redshank was recorded on visit 1 in two separate locations. The majority were observed near to the north bank of the Blyth estuary whilst the rest were recorded on the north bank of the Wansbeck close to the estuary (Drawing G2336.130). The peak count of 17 ringed plover was recorded on visit 6 in the south of the wider survey area by the Blyth estuary.

5.36 Peak counts of other SSSI species recorded within the wider survey area include curlew (43 individuals), oystercatcher (44 individuals) bar-tailed godwit (10 individuals), dunlin (81 individuals) and lapwing (189 individuals). The majority of the 189 lapwing recorded on visit 6 were observed on arable land associated with the proposed site of the convertor station site (G2336.136).

*Other BoCC species*

- 5.37 Several notable species were observed in the wider areas that were not recorded within the proposed route corridor. Two brambling (Schedule 1, Section 41) were recorded in the business park to the east of the A189 in west Cambois (Drawing G2336.132). Several common scoter (Schedule 1, Section 41, red-list) were recorded on two visits located off the south Cambois coast. A single velvet scoter (Schedule 1, amber-list) was also observed in this area. A green sandpiper (Schedule 1, amber-list) was recorded within the Wansbeck estuary between the A189 and Sandy Bay Caravan Park (Drawing G2336.136). A peregrine (Schedule 1) was seen flying at high tide over the south Cambois coast.

### Winter Bird Survey 2013-2014

- 5.38 Survey findings for the River Blyth/Sleekburn  
The results of the 2013-14 winter bird survey for this area are summarised in Table 2 and are presented in Drawings G2336.176 – 183.

**Table 2. SSSI/SPA species and BoCC/protected species recorded within the River Blyth estuary survey area during the winter bird survey 2013-2014.**

Species	Number of Birds								BoCC			
	V1		V2		V3		V4		A	R	S41	SCH1
	Ebb	LT	HT	LT	HT	LT	HT	LT				
<i>SPA/SSSI species</i>												
Curlew	5	6	75	19	51	42	15	10	✓		✓	
Lapwing					5							
Oystercatcher	9	1		10		7	28	7	✓			
Redshank	32	66	38	35	13	112	2	8	✓			
Ringed plover					2				✓			
Turnstone	3				3	3			✓			
<i>BoCC and Schedule 1 species</i>												
Black-headed gull	19	20	25	7	16	52	20	10	✓			
Black-tailed godwit			14							✓	✓	✓
Black-throated diver					1				✓			✓
Common gull	4					1			✓			
Dunlin	27		2	240					✓		✓	
Eider	3	4	52	9	13	36	40	2	✓			
Gadwall				19			1		✓			
Great black-backed gull	26	2		9	26				✓			
Grey plover				2					✓			
Herring gull	77	137	36	69	22	37	52	12		✓	✓	
Kestrel			1						✓			
Lesser black-backed gull						1	10	1	✓			
Mallard			13	2	1		1	1	✓			
Shelduck			1	2	13	11	13	5	✓			
Teal	6	12		7				1	✓			



Key: V = survey visit no., HT = high tide, LT = low tide, Ebb = ebb tide, A = amber-listed, R = red-listed, S41 = Section 41, SCH1 = Schedule 1.

*SPA species*

- 5.39 The only SPA species recorded in the survey of the Rivers Blyth and Sleekburn was turnstone. Three individuals were counted on three occasions in Visits 1 and 3 in December and February respectively (Drawing G2336.176, 180, 181). At high/ebb tide on 22<sup>nd</sup> December 2013 and high tide on 22<sup>nd</sup> February 2014 three turnstone were observed in habitat on the Mount Pleasant peninsular where the Sleekburn estuary meets the Blyth estuary. At low tide on the 22<sup>nd</sup> February three birds were also seen roosting on the side of the tidal basin.

*SSSI species*

- 5.40 Across the four winter bird survey visits, five species cited in the Northumberland shore SSSI were recorded at this site. Curlew were recorded consistently on every visit at both high and low tide across this survey area in moderate numbers. The peak count on any one visit was 75 with 50 of these birds using habitat in the Blyth estuary to the west of the tidal basin at high tide in January (G2336.178). This area again held a decent flock of 30 curlew on the following visit at high tide (G2336.180).
- 5.41 Redshank were also recorded on all surveys undertaken in this area. A peak count of 112 redshank was recorded on the 22<sup>nd</sup> February 2014 at low tide with 64 of these observed feeding along the River Sleekburn with smaller groups scattered around the Blyth Estuary. Throughout the surveys the larger groups of Redshank were observed on the River Sleekburn.
- 5.42 Oystercatcher were recorded more frequently using this estuarine habitat at low tide than high tide. Generally Oystercatcher were recorded in small groups around the Blyth estuary. However the peak count of 28 birds was recorded at high tide on the River Sleekburn.
- 5.43 Both lapwing and ringed plover were only recorded on one survey visit at high tide on visit 3 in February 2014 (Drawing G2336.180). Two ringed plover were observed on the land west of the tidal basin with five lapwing flying over to the north of this area.

*Other BoCC species*

- 5.44 In total two Schedule 1 species, four Section 41 species, two red-listed and 18 amber listed BoCC were recorded across those parts of the survey area associated with the Sleekburn and Blyth estuaries.
- 5.45 The two Schedule 1 species included a flock of 14 black-tailed godwit which was recorded on the habitat west of the tidal lagoon in January 2014 at high tide. A single black-throated diver was recorded swimming on the tidal lagoon at high tide on the February visit at high tide.
- 5.46 Both herring gull and black-headed gull were recorded on all visits across the survey area. Larger flocks were often associated with the Mount Pleasant peninsular and the land west of the tidal basin. Eider were also recorded on all visits with these being recorded in both the Blyth estuary and the tidal lagoon. A peak count of 50 eider was recorded at high tide on visit 2 just south of the tidal lagoon (Drawing G2336.178).

Survey findings for the Landfall, River Wansbeck and surrounding fields

- 5.47 In total 22 BoCC were recorded across the landfall site, the River Wansbeck and the fields to the south of the Wansbeck including the SSSI species curlew, redshank and sanderling. These findings are summarised in Table 3.

**Table 3. SSSI/SPA species and BoCC/protected species recorded at the landfall site and the River Wansbeck during the winter bird survey 2013-2014.**

Species	Number of Birds				BoCC			
	V1	V2	V3	V4	A	R	S41	SCH1
<i>SPA/SSSI species</i>								
Curlew				1	✓		✓	
Redshank	2	2	7		✓			
Sanderling		3	1	24	✓			
<i>BoCC and Schedule 1 species</i>								
Black-headed gull	5	10	10	13	✓			
Common gull				1	✓			
Duncock			1		✓		✓	
Eider	2				✓			
Fieldfare		44				✓		✓
Gadwall				9	✓			
Great black-backed gull	32	15			✓			
Grey partridge			2			✓	✓	
Herring gull	44	10	5	22		✓	✓	
Linnet			3	1		✓	✓	
Mallard	4	11			✓			
Meadow pipit		1		2	✓			
Red-throated diver			1	8	✓			✓
Redwing		2				✓		✓
Reed bunting			1		✓		✓	
Shag	14				✓			
Skylark			4	1		✓	✓	
Stock dove				2	✓			
Yellowhammer		37	1			✓	✓	

Key: V = survey visit no., A = amber-listed, R = red-listed, S41 = Section 41, SCH1 = Schedule 1.

*SPA Species*

- 5.48 No qualifying species for the Northumberland Coast SPA were recorded in the vicinity of the landfall site or the River Wansbeck during any survey visit.

*SSSI Species*

- 5.49 Three species cited in the Northumbria coast SSSI designation were recorded within these survey areas. Redshank were recorded in low numbers in the first three of the four winter visits with a peak count of seven birds recorded in February 2014. Redshank were not recorded at the landfall site or utilising fields but were solely recorded along the River Wansbeck.
- 5.50 On visits 2, 3 and 4 sanderling were recorded in low numbers with a peak count of 24 birds on March 18<sup>th</sup> 2014. None were recorded inland or upstream along the

Wansbeck. Almost all observations were recorded to the north of the landfall site at the mouth of the Wansbeck. A single curlew was observed on the River Wansbeck on the final winter bird survey in March.

Other BoCC species

- 5.51 In total three schedule 1 species, eight Section 41 species, seven red-listed and 15 amber-listed BoCC were recorded in this area in the winter bird survey 2013-14.
- 5.52 On the River Wansbeck mallard were recorded on visits 1 and 2 with a peak count of 11 birds in January. Nine gadwall were recorded on the final visit in March and two eider were observed on the river in December.
- 5.53 Low numbers of black-headed, herring and great black-backed gull were recorded in the vicinity of the landfall site and further north at the mouth of the Wansbeck. On two occasions on visit 3 and 4, red-throated diver (Schedule 1) was recorded off the coast at the Landfall site with a peak count of 8 divers on the 18<sup>th</sup> march 2014.
- 5.54 On the fields south of the Wansbeck, a mixed flock of Schedule 1 Fieldfare and Redwing was observed on visit two though these were to the north of the proposed route corridor. A high count of 37 yellowhammer was recorded on visit 2 with only one bird recorded across the other three visits. Linnet, skylark and meadow pipit were all recorded in low numbers using the fields on two of the four winter bird survey visits.

Survey findings for the convertor station site

- 5.55 Only five BoCC were recorded across all four winter bird survey visits to the site of the proposed substation. These species and their conservation status are presented in Table 4.

**Table 4. SSSI/SPA species and BoCC/protected species recorded at the convertor station site during the winter bird survey 2013-2014.**

Species	Number of Birds				BoCC			
	V1	V2	V3	V4	A	R	S41	SCH1
<i>SPA/SSSI Species</i>								
Curlew	1				✓		✓	
<i>BoCC and Schedule 1 species</i>								
Linnet	4		1			✓	✓	
Skylark				1		✓	✓	
Stock dove		3			✓			
Yellowhammer				1		✓	✓	

Key: V = survey visit no., A = amber-listed, R = red-listed, S41 = Section 41, SCH1 = Schedule 1.

SPA & SSSI species

- 5.56 No SPA species were recorded using the habitat at the proposed substation site on any of the 2013-14 winter bird survey. One species referenced in the Northumberland Shore SSSI was recorded in this area. A single curlew was recorded in the fields on the first visit on the 22<sup>nd</sup> December 2013.

Other BoCC species

- 5.57 In total four of the five species are listed under Section 41, with three red-listed and two amber listed BoCC species. Linnet was the only one of these species recorded on two or more occasions with a peak count of four linnet recorded on the 22<sup>nd</sup> December 2013. Three stick dover were observed flying over this area in January

and a single skylark and yellowhammer were recorded on the final survey visit in March.

### Breeding Bird Survey 2013

#### Survey findings for the route corridor

5.58 48 of the species recorded during the 2013 breeding bird survey were observed within the route corridor. Of these, 22 were BoCC and protected species including 13 amber-listed, nine red-listed, 11 Section 41 and one Schedule 1 species. Table 2 summarises the protected and BoCC species recorded within the route corridor as well as those bird species recorded which are mentioned in the citations for the Northumberland Shore SSSI and Northumbria Coast SPA.

5.59 The results of the 2012-2013 breeding bird survey are illustrated in Drawings G2336.148 and G2336.149.

**Table 5. SSSI/SPA and BoCC/protected species recorded within the route corridor in the breeding bird survey 2013.**

Species	Number of Birds		BoCC				Breed on Site?
	V1	V2	A	R	S41	SCH1	
<i>SPA/SSSI species</i>							
Curlew (SSSI)		4	✓		✓		Ps
Dunlin (SSSI)	80			✓			N
Little tern (SPA/SSSI)	2		✓			✓	N
<i>BoCC/Schedule species</i>							
Black-headed gull		3	✓				N
Duncock	3	2	✓		✓		Pr
Grasshopper warbler	1	3		✓	✓		Pr (1)
Green woodpecker	1		✓				Ps
Herring gull	24	1		✓	✓		N
House sparrow	3	8		✓	✓		Pr (3)
Kestrel	1		✓				Ps
Lesser black-backed gull	5	1	✓				N
Linnet		6		✓	✓		Pr (3)
Mistle thrush		1	✓				Ps
Reed bunting	1	1	✓		✓		Ps
Sandwich tern		2	✓				N
Skylark	3	2		✓	✓		Pr (1)
Song thrush		1		✓	✓		Ps
Starling	3	34		✓	✓		Pr (17)
Swallow	1	10	✓				C (1)
Whitethroat	18	9	✓				C (1)
Willow warbler	5	5	✓				Pr (4)
Yellowhammer	4	2		✓	✓		Pr (2)

Key: V = survey visit no., A = amber-listed, R = red-listed, S41 = Section 41, SCH1 = Schedule 1, Ps = possible breeder, Pr = probable breeder, C = confirmed breeder, N = not breeding.

#### *SPA Species*

- 5.60 Two little tern (Schedule 1 species) were observed off the coast in the vicinity of the Wansbeck estuary. This species is cited as a qualifying feature for the Northumbria Coast SPA as little tern breed within the SPA in internationally important numbers (Drawing G2336.148). The birds recorded were not found to be breeding within the route corridor.

#### *SSSI Species*

- 5.61 Aside from the two little terns mentioned above, two other species were recorded within the route corridor which are qualifying features of the Northumberland Shore SSSI. Four curlew were observed in the second survey visit with two in the Wansbeck estuary and two using fields inland (Drawing G2336.149).

- 5.62 80 dunlin were recorded flying over the fields north of East Sleekburn on breeding bird survey visit 1 (Drawing G2336.148). This observation is close to the location of the proposed convertor station; however it is very unlikely that the dunlin would use these fields for roosting or feeding.

#### *BoCC Species*

- 5.63 A number of Section 41 and red-listed species were recorded in both of the breeding bird visits. House sparrow were observed within the route corridor, close to the residential roads south of the River Wansbeck. Dunnock were recorded East of the A189 north of East Sleekburn and into the business estate. Herring gull were recorded in moderate numbers with a broad distribution but generally in the coastal and estuarine areas.
- 5.64 In the field east of the A189 and north of Wembley Gardens, grasshopper warblers were recorded on both of the breeding bird visits. A pair was spotted together suggesting that they bred on-site in 2013. Skylark and yellowhammer were also recorded across both visits in this region. To the east of these fields, close to residential areas 34 starling were recorded in the second visit. Linnet were only observed within the route corridor on the second survey visit, spread across the land east of the A189.
- 5.65 Several amber-list species were recorded in moderate numbers across both breeding bird survey visits. Moderate numbers of whitethroat were observed across much of the route corridor, with highest densities being along the River Blyth. A whitethroat nest was located in the fields south of the River Wansbeck, confirming that they breed in this area. Swallow were also recorded feeding over the fields east of the A189. Individuals were observed carrying nest material in residential areas around Wembley Gardens confirming that they are breeding around these buildings. Willow warbler and were using the fields both south of the River Wansbeck and north of East Sleekburn.

#### Notable birds recorded outside the route corridor

##### *SPA/SSSI species*

- 5.66 Additional to the little tern, dunlin and curlew recorded within the route corridor, two extra SSSI qualifying species were recorded in the 100m survey buffer during the 2013 breeding bird survey.

- 
- 5.67 Lapwing were recorded in low numbers with two birds recorded on each visit. These were found in the fields west of South Cambois (Drawing G2336.148) and on the South Cambois Beach within the Northumbria Coast SPA (Drawing G2336.149).
- 5.68 Oystercatcher were also recorded in the wider survey area on second visit with 18 individuals recorded. 14 of these were observed on the South Cambois beach just outside the Northumbria Coast SPA boundary. The others were associated with the River Blyth (Drawing G2336.149).
- Other BoCC species*
- 5.69 Some notable species were observed in the wider areas that were not recorded within the proposed route corridor. A single red-throated diver (Schedule 1) was observed swimming off the coast of South Cambois in the first breeding bird survey visit. Another Schedule 1 bird recorded on the first visit was a single whimbrel observed flying close to the tidal basin in south Cambois.
- 5.70 A family of shelduck (amber-listed) were recorded outside of the route corridor on the northern bank of the River Wansbeck. Six juveniles were present confirming that breeding occurs in the wider area. Both black-headed and great black-backed gulls were recorded regularly along the coastline.

## 6.0 IMPLICATIONS

### Coastal zone

- 6.1 The Cambois beach landfall site for the marine cables is at the north end of Cambois beach approximately 400m to the south of the river Wansbeck within the Northumberland Shore SSSI. The SSSI is designated for supporting internationally important numbers of turnstone and purple sandpiper and nationally important numbers of sanderling, ringed plover, redshank and golden plover. The SSSI is of secondary importance for curlew, oystercatcher, lapwing, dunlin, knot and bar-tailed godwit.
- 6.2 The Cambois beach landfall site is located approximately 1km to the south of the nearest part of the Northumbria Coast SPA. The SPA has three qualifying species including turnstone (non-breeding), purple sandpiper (non-breeding) and little tern (breeding).
- 6.3 The Cambois – Blyth wader study, which included a review of several ornithological surveys in the local area, indicates that the stretch of shoreline associated with the proposed landfall site is of negligible importance for SPA bird species and of low importance for SSSI species.
- 6.4 The disturbance study undertaken by SKM Enviros as a part of the Cambois – Blyth wader study in winter 2010 to 2011 revealed that the sandy part of the Cambois Beach, including the proposed landfall site, is subject to considerable disturbance, particularly by dog walkers (SKM Enviros, 2011).
- 6.5 The TEP winter bird survey undertaken in 2012-2013 recorded a peak count of four for the SPA species turnstone and no purple sandpiper were recorded during the survey. Two little tern were recorded on inter-tidal habitat within the proposed landfall on one occasion in the 2013 breeding bird survey. The little tern were observed loafing but were not nesting within the survey area.
- 6.6 Sanderling was the most numerous Northumberland Shore SSSI species recorded within the proposed landfall site during the winter bird survey 2012-2013; a peak count of 22 individuals being recorded. Smaller numbers of the SSSI species oystercatcher, curlew, redshank and lapwing were also occasionally recorded. Redshank were more numerous on the north shore of the river Wansbeck, 500m to the north of the landfall site, but outside direct line of site of the works area.
- 6.7 In the 2013-14 winter bird survey the only SPA species recorded on the Blyth/Sleekburn estuaries was turnstone. A peak count of three was observed on the Mount Pleasant peninsula between the two rivers.
- 6.8 Sanderling were recorded in moderate numbers to the north of the landfall site in the 2013-14 winter survey with a peak count of 24 birds. Higher numbers of SSSI species were observed within the Blyth and Sleekburn estuaries. Peak counts of 112 redshank, 75 curlew and 28 oystercatcher were recorded predominantly using habitat along the River Sleekburn, in the Blyth estuary and on the land west of the tidal lagoon. These areas are outside of the corridor route and unlikely to be directly affected by the development. The only possible exception is a high tide roost of up to 25 curlew which was occasionally recorded on the Mount Pleasant peninsula close to the proposed location of an outfall from the convertor station site on the north bank of the Sleekburn estuary.

- 6.9 Overall the findings of the TEP winter and breeding bird surveys 2012-2014 concur with those reported in the Cambois – Blyth wader study with regards to the low value of the Cambois beach for SPA and SSSI bird species.
- 6.10 The part closure of Cambois beach and car park during cable installation works may reduce the number of visitors/dog walkers on the beach. This may benefit the bird assemblages using the coastline through reduced anthropogenic disturbance.
- Terrestrial zone
- 6.11 To the west of the inter-tidal habitat of Cambois Beach cables will be underground for the entirety of their land-based route. The installation of underground cables and associated temporary land conversion has the potential to have implications for wintering and breeding birds.
- 6.12 The Schedule 1 bird species redwing, fieldfare and greenshank do not nest on the coast of north east England, their UK breeding range being restricted to Scotland. There are therefore no implications with regards to these species during the breeding period.
- 6.13 The proposed development would result in the temporary loss of potential nesting and feeding habitat for birds along the route corridor. Between the proposed landfill site and the proposed converter station this habitat loss would be approximately 10-15m wide to provide for cable routeing construction activities. To the south of the proposed converter station the area affected would increase in width to approximately 30m for the installation of the AC cables.
- 6.14 The loss of foraging habitat north of Wembley Gardens would only have a negligible effect on the low numbers of wintering house sparrow, tree sparrow and yellowhammer. The installation of underground cables is unlikely to have an effect on breeding house sparrow or swallow. These were largely associated with residential areas.
- 6.15 A small flock of curlew was frequently observed roosting in these fields south of the River Wansbeck. The majority of the wintering fieldfare and redwing were also observed in the fields east of the A189 between the River Wansbeck and Wembley gardens. In the event that cable laying works are undertaken in the winter there is the potential for some disturbance of wintering birds to occur. However this disturbance would be temporary and restricted to the duration of the works.
- 6.16 Small flocks of lapwing were recorded in the fields to the north of East Sleekburn on one occasion during the winter bird survey although no other SPA or SSSI species were observed. Neither were any ground nesting birds observed in this location. Therefore the construction of the proposed converter station would have a negligible effect on wintering and breeding birds.
- 6.17 The Section 41 species dunnock was recorded within the industrial estate and in the fields north of East Sleekburn. Any removal of hedgerow or scrub associated with cable trenches or the construction of the converter station may remove breeding habitat for this species. Numerous whitethroat were recorded during the breeding bird survey, and an active nest was located in the fields north of Wembley Gardens, close to the route corridor. Loss of scrub and vegetation along the route corridor is likely to reduce the breeding habitat available for whitethroat.
- 6.18 Grasshopper warbler were observed in the field south of the River Wansbeck and a pair was recorded indicating that it is likely that they breed at this site. This species



nests on or near to the ground in vegetation. Both meadow pipit and skylark are other ground-nesters recorded in these fields. Breeding habitat for these species will be reduced when land is cleared for cable trenches and works should be concentrated outside of the breeding bird season.

- 6.19 Yellowhammer, willow warbler and linnet tend to nest low down in scrub and low numbers of breeders may be affected by ground clearing for cable installation. Starling tend to nest higher up and breeding habitat may be reduced if any trees have to be felled in the route corridor.

Implications for protected sites and species

- 6.20 It is concluded that the proposed development would not result in a likely significant effect on the Northumbria Coast SPA or its constituent qualifying species turnstone, purple sandpiper and little tern. Therefore an appropriate assessment would not be required for the proposed development.
- 6.21 Disturbance effects on the Northumberland Shore SSSI would be short term, temporary and almost completely localised to the Cambois Beach landfall site. Taking into account existing disturbance from dog walkers on the shore, any disturbance effects associated within the proposed works are assessed as being negligible and not significant.
- 6.22 The proposed development would result in the temporary loss of habitats along the cable alignment however the majority of habitat affected by works has low value for nesting and wintering BoCC species. Disturbance effects associated with the trenching works period would also be temporary and localised.

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## 7.0 RECOMMENDATIONS

- 7.1 Under the *Wildlife and Countryside Act 1981 as amended* it is an offence to damage the active nest of any wild bird species. It is therefore recommended that trenching and other construction activities, including site clearance and tree and hedgerow removal, are undertaken outside the peak breeding bird season, April to August inclusive, where development priorities allow.
- 7.2 Alternatively measures should be undertaken in advance of the breeding bird season to make works areas unsuitable for nesting birds to enable works to proceed during the breeding bird season. These measures might include tree and shrub removal and possibly the installation of bird deterrent measures. In addition to this, a pre-work check by an ecologist should be undertaken to confirm that no nesting birds are present in works areas.
- 7.3 The findings of the desktop survey and bird survey undertaken during the period 2012-2014 indicate that the proposed route corridor including the site of the proposed landfall, the convertor station site and outfall site on the Sleekburn estuary are of no material importance for wintering SPA, SSSI and BoCC species. Therefore the potential for disturbance to occur should development activities proceed in the winter is assessed as being very low.
- 7.4 However, as a precautionary measure, consideration should be given to avoiding works on the Cambois beach during the latter winter months in January to February when wintering birds can be especially sensitive to losing valuable feeding time due to disturbance (Stillman and Goss-Custard, 2002).

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## 8.0 REFERENCES

SKM Enviros (2011) *Blyth–Cambois Wader Study – Final Report July 2011*.

STILLMAN, R. A. AND GOSS-CUSTARD, J. D. 2002. *Seasonal changes in the response of oystercatchers Haematopus ostralegus to human disturbance*. – J. Avian. Biol. 33: 358–365.

**APPENDIX 1: Survey dates and weather information 2012-2013**

Survey Visit	Date	High/Low Tide	Wind	Wind Direction	Cloud	Temp (°C)	Rain	Visibility
Winter Bird Survey								
Visit 1	22/10/12	Low	3		8	5	0	2
Visit 1	23/10/12	High	3		5	4	0	4
Visit 2	06/12/12	Low	3	SE-E	8	2	1	4
Visit 2	07/12/12	High	2	NW	1	2	0	4
Visit 3	20/12/12	Low	7	SE	8	4	4	3
Visit 3	21/12/12	High	5	W	8	4	3	2
Visit 4	23/01/13	High	1	E	8	0	snow	4
Visit 4	24/01/13	Low	1		7	1	0	4
Visit 5	21/02/13	High	2	SE-E	7	4	0	4
Visit 5	22/02/13	Low	3	E-SE	7	3	0	4
Visit 6	23/03/13	High	7	E-SE	8	1	0	4
Visit 6	24/03/13	Low	7	E	7	2	0	4
Breeding Bird Survey								
Visit 1	16/05/13	N/A			6	14	0	4
Visit 2	26/06/13	N/A	1		4		0	4

**APPENDIX 2: Natural England letter**

Date: 11 September 2013  
Our ref: DAS/6359/95903  
Your ref: NSN Project



Joanne Boothroyd  
TEP

Customer Services  
Hornbeam House  
Crewe Business Park  
Electra Way  
Crewe  
Cheshire  
CW1 6GJ

0300 060 3900

**BY EMAIL ONLY**

Dear Joanne

**Discretionary Advice Service (Charged Advice)**

DAS/6359/95903

**Development proposal and location:** NSN Project, Blyth

Thank you for your consultation on the above dated 23 August 2013, which was received on 23 August 2013.

This advice is being provided as part of Natural England's Discretionary Advice Service. TEP has asked Natural England to provide advice upon:

- A site visit to discuss site design/route options and potential impacts on designated sites (and functional land outside the designated site boundaries)

This advice is provided in accordance with the Quotation and Agreement dated 27<sup>th</sup> August 2013.

The following advice is based upon the information provided by TEP for discussion during the site visit of 6<sup>th</sup> September 2013.

**Summary of Discussions**

It was advised that on the basis of the information provided during the site visit and subsequent discussions, while Natural England has no in-principal objection, we would have concerns if coastal defence works were introduced as part of scheme design due to the potential to affect designated sites, notably the Northumberland Shore SSSI. The following points were also discussed which will need to be considered within the Environmental Statement.

**Timing of works** – Natural England recommended that works within the Northumberland Shore SSSI should avoid the wintering period (November-March inclusive). However, if works during this period cannot be avoided, a full assessment of potential impacts on the SSSI (both direct and indirect) must be provided within the Environmental Statement (ES). This assessment should also consider the indirect consequences of the construction works e.g. car park closure, prevention of public access to beach areas in the context of disturbance of the interest features of the designated sites.

**Northumbria Coast Special Protection Area** – TEP advised that they did not consider that the proposals would result in likely significant effect on the SPA. Natural England advised that a clear justification for this would need to be provided within the ES and Habitats Regulations Assessment.

**Pollution** – Natural England raised concerns that the construction works on the cliff could potentially result in the release of contaminants into the designated sites. Assessment of this (together with details of any mitigation to avoid/minimise impacts) will need to be provided within the ES.

**Coastal Defence Works** – It was indicated that the provision of coastal defences to protect the buried infrastructure on the cliff is being considered. If it is decided to proceed with this option, then an assessment of impacts on the designated sites will need to be provided (i.e. coastal squeeze). As the Shoreline Management Plan (SMP) Policy in this area is for managed realignment in the short term it is recommended that any proposal to provide defences is also discussed with Northumberland County Council and the Environment Agency as soon as possible as this proposal is contrary to the SMP.

**Wider terrestrial works** – It was indicated that the inland route of the cable and proposed site of the converter station are generally in areas which are of low importance for the interest features of the SSSI/SPA and the wider biodiversity interest of the area. Again, this would need to be clearly demonstrated (with reference to relevant survey data) within the ES.

**Cable Protection** – Natural England does not favour the use of rock dumping/mattressing for cable protection, as this can result in permanent habitat loss in areas characterised by soft sediments. In general, we advise that the amount of material deposited on the seabed should be minimised and hard protection only used where there are no feasible alternatives.

The Environmental Statement should set out a 'reasonable worst case scenario' regarding cable protection so that the likely environmental impacts are clear. In addition, if hard protection is to be used in inshore waters where it could have impacts on sediment transport, the implications of this for the designated sites will need to be assessed.

The intention to avoid areas of reef or cobble (which might constitute Annex 1 habitat) when designing the cable route was welcomed.

**Marine Conservation Zones (MCZs)** – As it currently stands, there is no timetable for the designation of further MCZs beyond those subject to public consultation in November 2012, nor any indication from Defra regarding which recommended MCZs might be brought forward. Consequently, rMCZ NG13 Coquet to St Mary's currently has no material status in planning. However, as this has the potential to change, it is important to keep abreast of MCZ developments during the submission process.

For clarification of any points in this letter, please contact Colin Godfrey on 03000 601164.

This letter concludes Natural England's Advice within the Quotation and Agreement dated 27 August 2013.

As the Discretionary Advice Service is a new service, we would appreciate your feedback to help shape this service. We have attached a feedback form to this letter and would welcome any comments you might have about our service.

The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied



warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely

Colin Godfrey  
Land Use Operations

Cc [commercialservices@naturalengland.org.uk](mailto:commercialservices@naturalengland.org.uk)

## **Annex 1**

### **European Protected Species**

A licence is required in order to carry out any works that involve certain activities such as capturing the animals, disturbance, or damaging or destroying their resting or breeding places. Note that damage or destruction of a breeding site or resting place is an absolute offence and unless the offences can be avoided (e.g. by timing the works appropriately), it should be licensed. In the first instance it is for the developer to decide whether a species licence will be needed. The developer may need to engage specialist advice in making this decision. A licence may be needed to carry out mitigation work as well as for impacts directly connected with a development. Further information can be found in Natural England's ['How to get a licence'](#) publication.

If the application requires planning permission, it is for the local planning authority to consider whether the permission would offend against Article 12(1) of the Habitats Directive, and if so, whether the application would be likely to receive a licence. This should be based on the advice Natural England provides at formal consultation on the likely impacts on favourable conservation status and Natural England's [guidance](#) on how the three tests (no alternative solutions, imperative reasons of overriding public interest and maintenance of favourable conservation status) are applied when considering licence applications.

Natural England's pre-submission Screening Service can screen application drafts prior to formal submission, whether or not the relevant planning permission is already in place. Screening will help applicants by making an assessment of whether the draft application is likely to meet licensing requirements, and, if necessary, provide specific guidance on how to address any shortfalls. The advice should help developers and ecological consultants to better manage the risks or costs they may face in having to wait until the formal submission stage after planning permission is secured, or in responding to requests for further information following an initial formal application.

The service will be available for new applications, resubmissions or modifications – depending on customer requirements. More information can be found on [Natural England's website](#).

**APPENDIX 3: Protected site citation sheets and information**

SITE NOTIFIED TO THE SECRETARY OF STATE ON 11 DECEMBER 1992

COUNTY: NORTHUMBERLAND, TYNE & WEAR      SITE NAME:  
NORTHUMBERLAND SHORE

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981, as amended.

Local Planning Authority: BERWICK UPON TWEED BOROUGH COUNCIL, Alnwick District Council, Castle Morpeth Borough Council, Wansbeck District Council, Blyth Valley Borough Council, North Tyneside Council, Tyne and Wear Development Corporation

National Grid Reference: NT 980575–NU 010525 & NU 165363–NZ 365685

Ordnance Survey Sheets 1:50,000: 75, 81, 88      125,000: NT 95, NU 05,  
NU 13, NU 23,  
NU 22, NU 21,  
NU 20, NZ 29,  
NZ 39, NZ 38

Area: 1925.8 (ha.) 47574 (ac.)

First Notified: 1992

#### Site Description and Reasons for Notification:

The Northumberland Shore includes most of the coastline between the Scottish border and the Tyne Estuary. This complements the Lindisfarne SSSI, which it abuts, in providing important wintering grounds for shore birds, and it is of international, or national significance for six species, purple sandpiper, turnstone, sanderling, golden plover, ringed plover and redshank.

The Northumberland shore consists largely of sandy bays separated by rocky headlands with wave-cut platforms, backed by dunes or soft and hard cliffs. Discrete areas of estuarine intertidal mudflats and saltmarsh are also included.

Annual counts carried out during the winters of 1983/84 to 1989/90 show that two species of shorebird are present in internationally important numbers (ie at least 1% of the East Atlantic Flyway population), turnstone (regularly over 1300) and purple sandpiper (regularly over 600). The populations of four other species regularly exceed 1% of the British wintering populations and thus are of national importance; i.e. 240 sanderling (1.6% of the British population), 37 ringed plover (1.6%), 1100 redshank (1.5%), and 3500 golden plover (1.8%).

These six wader species have varying habitat preferences. The purple sandpiper feeds almost exclusively on the extensive areas of inter-tidal rock platform, some flocks roost on man-made structures, with Blyth Pier regularly supporting over 250 birds. The sanderling and ringed plover typically utilise the sandy beaches such as Blyth South Beach and Druridge Bay. Turnstone and redshank are more generalised in their habitat choice. The former species tends to use the more rocky areas for feeding and especially for roosting, although it is commonly found along the seaweed-strewn strand-line of sandy beaches. Wintering redshank, occur in a wide range of coastal habitats and at various places also roost on nearby farmland. Golden plover make extensive, but intermittent use of many fields close to the foreshore in addition to their use of the inter-tidal area, however no agricultural land is included in the notified site. Along with other waders redshank and golden plover use the estuarine areas of the site.

The Northumberland Shore as a whole is used by a wide variety of other shorebirds in winter, including up to 400 curlew, 1000 oystercatcher, 2000 dunlin, 600 knot, 150 bar-tailed godwit and 4000 lapwing. Arctic and little terns breed on the shore during the summer. The inter-tidal zone is also favoured all year round as a feeding area for eiders, which are present along the coast in nationally important numbers and use the mudflats by the Coquet estuary as a feeding ground for their young.

Other Information:

1. The Northumberland Shore fulfils the criteria for listing as a wetland of International Importance under the Ramsar Convention and as a Special Protection Area (SPA) under the European Community Directive 79/409/EEC on the Conservation of Wild Birds.
2. This site overlaps with 11 other SSSIs, which are notified for a variety of special interests. These SSSIs, from north to south are: Bamburgh Coast and Hills, Newton Links, Castle Point to Cullernose Point, Howick to Seaton Point, Alnmouth Saltmarsh and Dunes, Warkworth Dunes and Saltmarsh, Low Hauxley Shore, Hadston Links, Cresswell Ponds, Cresswell and Newbiggin Shores and Tynemouth to Seaton Sluice.
3. The site abuts 3 further SSSIs: Burnmouth Coast in Scotland, the Tweed Estuary, which is of national importance for waterfowl populations, and Lindisfarne, which is notified for internationally important bird population and other interests. Lindisfarne is also a SPA and Ramsar site and part is managed as a National Nature Reserve by English Nature.
4. Between Budle Point and the Coquet Estuary the SSSI lies within the Northumberland Coast Area of Outstanding Natural Beauty and the North Northumberland Heritage Coast.
5. Part of the site falls within the Druridge Bay Country Park which is managed by Northumberland County Council.

Northumbria Shore SSSI



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# NATURA 2000

## STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

### 1. Site identification:

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

#### 1.5 Relationship with other Natura 2000 sites

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1.6 Respondent(s)

1.7 Site name

#### 1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	200002
date site designated as SAC	

### 2. Site location:

#### 2.1 Site centre location

longitude	latitude
01 35 18 W	55 27 58 N

2.2 Site area (ha)  2.3 Site length (km)

#### 2.5 Administrative region

NUTS code	Region name	% cover
UK112	Durham	5.00%
UK131	Northumberland	70.00%
UK132	Tyne and Wear	25.00%

#### 2.6 Biogeographic region

Alpine

Atlantic

Boreal

Continental

Macaronesia

Mediterranean

### 3. Ecological information:

#### 3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

#### 3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Code	Species name	Population			Site assessment				
		Resident	Migratory		Population	Conservation	Isolation	Global	
			Breed	Winter					Stage
A169	<i>Arenaria interpres</i>			1739 I		B		C	
A148	<i>Calidris maritima</i>			787 I		C		C	
A195	<i>Sterna albifrons</i>		40 P			C		C	

### 4. Site description:

#### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	2.5
Shingle. Sea cliffs. Islets	97.0
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	0.5
<b>Total habitat cover</b>	<b>100%</b>

#### 4.1 Other site characteristics

##### Soil & geology:

Boulder, Clay, Igneous, Limestone, Limestone/chalk, Metamorphic, Mud, Sand, Sandstone, Sandstone/mudstone, Sedimentary, Shingle

##### Geomorphology & landscape:

Cliffs, Coastal, Estuary, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Open coast (including bay), Pools



## 4.2 Quality and importance

### ARTICLE 4.1 QUALIFICATION (79/409/EEC)

**During the breeding season the area regularly supports:**

<i>Sterna albifrons</i> (Eastern Atlantic - breeding)	1.7% of the GB breeding population 5 year peak means 1992/3-1996/7
--	---

### ARTICLE 4.2 QUALIFICATION (79/409/EEC)

**Over winter the area regularly supports:**

<i>Arenaria interpres</i> (Western Palearctic - wintering)	2.6% of the East Atlantic Flyway population 5 year peak means 1992/3-1996/7
---	--

<i>Calidris maritima</i> (Eastern Atlantic - wintering)	1.6% of the East Atlantic Flyway population 5 year peak means 1992/3-1996/7
--	--

## 4.3 Vulnerability

Little terns are vulnerable to disturbance by tourists in the summer causing reduced breeding success. The National Trust employs wardens each summer to protect the little tern colony at Beadnell Bay.

## 5. Site protection status and relation with CORINE biotopes:

### 5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	100.0

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

---

## 1. Name and address of the compiler of this form:

### Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: [RIS@JNCC.gov.uk](mailto:RIS@JNCC.gov.uk)

FOR OFFICE USE ONLY.

DD MM YY

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Designation date

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Site Reference Number

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## 2. Date this sheet was completed/updated:

Designated: 02 February 2000

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## 3. Country:

UK (England)

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## 4. Name of the Ramsar site:

Northumbria Coast

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## 5. Designation of new Ramsar site or update of existing site:

**This RIS is for:** Updated information on an existing Ramsar site

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## 6. For RIS updates only, changes to the site since its designation or earlier update:

### a) Site boundary and area:

\*\* Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

### b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

---

**7. Map of site included:**

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

**a) A map of the site, with clearly delineated boundaries, is included as:**

- i) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) *Yes*
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* ☐;

**b) Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

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**8. Geographical coordinates (latitude/longitude):**

55 27 58 N                      01 35 18 W

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**9. General location:**

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Newcastle

The site comprises several discrete stretches of the coastline in north-east England, between Spittal in the north of Northumberland to an area just south of Blackhall Rocks in County Durham.

**Administrative region:** Durham; North Tyneside; Northumberland; South Tyneside; Sunderland; Tyne and Wear

---

**10. Elevation** (average and/or max. & min.) (metres):    **11. Area** (hectares): 1107.98

Min.	-1
Max.	8
Mean	0

---

**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Northumbria Coast Ramsar site comprises several discrete sections of rocky foreshore between Spittal, in the north of Northumberland, and an area just south of Blackhall Rocks in County Durham. These stretches of coast regularly support nationally important numbers of purple sandpiper and high concentrations of turnstone. The Ramsar site also includes an area of sandy beach at Low Newton, which supports an nationally important breeding colony of little tern, and parts of three artificial pier structures which form important roost sites for purple sandpiper.

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**13. Ramsar Criteria:**

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

**6**

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**14. Justification for the application of each Criterion listed in 13 above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

**Ramsar criterion 6 – species/populations occurring at levels of international importance.**

**Qualifying Species/populations (as identified at designation):**

**Species regularly supported during the breeding season:**

Little tern , *Sterna albifrons albifrons*, W Europe 43 apparently occupied nests, representing an average of 2.2% of the GB population (Seabird 2000 Census)

**Species with peak counts in winter:**

Purple sandpiper , *Calidris maritima maritima*, E Atlantic -wintering 291 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-2002/3)

Ruddy turnstone , *Arenaria interpres interpres*, NE Canada, Greenland/W Europe & NW Africa 978 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See [www.bto.org/survey/webs/webs-alerts-index.htm](http://www.bto.org/survey/webs/webs-alerts-index.htm).

**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

Atlantic

**b) biogeographic regionalisation scheme** (include reference citation):

Council Directive 92/43/EEC

**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	acidic, basic, neutral, shingle, sand, igneous, sedimentary, sandstone, metamorphic, slate/shale, limestone/chalk, clay, gravel
Geomorphology and landscape	coastal, crags/ledges, open coast (including bay), cliffs, pools, intertidal rock
Nutrient status	no information
pH	no information
Salinity	saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent

Summary of main climatic features	Annual averages (Boulmer, 1971–2000) ( <a href="http://www.metoffice.com/climate/uk/averages/19712000/sites/boulmer.html">www.metoffice.com/climate/uk/averages/19712000/sites/boulmer.html</a> ) Max. daily temperature: 11.9° C Min. daily temperature: 5.6° C Days of air frost: 34.5 Rainfall: 651.0 mm Hrs. of sunshine: 1540.4
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**General description of the Physical Features:**

The Northumbria Coast includes much of the coastline between the Tweed and Tees estuaries, consisting of mainly discrete sections of rocky shore with associated boulder and cobble beaches. The site also includes parts of three artificial pier structures and a small section of sandy beach.

**17. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Northumbria Coast includes much of the coastline between the Tweed and Tees estuaries, consisting of mainly discrete sections of rocky shore with associated boulder and cobble beaches. The site also includes parts of three artificial pier structures and a small section of sandy beach.

**18. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping

**19. Wetland types:**

Marine/coastal wetland

Code	Name	% Area
D	Rocky shores	96
E	Sand / shingle shores (including dune systems)	3.3
Other	Other	0.5
M	Rivers / streams / creeks: permanent	0.2

**20. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The site consists mainly of areas of rocky shore with associated boulder and cobble beaches. These support a rich algal flora and associated fauna and form an important feeding area for wading birds. The areas of sandy beach within the site support a flora which includes marram *Ammophila arenaria* and sea sandwort *Honkenya peploides*.

Ecosystem services

**21. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

None reported

**22. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

**Birds****Species currently occurring at levels of national importance:****Species regularly supported during the breeding season:**

Great cormorant , *Phalacrocorax carbo carbo*, 248 apparently occupied nests, representing an average of 2.9% of the GB population (Seabird NW Europe 2000 Census)

Black-legged kittiwake , *Rissa tridactyla tridactyla*, E Atlantic 4070 apparently occupied nests, representing an average of 1.1% of the GB population (Seabird 2000 Census)

Arctic tern , *Sterna paradisaea*, Europe/N Atlantic 1200 apparently occupied nests, representing an average of 2.2% of the GB population (Seabird 2000 Census)

**Species with peak counts in spring/autumn:**

European golden plover , *Pluvialis apricaria apricaria*, P. a. altifrons Iceland & Faroes/E Atlantic 2911 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)

**Species with peak counts in winter:**

Common eider , *Somateria mollissima mollissima*, NW Europe 1361 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)

Sanderling , *Calidris alba*, Eastern Atlantic 419 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9-2002/3)

**Species Information**

None reported

**23. Social and cultural values:**

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic  
 Environmental education/ interpretation  
 Non-consumptive recreation  
 Other  
 Scientific research  
 Sport fishing  
 Tourism  
 Transportation/navigation

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

**24. Land tenure/ownership:**

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate		+
Private	+	+
Public/communal		+

**25. Current land (including water) use:**

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	
Collection of non-timber natural products: (unspecified)	+	+
Fishing: (unspecified)	+	+
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Marine/saltwater aquaculture		+
Gathering of shellfish	+	+
Shell collection	+	+
Bait collection	+	+
Arable agriculture (unspecified)		+
Permanent arable agriculture		+
Grazing (unspecified)		+
Hay meadows		+
Industry		+
Sewage treatment/disposal	+	+
Harbour/port	+	+
Urban development		+
Non-urbanised settlements		+

**26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:**

Explanation of reporting category:

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA				

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

**27. Conservation measures taken:**

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	+
Site management statement/plan implemented	+	
Area of Outstanding National Beauty (AONB)	+	+
Special Area of Conservation (SAC)	+	

**b)** Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

**29. Current scientific research and facilities:**

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Fauna:



Monitoring of bird populations

**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

None reported

**31. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

A diverse range of recreational activities takes place along the coast including walking, camping, sea angling, bird watching, water sports (water-skiing, sailing, windsurfing and canoeing) and general use of amenity beaches. Bird watching is particularly popular at Druridge Bay where there is a Country Park and a number of Nature Reserves. As well as attracting a large number of day trippers, a sizable population of summer visitors stay in caravan sites and other accommodation along the coast.

**32. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs, European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6EB

**33. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House, Northminster Road, Peterborough, PE1 1UA, UK

**34. Bibliographical references:**

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

**Site-relevant references**

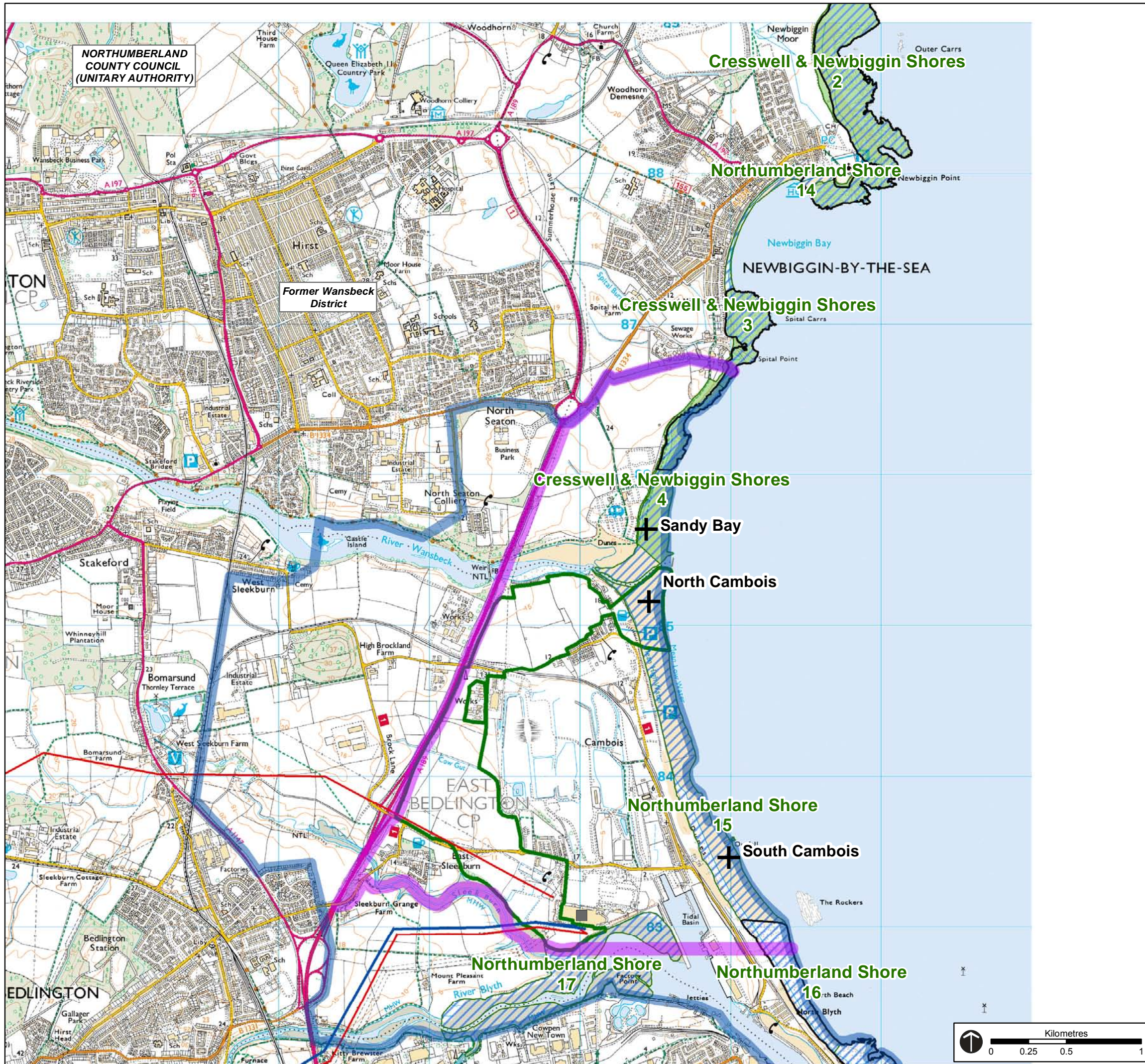
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Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)

**DRAWINGS**



**Key**

**Existing Infrastructure**

- Existing National Grid Substation
- Existing 400kV Overhead Line
- Existing 275kV Overhead Line
- Local Authority Boundary

**Potential Development**

- Potential Landfall

**Nature Conservation Designations**

- Northumbria Coast Ramsar / SPA
- Cresswell & Newbiggin Shores SSSI
- Northumberland Shore SSSI

**Survey Areas**

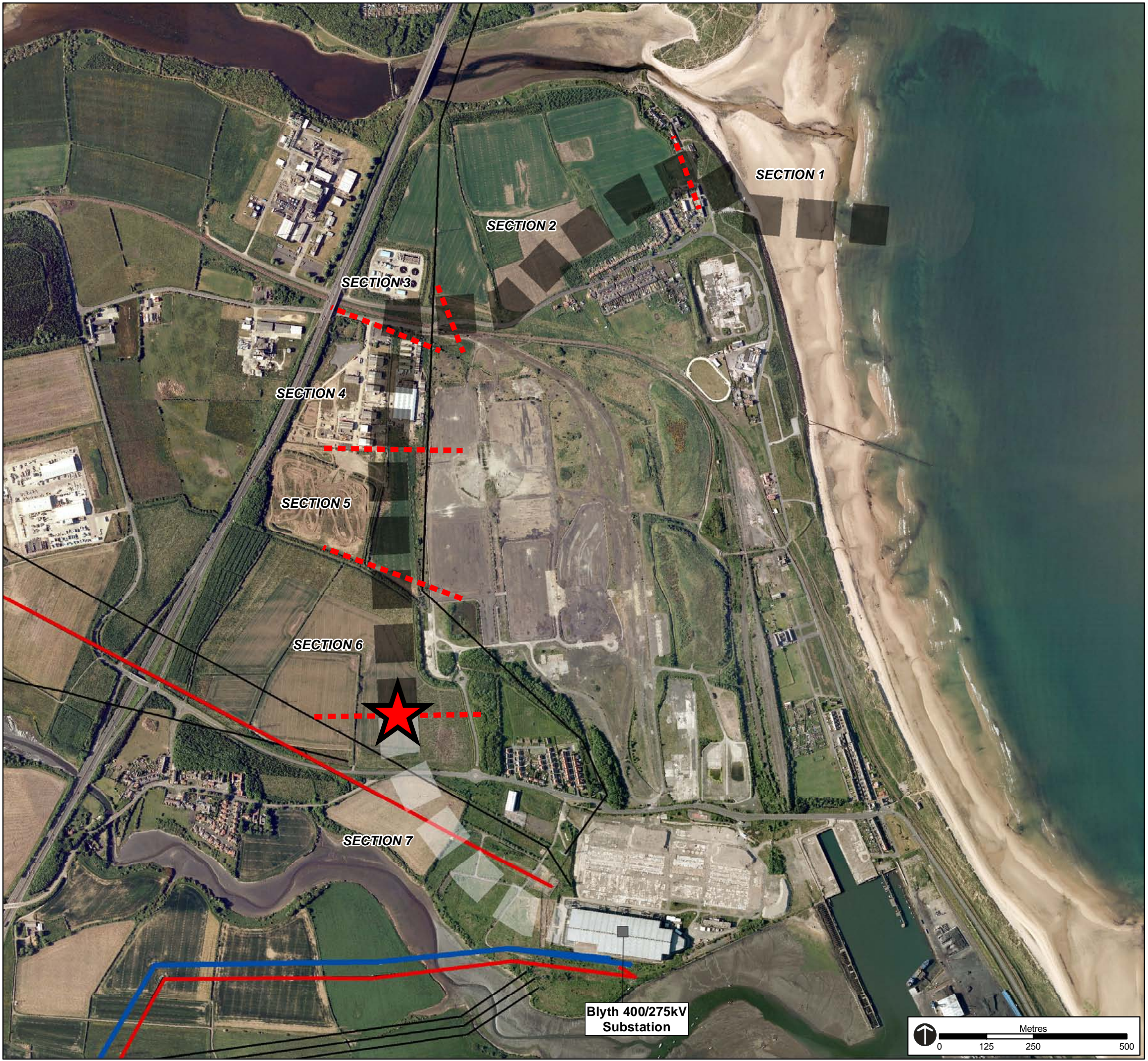
- Extent of NSN Winter Bird Survey (TEP 2012)
- Blyth - Cambois Wader Study (SKM Enviros 2011)
- Extent of the Corridor Route Survey








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**TEP** Genesis Centre  
 Birchwood Science Park  
 Warrington WA3 7BH  
 Tel 01925 844004  
 Fax 01925 844002  
 email tep@tep.uk.com

Project:	<b>NSN</b>	
Title:	<b>Extent of Winter Bird Survey 2012</b>	
Drawing No:	<b>G2336.056</b>	
Date:	11-12-12	TEP Ref No: G2336.056
Drawn:	Checked:	Approved:
CB	JB	IJG



- Key**
- Existing Infrastructure**
-  Existing National Grid Substation
  -  Existing 400kV Overhead Line
  -  Existing 275kV Overhead Line
  -  Existing 132kV or less Overhead Line
- Proposed Infrastructure**
-  Proposed Converter Station Site
  -  Proposed HVDC Cable Route
  -  Proposed HVAC Cable Route

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 - English Heritage  
 - National Grid

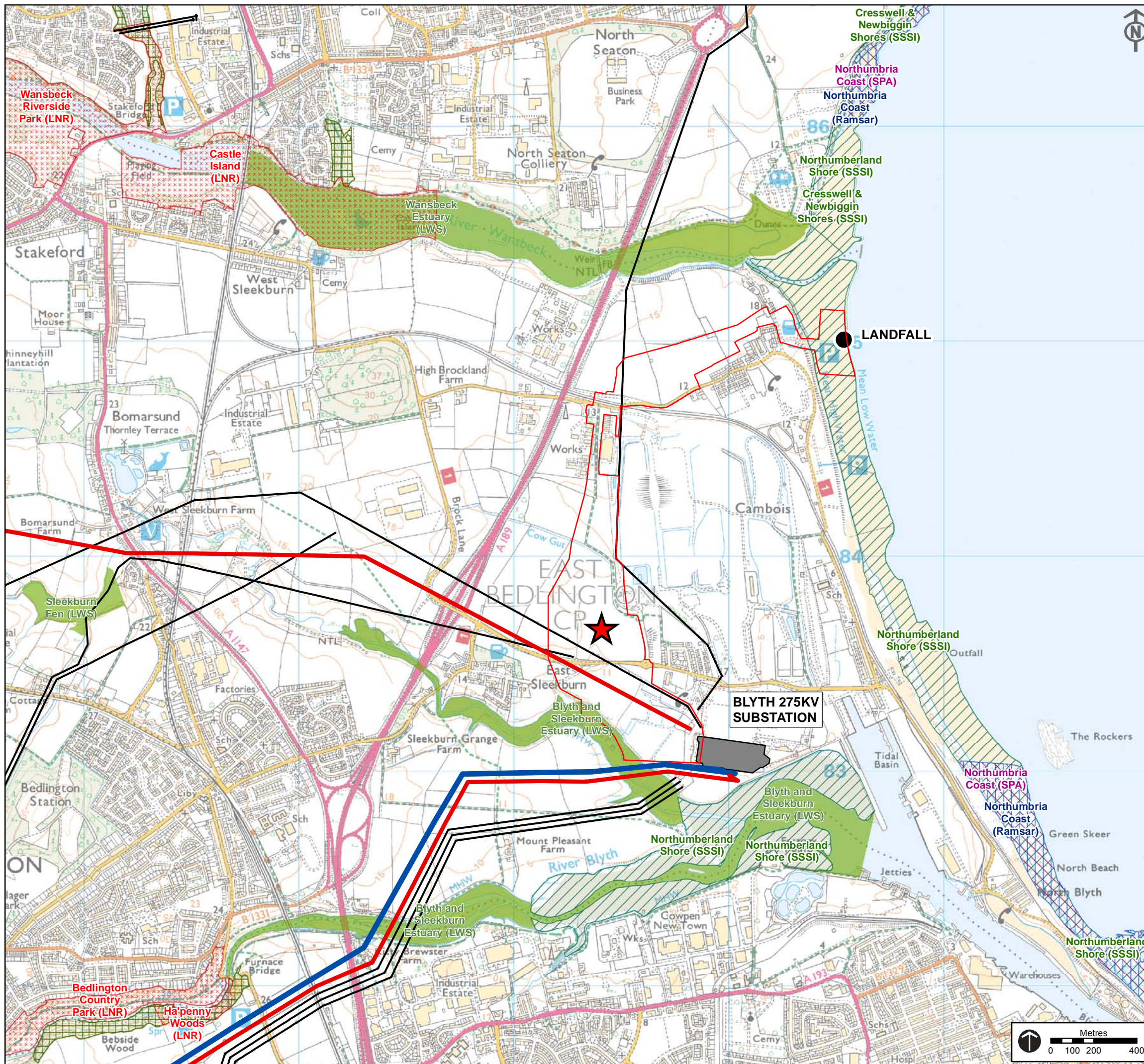
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Genesis Centre  
 Birchwood Science Park  
 Warrington WA3 7BH  
 Tel 01925 844004  
 Fax 01925 844002  
 email tep@tep.uk.com

Project:		<b>NSN</b>	
Title:		<b>NSN Landfall and Cable Route</b>	
Drawing No:		<b>G2336.085D</b>	
Date:	14-11-2013	TEP Ref No:	G2336.085D
Drawn:	DH	Checked:	JB
		Approved:	JB



**Key**

- Proposed Converter Station Site
- Proposed Landfall
- Red Line Boundary

**Existing Infrastructure**

- Existing 400kV Overhead Line
- Existing 275kV Overhead Line
- Existing 132kV or less Overhead Line
- Existing National Grid Substation

**Environmental Constraints**

- Ramsar
- Special Protection Area
- Site of Special Scientific Interest (SSSI)
- Local Nature reserve (LNR)
- Ancient Woodland
- Northumberland Local Wildlife Sites

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ISSUE	DATE	COMMENTS	DRAW	CHKD	APP'D
A	10/02/2014	DRAFT ISSUE FOR COMMENT	MK	CB	JB

Genesis Centre  
 Birchwood Science Park  
 Warrington WA3 7BH  
 Tel 01925 844004  
 Fax 01925 844002  
 email tep@tep.uk.com



Project:	<b>NSN LINK</b>	
Title:	<b>STATUTORY AND NON-STATUTORY NATURE CONSERVATION SITES</b>	
Drawing No:	<b>FIGURE 2</b>	
Date:	10-02-2014	TEP Ref No: G2336.173
Drawn:	Checked:	Approved:
MK	CB	LS

- CA Cormorant
- CU Curlew
- E Eider
- GP Golden Plover
- HS House Sparrow
- K Kestrel
- M Mistle Thrush
- OC Oystercatcher
- RE Redwing
- RK Redshank
- RP Ringed Plover
- SG Starling
- SS Sanderling
- TT Turnstone



**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- = Alarm call
- Calling
- ♀ Female
- Directional flight line

**SPA/SSSI Species\***

- Green SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Schedule 1 Species
- ★ Section 41 Species
- Red Red List Species
- Amber Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project: NSN				
Title: Winter Bird Survey - Visit 1 22/10/12 High Tide				
Map No. G2336.130		Scale: 1:14,792 @ A3		
Date: 05/07/13		Approved: TR		
Drawn: CM	Checked: TR			

- BA Bar-tailed Godwit
- BZ Buzzard
- CA Cormorant
- CH Chaffinch
- CU Curlew
- CX Common Scoter
- FF Fieldfare
- GA Gadwall
- GN Goldeneye
- GP Golden Plover
- GB Great Black-backed Gull
- HS House Sparrow
- MA Mallard
- MP Meadow Pipit
- MS Mute Swan
- OC Oystercatcher
- PE Peregrine
- PG Pink-footed Goose
- RE Redwing
- RH Red-throated Diver
- RK Redshank
- RM Red-breasted Merganser
- RP Ringed Plover
- SA Shag
- SG Starling
- SS Sanderling
- TT Turnstone
- Y Yellowhammer



**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Directional flight line

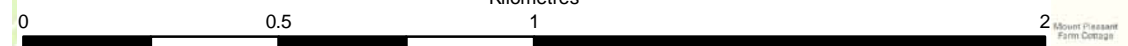
**SPA/SSSI Species\***

- SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Schedule 1 Species
- ★ Section 41 Species
- ★ Section 41 & Schedule 1 Species
- Red List Species
- Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species



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Project: NSN				
Title: Winter Bird Survey - Visit 2 07/12/12 High Tide				
Map No. G2336.131				
Scale: 1:14,792 @ A3		Date: 12/11/13		
Drawn: CM	Checked: TR	Approved: TR		



- B Blackbird
- BF Bullfinch
- BL Brambling
- BZ Buzzard
- CA Cormorant
- CH Chaffinch
- CM Common Gull
- CU Curlew
- CX Common Scoter
- E Eider
- GB Great Black-backed Gull
- GP Golden Plover
- HG Herring Gull
- HS House Sparrow
- K Kestrel
- L Lapwing
- MA Mallard
- MP Meadow Pipit
- MS Mute Swan
- OC Oystercatcher
- R Robin
- RE Redwing
- RK Redshank
- RM Red-breasted Merganser
- RP Ringed Plover
- SA Shag
- SG Starling
- SK Siskin
- SN Snipe
- SS Sanderling
- ST Song Thrush
- SW Sedge Warbler
- TT Turnstone
- WP Woodpigeon
- WR Wren



**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Directional flight line

**SPA/SSSI Species\***

- SPA/SSSI Species

**Non- SPA/SSSI Species**

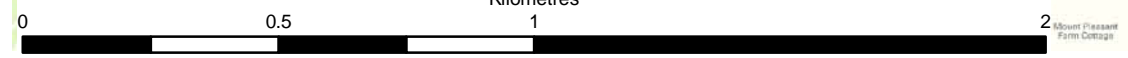
- ★ Schedule 1 Species
- ★ Section 41 Species
- ★ Section 41 & Schedule 1 Species
- Red List Species
- Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

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NSN				
<b>Title:</b>				
Winter Bird Survey - Visit 3 21/12/12 High Tide				
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G2336.132				
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1:14,792 @ A3				12/11/13
<b>Drawn:</b>	<b>Checked:</b>	<b>Approved:</b>		
CM	TR	TR		



- B Blackbird
- BA Bar-tailed Godwit
- BE Bean Goose
- BH Black-headed Gull
- BT Blue Tit
- C Carrion Crow
- CA Cormorant
- CD Collared Dove
- CH Chaffinch
- CM Common Gull
- CU Curlew
- D Dunnock
- DN Dunlin
- E Eider
- FF Fieldfare
- FP Feral Pigeon
- GA Gadwall
- GB Great Black-backed Gull
- GJ Greylag Goose
- GK Greenshank
- GL Grey Wagtail
- GO Goldfinch
- GR Greenfinch
- GT Great Tit
- GV Grey Plover
- H Grey Heron
- HG Herring Gull
- HS House Sparrow
- JD Jackdaw
- K Kestrel
- KI Kittiwake
- MG Magpie
- MP Meadow Pipit
- MS Mute Swan
- OC Oystercatcher
- PH Pheasant
- PW Pied Wagtail
- R Robin
- RB Reed Bunting
- RE Redwing
- RK Redshank

- RM Red-breasted Merganser
- RU Ruff
- S Skylark
- SG Starling
- SS Sanderling
- TS Tree Sparrow
- TT Turnstone
- WP Woodpigeon
- WR Wren



### Key

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Calling
- ♀ Female
- ♂ Male and female
- ♂ Male
- Singing
- Directional flight line

#### SPA/SSSI Species\*

- Green SPA/SSSI Species

#### Non- SPA/SSSI Species

- ★ Schedule 1 Species
- ★ Section 41 Species
- Red Red List Species
- Amber Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

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Project: NSN				
Title: Winter Bird Survey - Visit 4 21/01/13 High Tide				
Map No. G2336.133				
Scale: 1:14,792 @ A3		Date: 12/11/13		
Drawn: CM	Checked: TR	Approved: TR		

- B Blackbird
- BA Bar-tailed Godwit
- BH Black-headed Gull
- BT Blue Tit
- C Carrion Crow
- CA Cormorant
- CD Collared Dove
- CH Chaffinch
- CM Common Gull
- CU Curlew
- D Dunnock
- E Eider
- FF Fieldfare
- FP Feral Pigeon
- GB Great Black-backed Gull
- GO Goldfinch
- GT Great Tit
- H Grey Heron
- HG Herring Gull
- HS House Sparrow
- JD Jackdaw
- K Kestrel
- LR Lesser Redpoll
- M Mistle Thrush
- MA Mallard
- MG Magpie
- MS Mute Swan
- OC Oystercatcher
- P Grey Partridge
- PG Pink-footed Goose
- PW Pied Wagtail
- R Robin
- RB Reed Bunting
- RK Redshank
- RM Red-breasted Merganser
- RP Ringed Plover
- S Skylark
- SG Starling
- SS Sanderling
- ST Song Thrush
- SU Shelduck

- TS Tree Sparrow
- WP Woodpigeon
- WR Wren
- Y Yellowhammer



**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Alarm call
- Calling
- Singing
- Directional flight line

**SPA/SSSI Species\***

- SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Section 41 Species
- ★ Red List Species
- ★ Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

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Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com				
<b>Project:</b>				
NSN				
<b>Title:</b>				
Winter Bird Survey - Visit 5 21/02/13 High Tide				
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G2336.135				
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CM	TR	TR		

- B Blackbird
- BH Black-headed Gull
- BT Blue Tit
- C Carrion Crow
- CA Cormorant
- CD Collared Dove
- CH Chaffinch
- CM Common Gull
- CU Curlew
- DN Dunlin
- E Eider
- FP Feral Pigeon
- GA Gadwall
- GB Great Black-backed Gull
- GE Green Sandpiper
- HG Herring Gull
- HS House Sparrow
- JD Jackdaw
- K Kestrel
- L Lapwing
- MA Mallard
- MG Magpie
- MS Mute Swan
- OC Oystercatcher
- PH Pheasant
- R Robin
- RK Redshank
- RP Ringed Plover
- SG Starling
- SS Sanderling
- ST Song Thrush
- SU Shelduck
- TS Tree Sparrow
- TT Turnstone
- WP Woodpigeon



**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Directional flight line

**SPA/SSSI Species\***

- SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Section 41 Species
- ★ Schedule 1 Species
- Red List Species
- Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species




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Project: NSN				
Title: Winter Bird Survey - Visit 6 23/03/13 High Tide				
Map No. G2336.136				
Scale: 1:14,792 @ A3		Date: 12/11/13		
Drawn: CM	Checked: TR	Approved: TR		

OC Oystercatcher  
SS Sanderling

**Key**

-  Site of Special Scientific Interest (SSSI)
-  Special Protection Area (SPA)
-  Calling

**SPA/SSSI Species\***


**Green** SPA/SSSI Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species



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Rev	Description	Dwn	Appvd	Date
 <p>Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com</p>				
Project: NSN				
Title: Winter Bird Survey - Visit 1 22/10/12 Low Tide				
Map No.		G2336.137		
Scale: 1:14,792 @ A3			Date: 12/11/13	
Drawn: CM	Checked: TR	Approved: TR		

0 0.5 1 2 Kilometres

- CA Cormorant
- CX Common Scoter
- E Eider
- K Kestrel
- OC Oystercatcher
- RK Redshank
- RM Red-breasted Merganser
- SA Shag
- SS Sanderling
- VS Velvet Scoter

**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Directional flight line

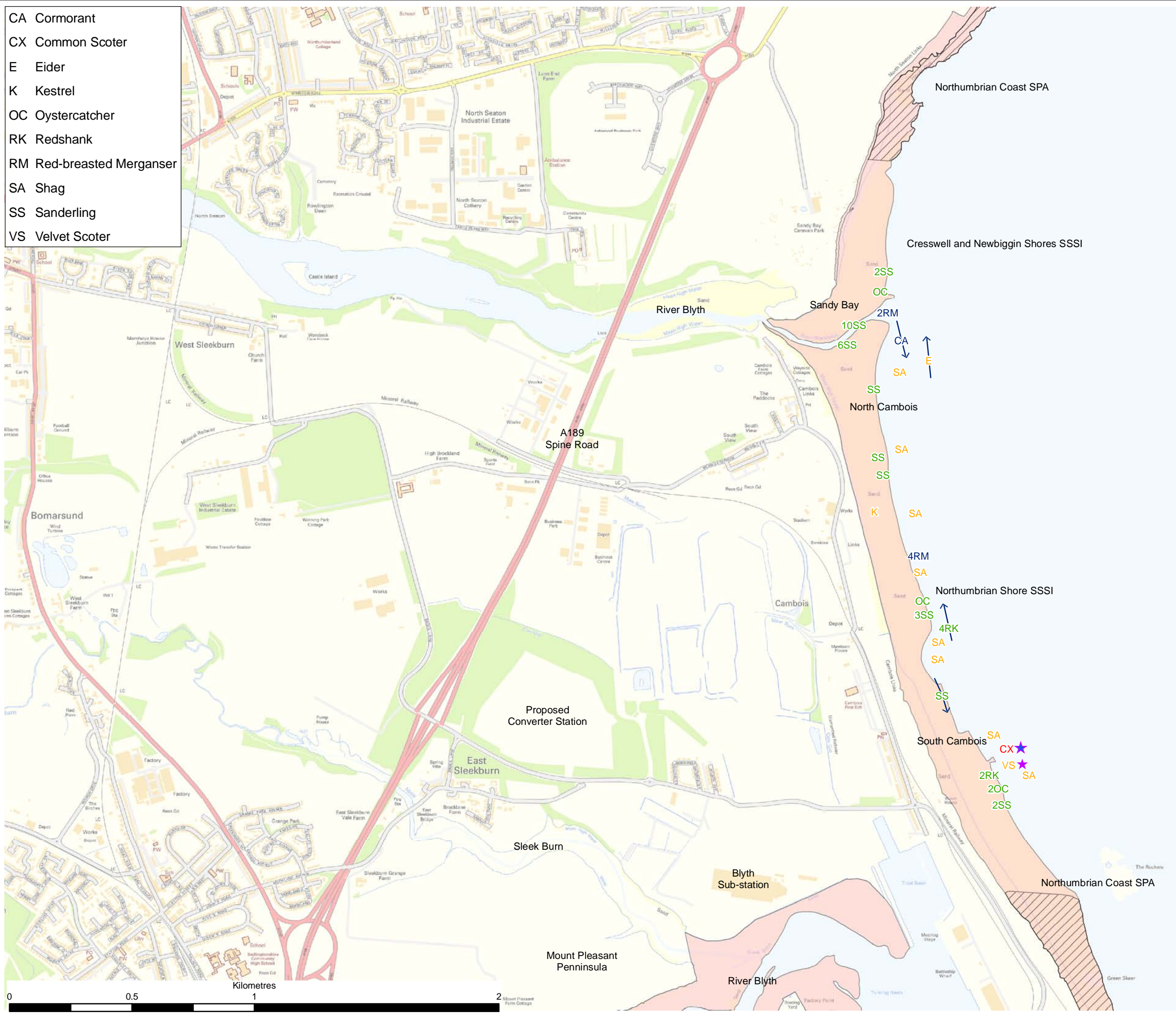
**SPA/SSSI Species\***

Green SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Schedule 1 Species
- ★ Section 41 & Schedule 1 Species
- ★ Red List Species
- ★ Amber List Species

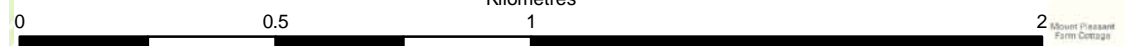
\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species



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Rev	Description	Dwn	Appvd	Date
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Project: NSN				
Title: Winter Bird Survey - Visit 2 06/12/12 Low Tide				
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Scale: 1:14,792 @ A3		Date: 12/11/13		
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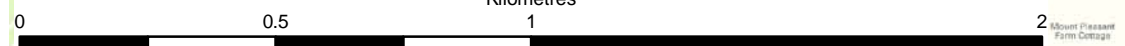


- CX Common Scoter
- E Eider
- GV Grey Plover
- OC Oystercatcher
- RH Red-throated Diver
- RK Redshank
- RM Red-breasted Merganser
- SA Shag
- SS Sanderling
- TT Turnstone

- Key**
- Site of Special Scientific Interest (SSSI)
  - Special Protection Area (SPA)
  - Directional flight line

- SPA/SSSI Species\***
- SPA/SSSI Species
- Non- SPA/SSSI Species**
- ★ Schedule 1 Species
  - ★ Section 41 & Schedule 1 Species
  - Red List Species
  - Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species



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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project:				
NSN				
Title:				
Winter Bird Survey - Visit 3 Low Tide				
Map No.				
G2336.139				
Scale:				Date:
1:14,792 @ A3				12/11/13
Drawn:	Checked:	Approved:		
CM	TR	TR		

- BH Black-headed Gull
- C Carrion Crow
- CA Cormorant
- CM Common Gull
- CU Curlew
- GB Great Black-backed Gull
- HG Herring Gull
- OC Oystercatcher
- RK Redshank
- RM Red-breasted Merganser
- SS Sanderling

- Key**
- Site of Special Scientific Interest (SSSI)
  - Special Protection Area (SPA)
  - Directional flight line

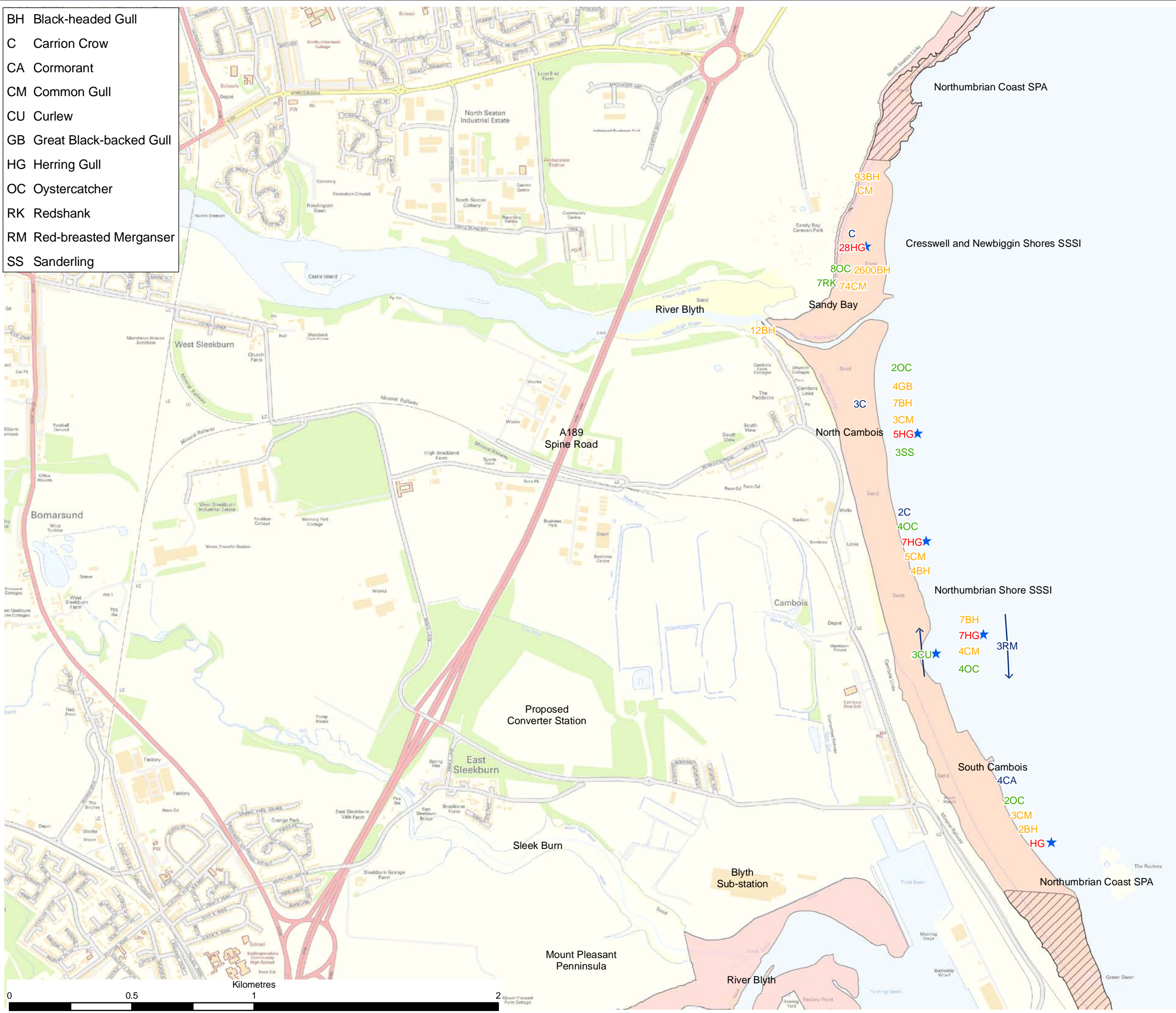
**SPA/SSSI Species\***

Green SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Section 41 Species
- Red Red List Species
- Amber Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species



0 0.5 1 2 Kilometres

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Rev	Description	Dwn	Appvd	Date
	<div style="display: inline-block; vertical-align: middle; margin-left: 10px;">           Genesis Centre            Birchwood Science Park            Warrington WA3 7BH            Tel 01925 844004            Fax 01925 844002            email tep@tep.uk.com         </div>			
<b>Project:</b>				
NSN				
<b>Title:</b>				
Winter Bird Survey - Visit 4 24/01/13 Low Tide				
<b>Map No.</b>		G2336.140		
<b>Scale:</b>		1:14,792 @ A3		<b>Date:</b>
				12/11/13
<b>Drawn:</b>	CM	<b>Checked:</b>	TR	<b>Approved:</b>
				TR



- BH Black-headed Gull
- CA Cormorant
- CM Common Gull
- CU Curlew
- D Dunnock
- E Eider
- GB Great Black-backed Gull
- HG Herring Gull
- JD Jackdaw
- SG Starling
- SS Sanderling
- ST Song Thrush
- WR Wren

- Key**
- Site of Special Scientific Interest (SSSI)
  - Special Protection Area (SPA)
  - Singing

**SPA/SSSI Species\***

■ SPA/SSSI Species

**Non- SPA/SSSI Species**

★ Section 41 Species

■ Red List Species

■ Amber List Species

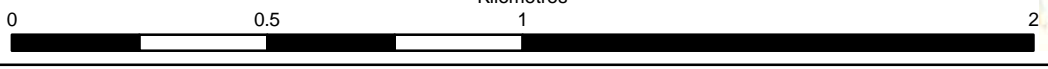
\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species



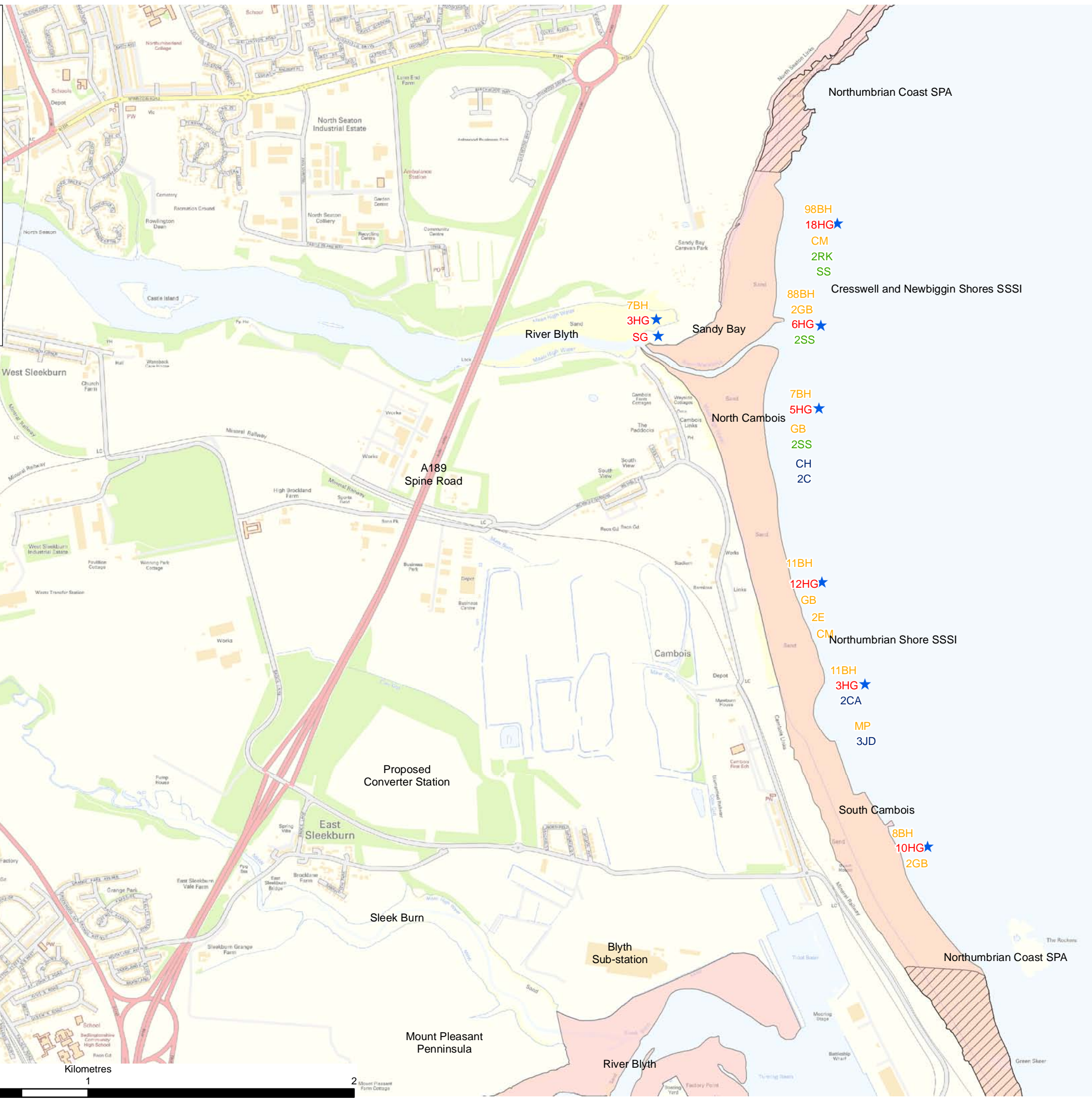
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	<div style="display: inline-block; vertical-align: middle; margin-left: 10px;">           Genesis Centre            Birchwood Science Park            Warrington WA3 7BH            Tel 01925 844004            Fax 01925 844002            email tep@tep.uk.com         </div>			
<b>Project:</b>				
NSN				
<b>Title:</b>				
Winter Bird Survey - Visit 5 22/02/12 Low Tide				
<b>Map No.</b>		G2336.141		
<b>Scale:</b>		1:14,792 @ A3		<b>Date:</b>
				12/11/13
<b>Drawn:</b>	CM	<b>Checked:</b>	TR	<b>Approved:</b>
				TR



- BH Black-headed Gull
- C Carrion Crow
- CA Cormorant
- CH Chaffinch
- CM Common Gull
- E Eider
- GB Great Black-backed Gull
- HG Herring Gull
- JD Jackdaw
- MP Meadow Pipit
- RK Redshank
- SG Starling
- SS Sanderling



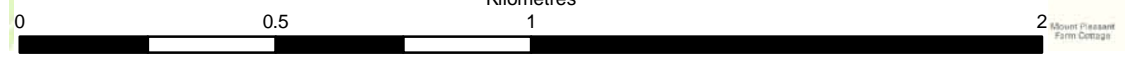
- Key**
- Site of Special Scientific Interest (SSSI)
  - Special Protection Area (SPA)

**SPA/SSSI Species\***

Green SPA/SSSI Species

- Non- SPA/SSSI Species**
- ★ Section 41 Species
  - Red Red List Species
  - Amber Amber List Species

\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

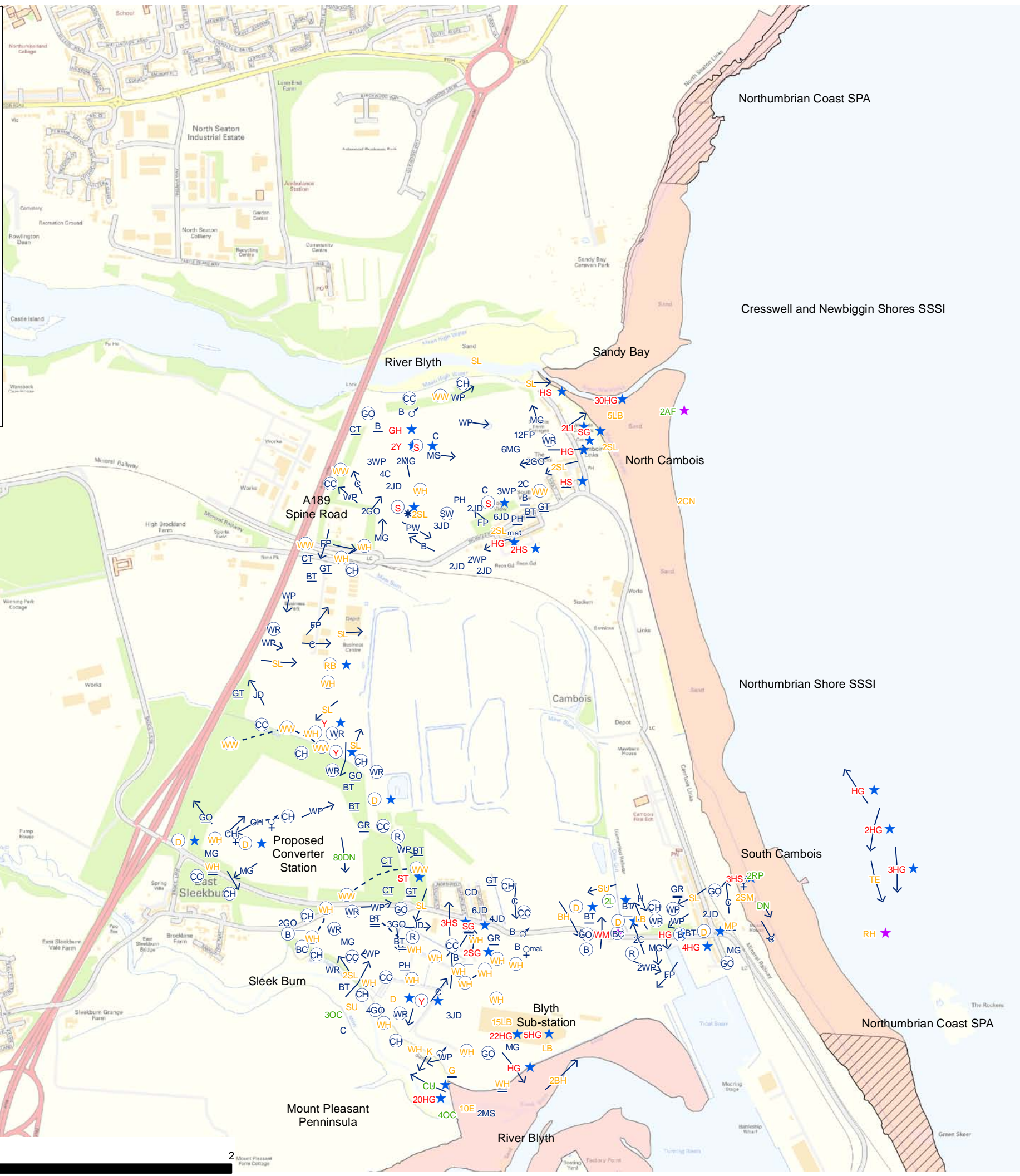


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<b>Project:</b>				
NSN				
<b>Title:</b>				
Winter Bird Survey - Visit 6 24/03/13 Low Tide				
<b>Map No.</b>		G2336.142		
<b>Scale:</b>		1:14,792 @ A3		<b>Date:</b>
				12/11/13
<b>Drawn:</b>	CM	<b>Checked:</b>	TR	<b>Approved:</b>
				TR

- AF Little Tern
- B Blackbird
- BC Blackcap
- BH Black-headed Gull
- BT Blue Tit
- C Carrion Crow
- CC Chiffchaff
- CD Collared Dove
- CH Chaffinch
- CN Common Tern
- CT Coal Tit
- CU Curlew
- D Dunnock
- DN Dunlin
- E Eider
- FP Feral Pigeon
- G Green Woodpecker
- GH Grasshopper Warbler
- GO Goldfinch
- GR Greenfinch
- GT Great Tit
- H Grey Heron
- HG Herring Gull
- HS House Sparrow
- JD Jackdaw
- K Kestrel
- L Lapwing
- LB Lesser Black backed Gull
- LI Linnet
- MG Magpie
- MP Meadow Pipit
- MS Mute Swan
- OC Oystercatcher
- PH Pheasant
- PW Pied Wagtail
- R Robin
- RB Reed Bunting
- RH Red-throated Diver
- RP Ringed Plover
- S Skylark
- SG Starling
- SL Swallow
- SM Sand Martin
- ST Song Thrush
- SU Shelduck
- SW Sedge Warbler
- TE Sandwich Tern
- WH Whitethroat
- WM Whimbrel
- WP Woodpigeon
- WR Wren
- WW Willow Warbler
- Y Yellowhammer



**Key**

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Alarm call
- Calling
- mat Carrying Nest Material
- \* Occupied nest
- Singing
- ♀ Female
- ♂ Male and Female
- ♂ Male

**SPA/SSSI Species\***

- Green SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Schedule 1 Species
- ★ Section 41 Species
- Red Red List Species
- Amber Amber List Species

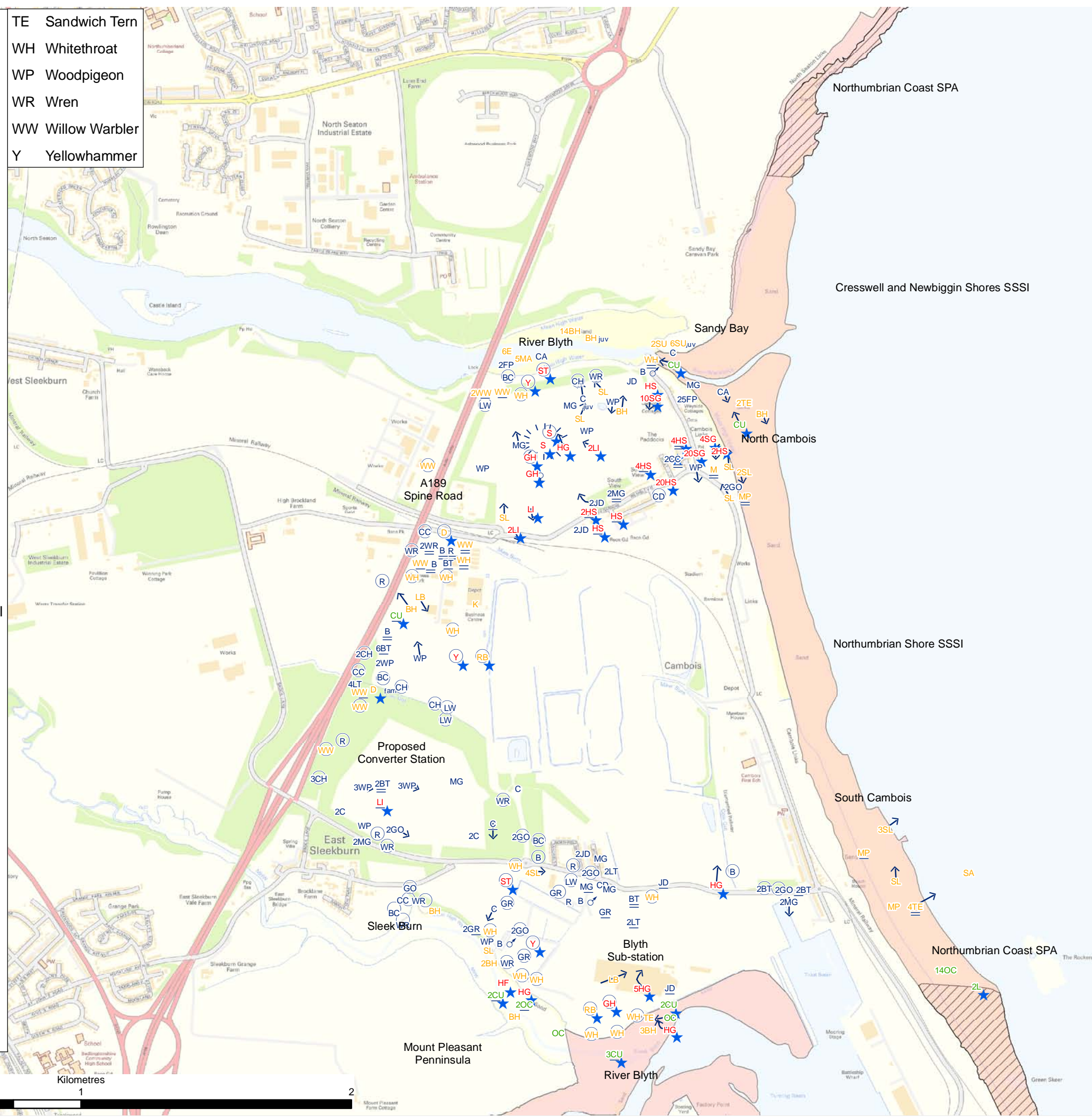
\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

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		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
<b>Project:</b>				
NSN				
<b>Title:</b>				
Breeding Birds Survey - Visit 1 16/05/13				
<b>Map No.</b>				
G2336.148				
<b>Scale:</b>				<b>Date:</b>
1:14,792 @ A3				05/07/13
<b>Drawn:</b>	<b>Checked:</b>	<b>Approved:</b>		
CM	TR	TR		

- B Blackbird
- BC Blackcap
- BH Black-headed Gull
- BT Blue Tit
- C Carrion Crow
- CA Cormorant
- CC Chiffchaff
- CD Collared Dove
- CH Chaffinch
- CU Curlew
- D Dunnock
- E Eider
- FP Feral Pigeon
- GH Grasshopper Warbler
- GO Goldfinch
- GR Greenfinch
- HF Hawfinch
- HG Herring Gull
- HS House Sparrow
- JD Jackdaw
- K Kestrel
- L Lapwing
- LB Lesser Black backed Gull
- LI Linnet
- LT Long-tailed Tit
- LW Lesser Whitethroat
- M Mistle Thrush
- MA Mallard
- MG Magpie
- MP Meadow Pipit
- OC Oystercatcher
- R Robin
- RB Reed Bunting
- S Skylark
- SA Shag
- SG Starling
- SL Swallow
- ST Song Thrush
- SU Shelduck
- TE Sandwich Tern
- WH Whitethroat
- WP Woodpigeon
- WR Wren
- WW Willow Warbler
- Y Yellowhammer



### Key

- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Aggressive Encounter
- Alarm call
- Calling
- Singing
- Family
- Female
- Juvenile
- Male
- Directional flight line

**SPA/SSSI Species\***

■ SPA/SSSI Species

**Non- SPA/SSSI Species**

- ★ Section 41 Species
- Red List Species
- Amber List Species

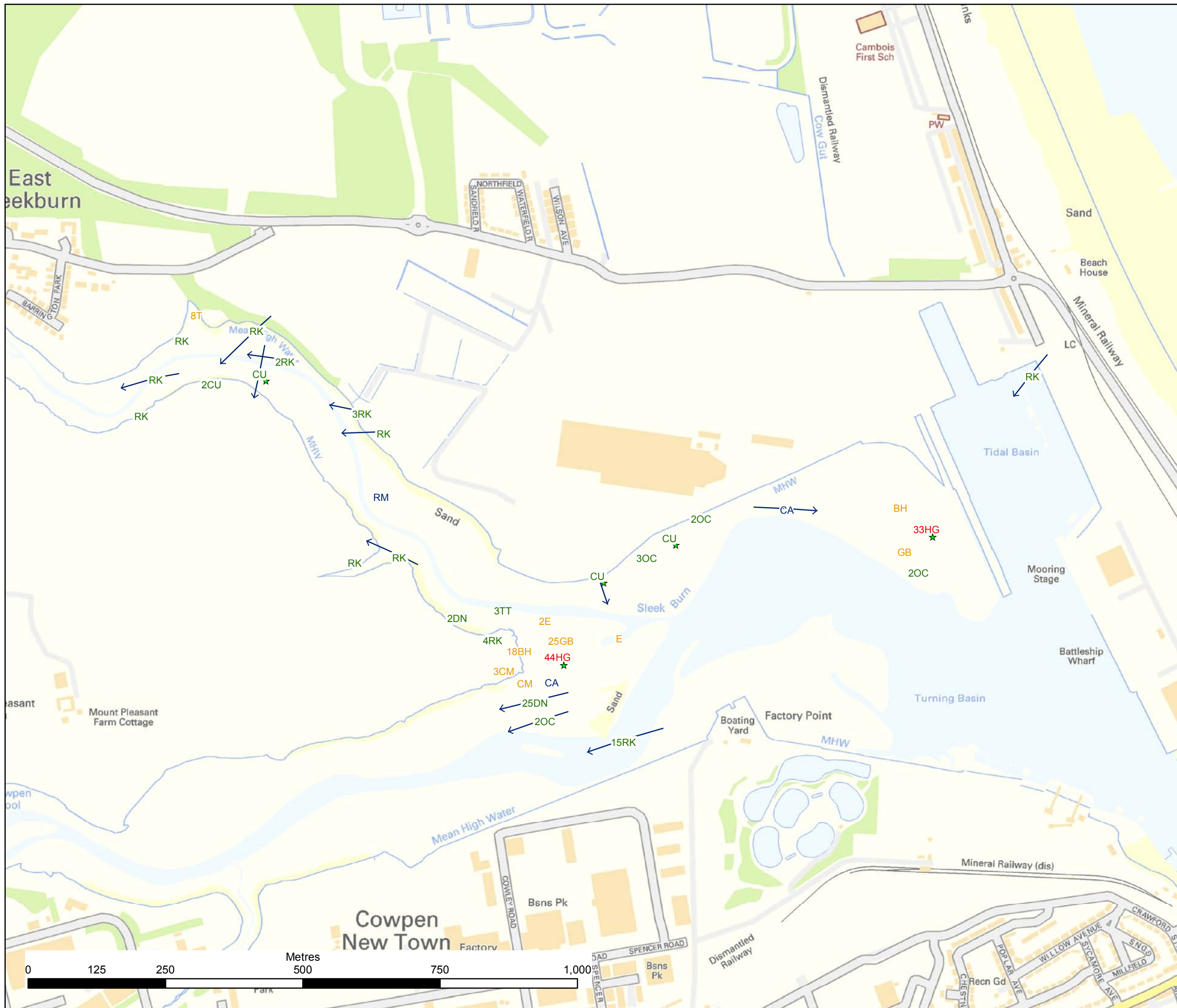
\*The SPA/SSSI species may also be listed under other conservation criteria e.g. red list species

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		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
<b>Project:</b>				
NSN				
<b>Title:</b>				
Breeding Birds Survey - Visit 2 26/06/13				
<b>Map No.</b>				
G2336.149				
<b>Scale:</b>				<b>Date:</b>
1:14,792 @ A3				05/07/13
<b>Drawn:</b>	<b>Checked:</b>	<b>Approved:</b>		
CM	TR	TR		






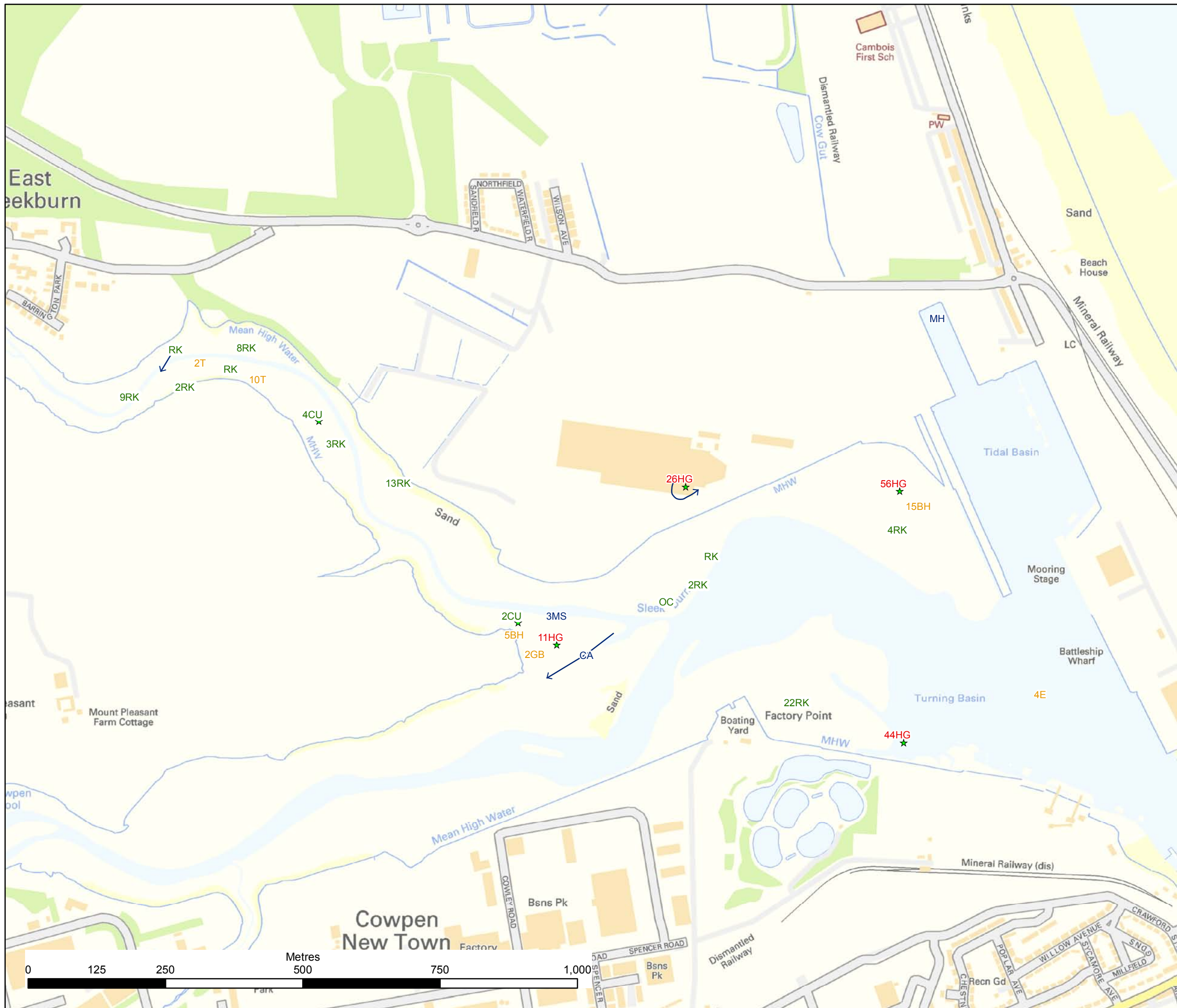
### Key

- ★ Section 41 Species
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species

- BH Black-headed Gull
- CA Cormorant
- CM Common Gull
- CU Curlew
- DN Dunlin
- E Eider
- GB Great Black-backed Gull
- HG Herring Gull
- OC Oystercatcher
- RK Redshank
- RM Red-breasted Merganser
- T Teal
- TT Turnstone

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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project: NSN Link				
Title: Winter Bird Survey Visit 1 22nd December 2013 - 08.30 - 10.50 High/Ebb Tide				
Map No.		G2336.176		
Scale: 1:6,508 @ A3			Date: 19/03/2014	
Drawn: CM	Checked: TR	Approved: TR		



**Key**

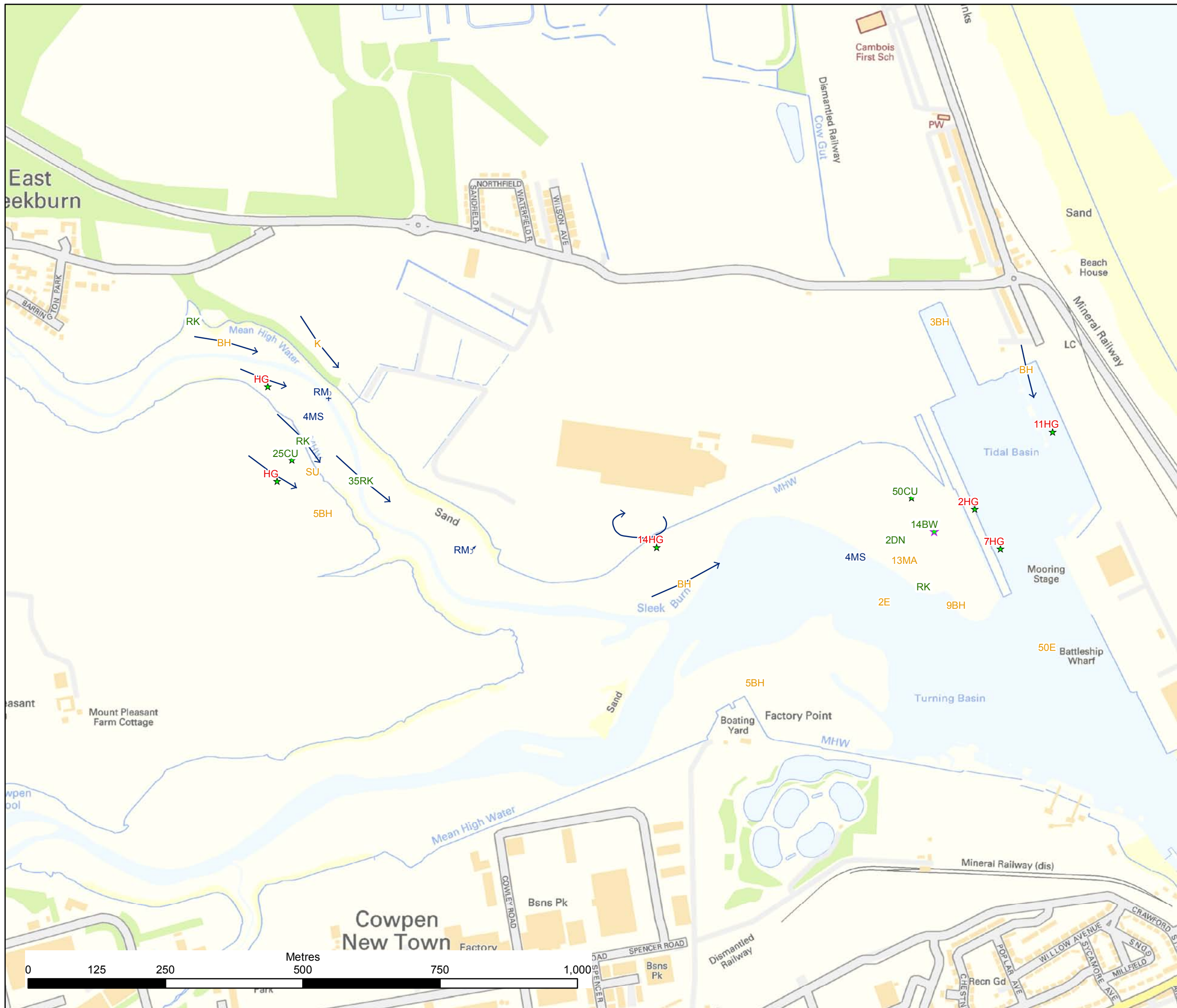
- ★ Section 41 Species
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species

- BH Black-headed Gull
- CA Cormorant
- CU Curlew
- E Eider
- GB Great Black-backed Gull
- HG Herring Gull
- MH Moorhen
- MS Mute Swan
- OC Oystercatcher
- RK Redshank
- T Teal

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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project:				
NSN Link				
Title:				
Winter Bird Survey Visit 1 22nd December 2013 13.15 - 15.00 Low Tide				
Map No.		G2336.177		
Scale:			Date:	
1:6,508 @ A3			19/03/2014	
Drawn:	Checked:	Approved:		
CM	TR	TR		



**Key**

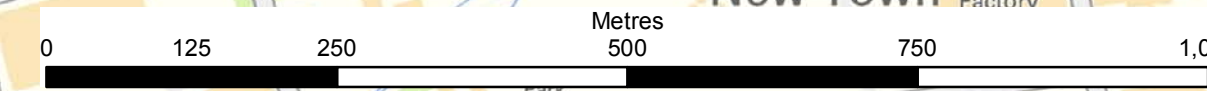
- ♀ Female, <Null>
- ♂ Male
- ★ Section 41 Species
- ★ Section 41 & Schedule 1 Species
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species

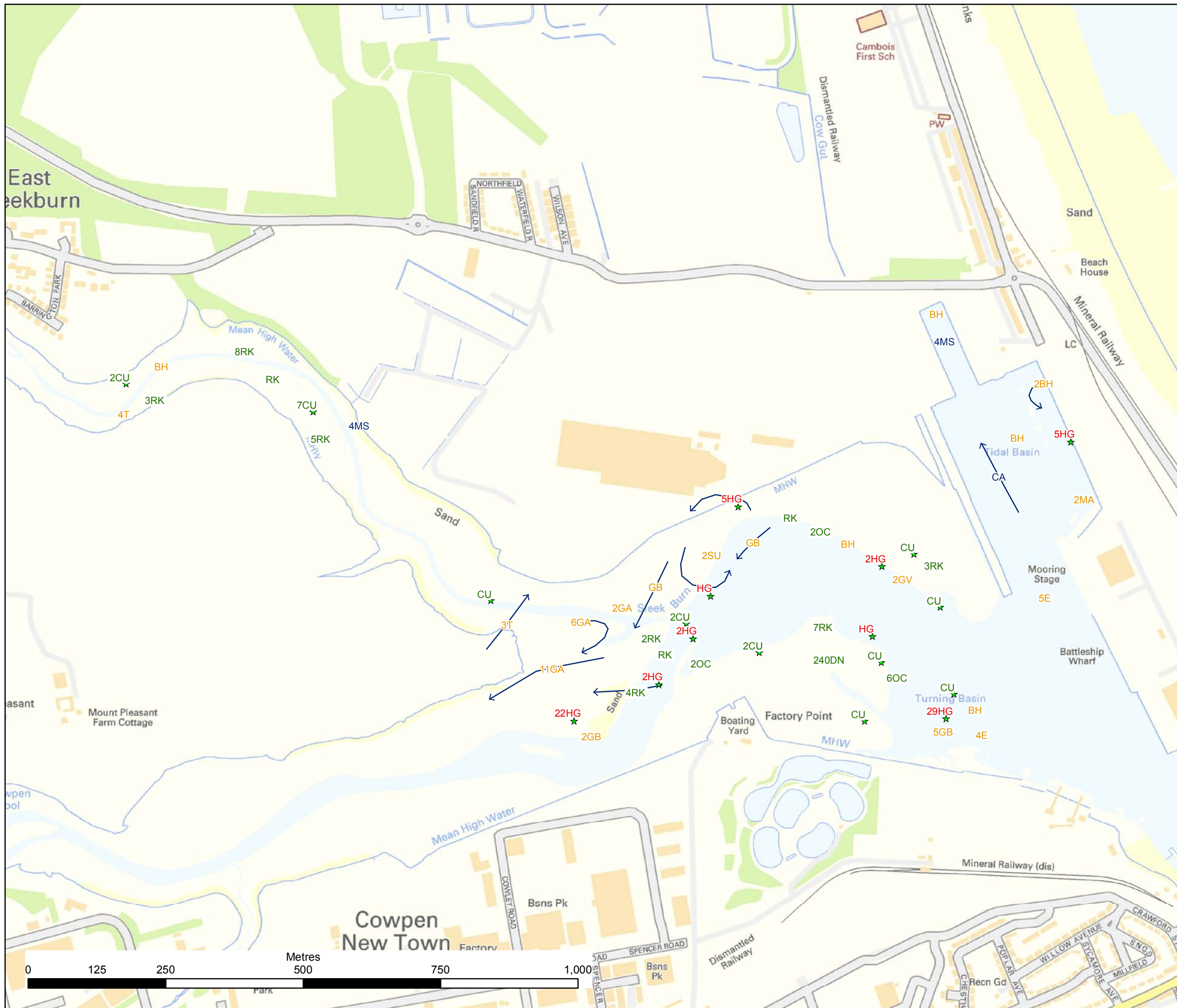
- BH Black-headed Gull
- BW Black-tailed Godwit
- CU Curlew
- DN Dunlin
- E Eider
- HG Herring Gull
- K Kestrel
- MA Mallard
- MS Mute Swan
- RK Redshank
- RM Red-breasted Merganser
- SU Shelduck



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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project:				
NSN Link				
Title:				
Winter Bird Survey Visit 2 31st January 2014 - 13.40 - 14.45 High Tide				
Map No.		G2336.178		
Scale:			Date:	
1:6,508 @ A3			20/03/2014	
Drawn:		Checked:		Approved:
CM		TR		TR






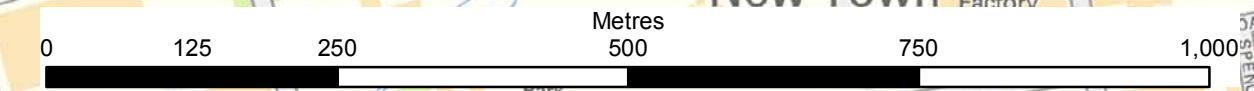
**Key**

- ★ Section 41 Species
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species
- BH Black-headed Gull
- CA Cormorant
- CU Curlew
- DN Dunlin
- E Eider
- GA Gadwall
- GB Great Black-backed Gull
- GV Grey Plover
- HG Herring Gull
- MA Mallard
- MS Mute Swan
- OC Oystercatcher
- RK Redshank
- SU Shelduck
- T Teal

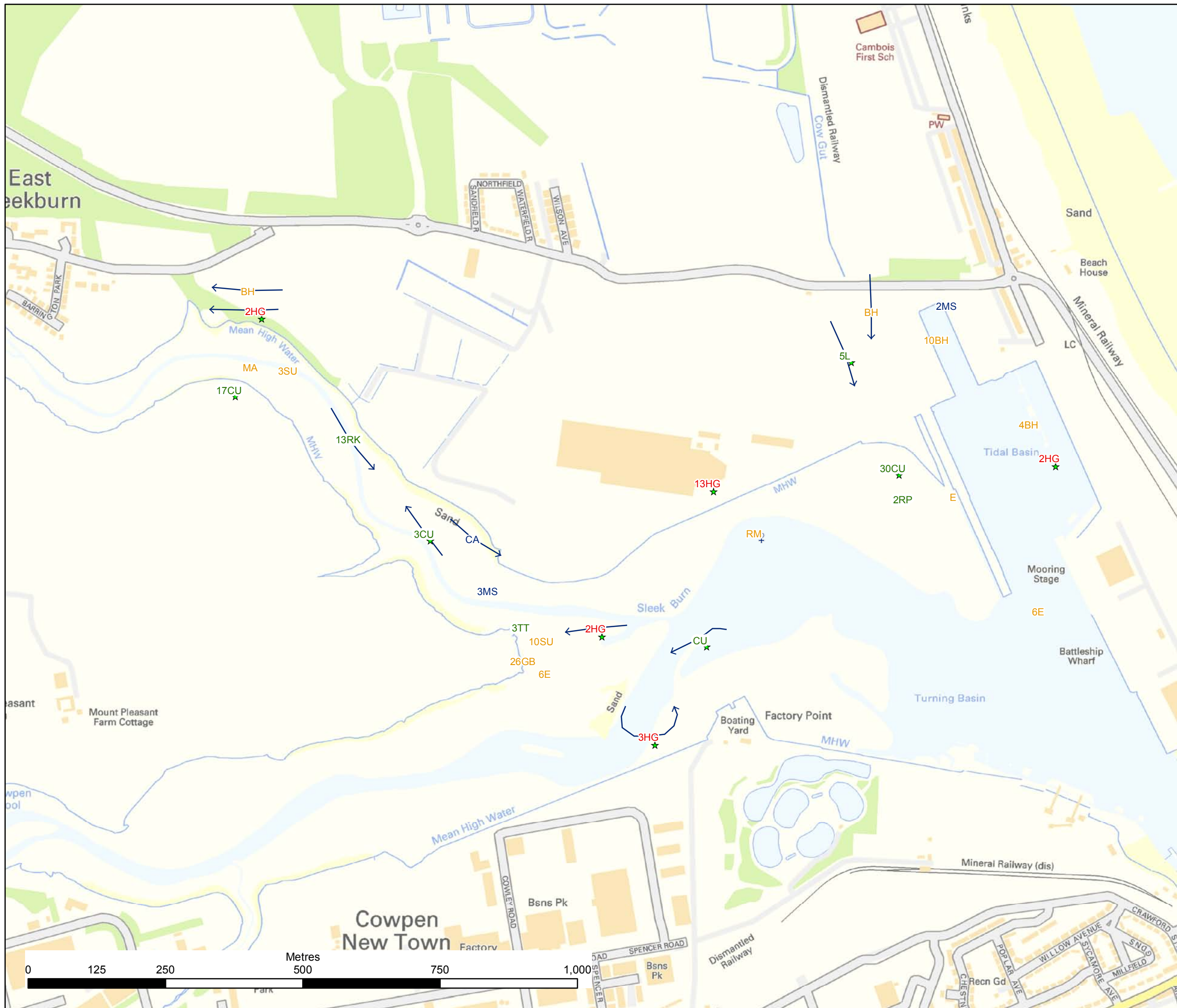


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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project: NSN Link				
Title: Winter Bird Survey Visit 2 31st January 2014 - 09.15 - 10.50 Low Tide				
Map No.		G2336.179		
Scale: 1:6,500 @ A3			Date: 20/03/2014	
Drawn: CM	Checked: TR	Approved: TR		








### Key

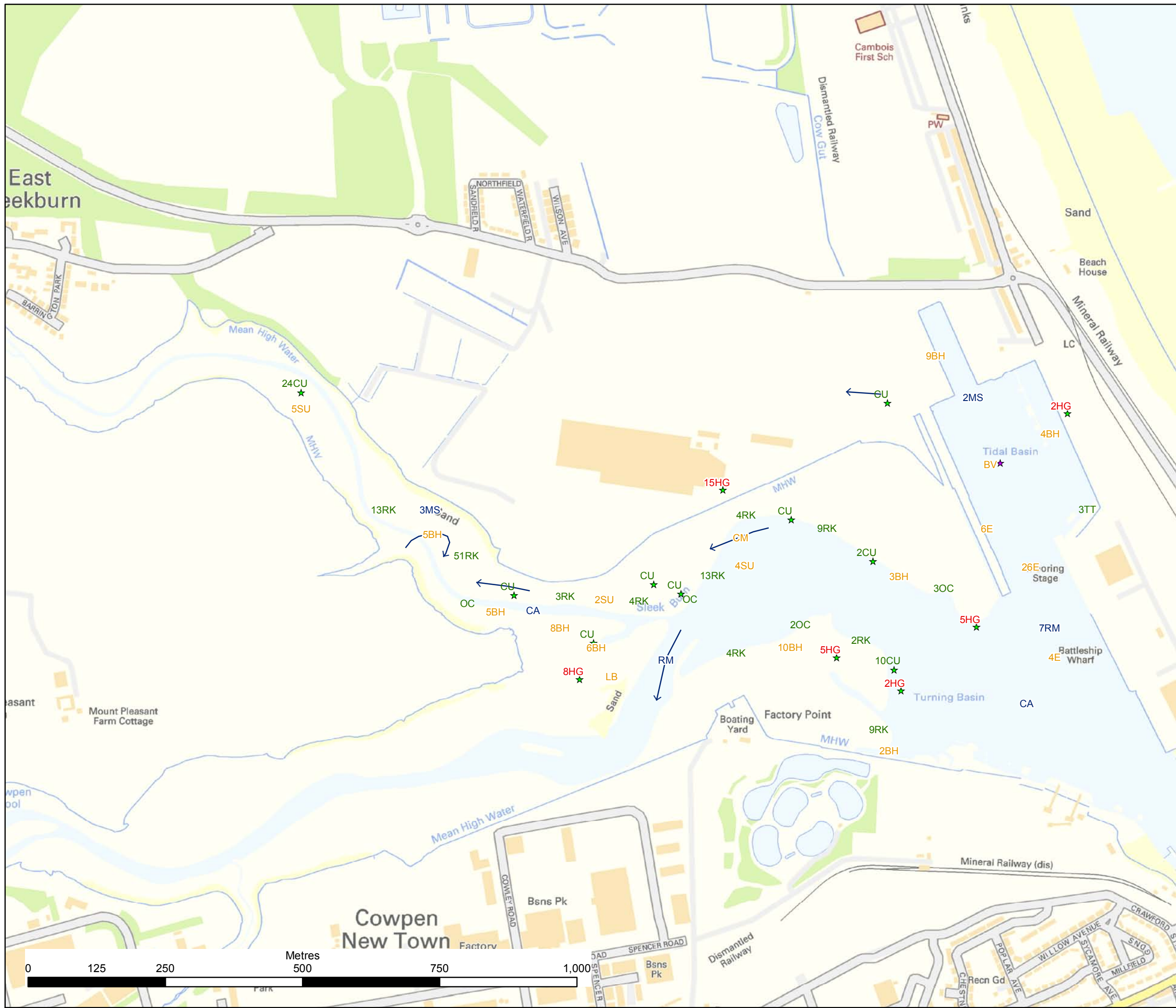
- ★ Section 41 Species
- ♀ Female
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species

- BH Black-headed Gull
- CA Cormorant
- CU Curlew
- E Eider
- GB Great Black-backed Gull
- HG Herring Gull
- L Lapwing
- MA Mallard
- MS Mute Swan
- RK Redshank
- RM Red-breasted Merganser
- RP Ringed Plover
- SU Shelduck
- TT Turnstone



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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project:				
NSN Link				
Title:				
Winter Bird Survey Visit 3 22nd February 2014 - 07.20 - 09.00 High Tide				
Map No.		G2336.180		
Scale:			Date:	
1:6,508 @ A3			19/03/2014	
Drawn:		Checked:		Approved:
CM		TR		TR




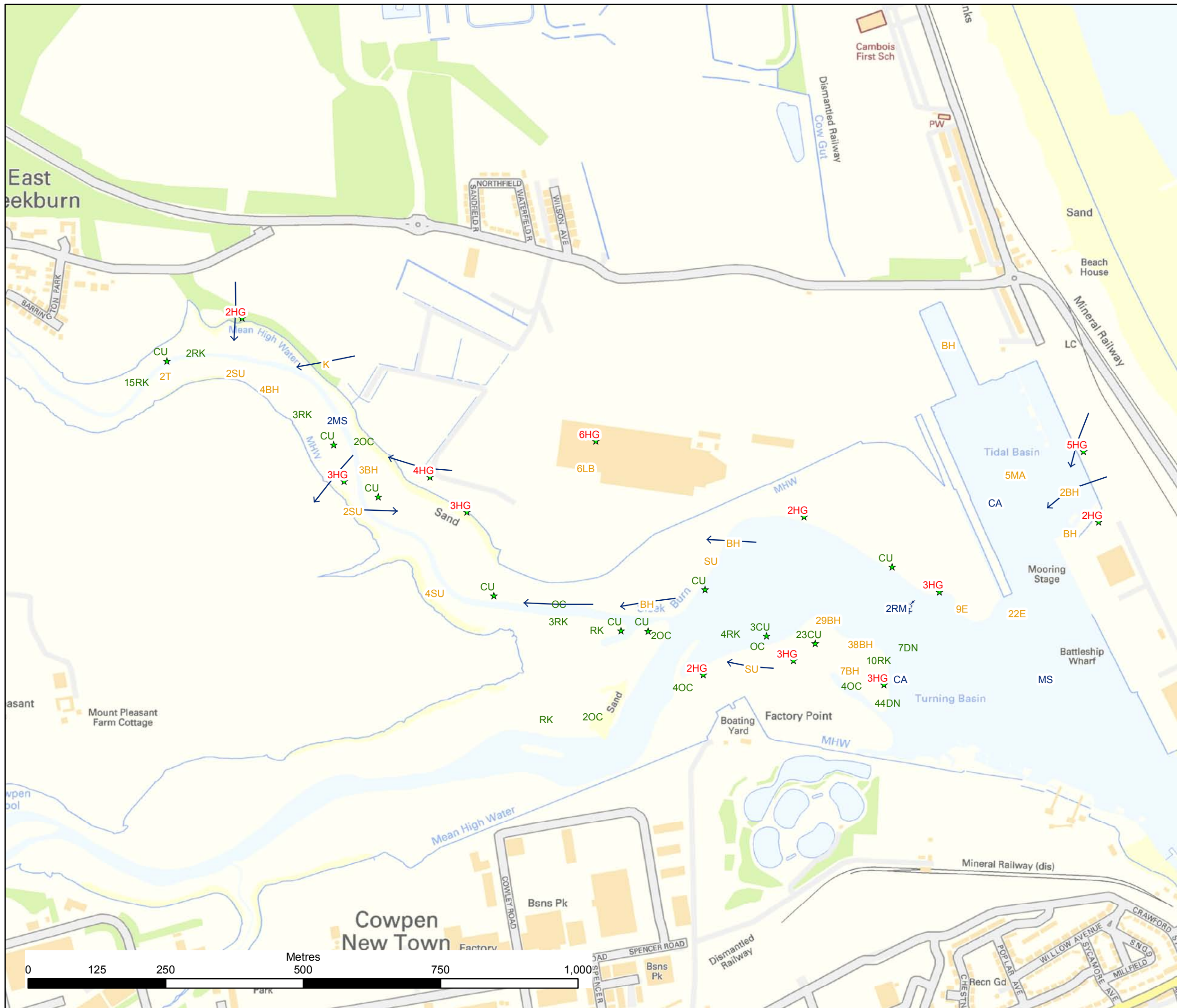
### Key

- ★ Section 41 Species
- ★ Schedule 1 Species
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species
  
- BH Black-headed Gull
- BV Black-throated Diver
- CA Cormorant
- CM Common Gull
- CU Curlew
- E Eider
- HG Herring Gull
- LB Lesser Black backed Gull
- MS Mute Swan
- OC Oystercatcher
- RK Redshank
- RM Red-breasted Merganser
- SU Shelduck
- TT Turnstone



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Rev	Description	Dwn	Appvd	Date
 Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com				
Project: NSN Link				
Title: Winter Bird Survey Visit 3 22nd February 2014 - 12.20 - 14.25 Low Tide				
Map No.		G2336.181		
Scale: 1:6,508 @ A3			Date: 19/03/2014	
Drawn: CM	Checked: TR	Approved: TR		




### Key

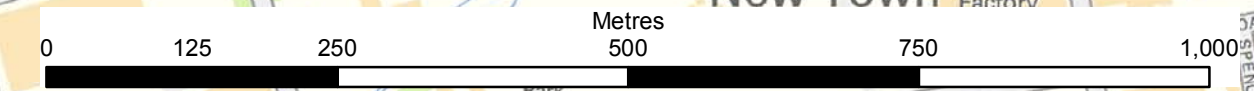
- ♂ ♀ Male and Female
- ★ Section 41 Species
- Directional flight line
- Red Red List Species
- Amber Amber List Species
- Green SPA & SSSI Species

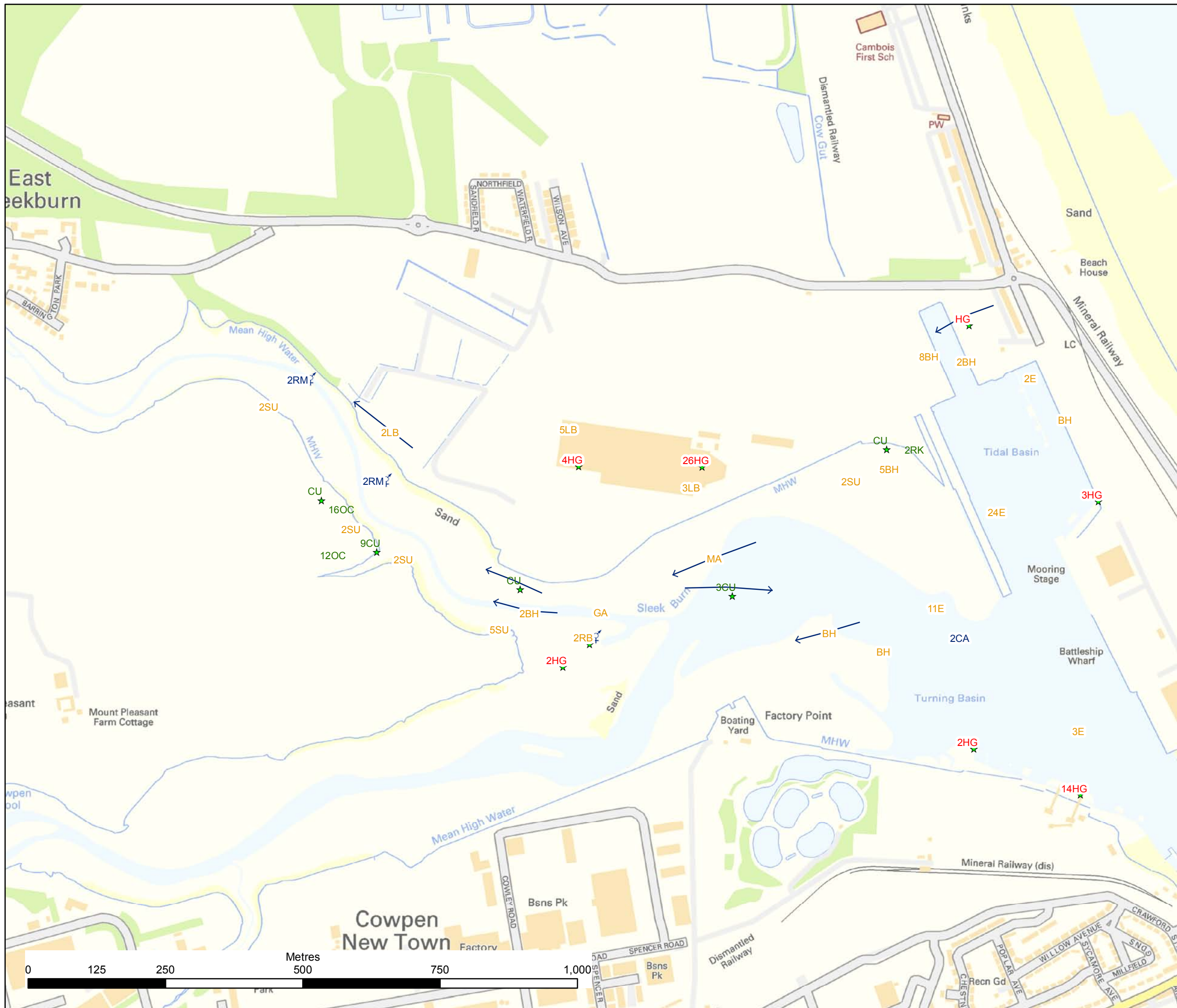
- BH Black-headed Gull
- CA Cormorant
- CU Curlew
- DN Dunlin
- E Eider
- HG Herring Gull
- K Kestrel
- LB Lesser Black backed Gull
- MA Mallard
- MS Mute Swan
- OC Oystercatcher
- RK Redshank
- RM Red-breasted Merganser
- SU Shelduck
- T Teal






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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project:				
NSN Link				
Title:				
Winter Bird Survey Visit 4 18th March 2014 - 09.29 - 11.06 Low Tide				
Map No.		G2336.182		
Scale:			Date:	
1:6,500 @ A3			19/03/2014	
Drawn:		Checked:		Approved:
CM		TR		TR






### Key

-  Male and Female
-  Section 41 Species
-  Directional flight line
- Red** Red List Species
- Amber** Amber List Species
- Green** SPA & SSSI Species
  
- BH Black-headed Gull
- CA Cormorant
- CU Curlew
- E Eider
- GA Gadwall
- HG Herring Gull
- LB Lesser Black backed Gull
- MA Mallard
- OC Oystercatcher
- RB Reed Bunting
- RK Redshank
- RM Red-breasted Merganser
- SU Shelduck



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Rev	Description	Dwn	Appvd	Date
		Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project:				
NSN Link				
Title:				
Winter Bird Survey Visit 4 18th March 2014 - 14.47 - 16.07 High Tide				
Map No.		G2336.183		
Scale:			Date:	
1:6,508 @ A3			19/03/2014	
Drawn:		Checked:		Approved:
CM		TR		TR