

Preliminary Environmental Information Report: Annex 3.2 – Great Crested Newt Habitat Suitability Index and Desmoulin's Whorl Snail Habitat Suitability Assessment surveys: Interim Report (Part 1)

Date: July 2017



Offshore Wind Farm



Environmental Impact Assessment

Preliminary Environmental Information Report

Volume 6

Annex 3.2 - Great Crested Newt Habitat Suitability Index and Desmoulin's Whorl Snail Habitat Suitability Assessment surveys: Interim Report

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This report is also downloadable from the Hornsea Project Three offshore wind farm website at: www.dongenergy.co.uk/hornseaproject3

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1. Introduction

1.1 Purpose

- 1.1.1.1 This Annex provides details of the habitat suitability survey for great crested newt and Desmoulin's whorl snail carried out by Thomson Ecology between January February 2017.
- 1.1.1.2 The information presented in this Annex has been used to inform the scope of further surveys to determine presence / absence of GCN and Desmoulin's whorl snail that will be undertaken in 2017 to inform the impact assessment that will be presented in volume 3, chapter 1: Terrestrial Ecology of the final ES.



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Great Crested Newt and Desmoulin's Whorl Snail Habitat Suitability Assessment Survey

Interim Report

Hornsea Three **Onshore ECR Corridor**

For

DONG Energy (UK) Ltd

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June 2017

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1. Summary

- 1.1.1 DONG Energy (UK) Ltd is promoting the development of the Hornsea Project Three Offshore wind farm including the approximately 55 km Onshore Export Cable Route (ECR). RPS Group Ltd carried out a Preliminary Ecological Appraisal (PEA) of the 200 m wide onshore ECR corridor in 2016, which included a Phase 1 habitat survey and desk study (Figure 1). The PEA results were used to inform the scope and extent of further ecological surveys required to inform the Environmental Impact Assessment (EIA) and Habitats Regulations Assessment (HRA).
- 1.1.2 During the PEA desk study records of great crested newt (GCN) within 2 km of the onshore cable corridor search area were returned by the biological records centre. Suitable terrestrial and aquatic GCN habitat was identified during the extended Phase 1 habitat survey that took place between July and September 2017. Furthermore, recommendations in the PEA indicated that habitat for the Desmoulin's whorl snail (DWS) was present within the 200 m onshore ECR corridor and further survey would be required.
- 1.1.3 Thomson Ecology was commissioned to undertake a GCN Habitat Suitability Index (HSI) assessment of all waterbodies within the study area, defined as the onshore cable corridor search area, the onshore HVAC booster station, the onshore HVDC converter/HVAC substation and the interconnection with the Norwich Main National Grid substation and a suitable survey buffer as per industry best-practice; and a DWS Habitat Suitability Assessment of waterbodies within the onshore cable corridor search area, the onshore HVAC booster station, the onshore HVDC converter/HVAC substation and the interconnection with the Norwich Main National Grid substation . Surveys were undertaken between 17th January and 8th June 2017.
- During the GCN HSI surveys 270 waterbodies were surveyed. The HSI score was calculated for 1.1.4 228 waterbodies with a HSI score of below average (35 waterbodies), average (52 waterbodies), good (59 waterbodies) and excellent (50 waterbodies) (see Figure 2 for waterbody locations, and Figure 3 for photographs). Forty-two waterbodies were scoped out due to the presence of running water, a waterbody being used by anglers that had no or little emerging or submerged vegetation or no waterbody being present. A further 63 waterbodies remain to be surveyed (see Figure 2).
- Based on these initial results, eDNA survey is recommended for 196 waterbodies to determine 1.1.5 GCN presence or likely absence. eDNA survey will also be required for the 63 waterbodies that were not surveyed during the initial surveys, once access has been approved. The HSI survey would be undertaken simultaneously for these. eDNA surveys would need to occur between mid-April and end of June, although it is recommended that these be undertaken from 17th to 30th April 2017 to ensure any population size class surveys required for waterbodies with GCN can be undertaken in the 2017 survey season.
- Thirty-one waterbodies were assessed within the study area for their potential to support DWS. 1.1.6 The following HSA categories were identified: good (four waterbodies), average (eight waterbodies), below average (six waterbodies), and poor (13 waterbodies) (Figure 5). Further survey is recommended for 18 waterbodies to determine presence or likely absence, in line with current guidance and recommendation from the DWS specialist Paul Lee. These surveys will be

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undertaken in July/August 2017. A further eight waterbodies remain to be surveyed subject to access being granted (Figure 5).

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Introduction 2.

Development Background 2.1

- 2.1.1 DONG Energy (UK) Ltd. (hereafter referred to as DONG Energy), on behalf of DONG Energy Hornsea Three (UK) Ltd, is promoting the development of the Hornsea Project Three Offshore Wind Farm (hereafter referred to as Hornsea Three). Hornsea Three is a proposed offshore wind farm located in the southern North Sea, with a total generating capacity of up to 2,400 MW.
- 2.1.2 The onshore cable corridor search area has been identified by DONG Energy and the location provided to Thomson Ecology. It is a broad 200 m wide cable corridor search area within which the refined onshore export cable corridor (80 m width) will be located. It is approximately 55 km in length running from Weybourne on the north Norfolk coast, southwards through Norfolk, and ending in the vicinity of Swardeston, south-west of Norwich. The proposed development also includes an onshore HVAC booster station, onshore HVDC converter/HVAC substation and interconnection with the Norwich Main National Grid substation. The above are hereafter referred to as the search area which is presented in Figure 1.

2.2 Ecology Background

- A Preliminary Ecological Appraisal (PEA) of the onshore components of the Hornsea Three 2.2.1 project was undertaken in 2016 (RPS Group Ltd, 2016). This included a 500 m wide Phase 1 survey area (including the onshore cable corridor search area) and a desk study, whereby data from the local biological records centre was purchased and reviewed.
- The results of the PEA have been used to inform the scope and extent of further ecological 2.2.2 surveys.
- 223 The PEA desk study comprised the purchase of records from the Norfolk Biodiversity Information Service (NBIS) and Norfolk Reptile and Amphibian Group, although none was received from the latter. The data requested included records of protected species within 2km of the 500 m wide Phase 1 survey area.
- Records of great crested newt (GCN) (Triturus cristatus) were returned as part of the desk study 2.2.4 and suitable terrestrial and aquatic habitat were identified the 500 m wide Phase 1 survey area, including within the PEIR.
- 2.2.5 Suitable habitat for Desmoulin's whorl snail (DWS) (Vertigo moulinsiana) was also identified during the Phase 1 habitat survey. This species is known to occur in Booton Common and Wensum River Valley Site of Special Scientific Interest (SSSI)/Special Area of Conservation (SAC).

2.3 Legislative Background

- GCN is protected under the Conservation of Habitats and Species Regulations 2010, as 2.3.1 amended, and is afforded some additional protection under the Wildlife and Countryside Act 1981, as amended. Taken together this makes it an offence to:
 - Deliberately or recklessly capture, injure, or kill a great crested newt;

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- Disturb the species such that its local distribution is significantly affected or its ability to breed, migrate or hibernate is inhibited; and
- Damage, destroy or obstruct access to a place of shelter or resting place.
- 2.3.2 GCN is also listed as a Species of Principal Importance (SPI) under Section 41 of the Natural Environment and Rural Communities Act 2006, making it of material consideration during the planning process.
- DWS is listed under Annex II of the EU Habitats and Species Directive, which implies that the 2.3.3 species' core areas of habitat must be designated as SAC by EU member states and included in the Natura 2000 network to ensure the conservation of this species. DWS is also a SPI.

2.4 The Brief and Objectives

- DONG Energy commissioned Thomson Ecology Ltd on 1st December 2016 to: 2.4.1
 - Undertake a Habitat Suitability Index (HSI) assessment of waterbodies within the survey area to assess the potential of the waterbodies to support GCN as per best-practice guidance (English Nature, 2001);
 - Undertake a DWS Habitat Suitability Assessment (HSA) of waterbodies within the survey area to assess the potential of the habitats to support DWS, as per best-practice guidance (Killeen & Moorkens 2003);
 - Record the results with GPS enabled digital mapping devices and download the data onto our Thomson Interactive Mapping (TIM):
 - Provide a combined report on the survey giving the methods and results of the survey; and
 - Provide a digitised map of the survey results.
- 2.4.2 The results of the GCN HSI and DWS HSA survey will be used to inform the impact assessment within the Environmental Statement.

Limitations 2.5

- Sources used to identify waterbodies requiring survey were RPS Group Ltd (2016), publically 2.5.1 available aerial photography and OS-sourced polygon and line waterbody layer. Some small waterbodies may be missed, such as private ponds that were not mapped previously, or those that were not in areas that have previously been surveyed. Where new waterbodies were identified during the GCN HSI and DWS HSA surveys, these were mapped and GCN HSI and/or DWS HSA undertaken. Additional waterbodies may require further survey once the refined onshore export cable corridor route and associated infrastructure location has been selected.
- 2.5.2 This interim report is based on the waterbodies that were accessible on or before 24th February 2017. A total of 63 waterbodies that require GCN HSI and eight waterbodies that require DWS HSA remain to be surveyed. These should be assessed as soon as access becomes available.
- The DWS HSA was undertaken to determine where further presence/absence surveys will be 253 undertaken. Where areas of suitable habitat were identified, a more detailed habitat assessment

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will be undertaken, including a detailed description of the habitat present. This will be undertaken in mid-August 2017, at the peak DWS season.

- This report is based on Hornsea Three PEIR Boundary Version 8, dated 6th April 2017. 2.5.4 Subsequent changes to the proposals may result in a requirement to reassess the potential impacts of the development and the requirements for avoidance, mitigation and enhancement.
- Surveyors 2.6
- The GCN HSI and the DWS HSA surveys were undertaken by Assistant Ecologists Philip Joyce, 2.6.1 Kathryn Jones (GradCIEEM), Irfaan Junaideen (GradCIEEM), Robert Allen, Kate Philpot, Emily Power (GradCIEEM), Emily Wallace (GradCIEEM) and Charlotte Hewitt (GradCIEEM), and Senior Ecologist Robert Hutchinson (GradCIEEM). Surveyors are competent to undertake the surveys. Paul Lee CEcol CEnv MCIEEM reviewed the DWS HSA results and confirmed which areas required further survey to ascertain presence or likely absence of the species.

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Methodology 3.

General Approach 3,1

- A survey area was defined within the onshore cable corridor search area, onshore HVAC 3.1.1 booster station, onshore HVDC converter/HVAC substation and interconnection with the further assessment in the initial PEA (RPS Group Ltd, 2016) and best practice guidance. This will hereafter be referred to as the survey area.
- Surveys were undertaken between 18th January 2017 and 8th June 2017. 3.1.2

3.2 **Great Crested Newt**

- The results of the PEA (RPS Group Ltd 2016), publically available aerial photography and OS-3.2.1 sourced polygon and line waterbody layer were used to identify the location of any potential waterbodies requiring survey within the study area. In total 333 waterbodies were identified as requiring an HSI survey.
- The HSI survey was undertaken as per best-practice guidance (Oldham et al., 2000). 3.2.2
- 3.2.3 The surveyor recorded suitability indices (SI) for ten habitat parameters. The SI results enable its suitability to support GCN. The indices used are set out below:
 - GCN;
 - Waterbody Area (m²) GCNs tend not to occur in small waterbodies or large m², less than 300 m² and over 0.5m deep;
 - kills fish populations);
 - the larvae need well aerated water with a number of invertebrates;
 - % Shade GCNs tend to occur in largely un-shaded waterbodies;
 - excessive nutrient enrichment;
 - therefore they tend to avoid waterbodies that contain fish;
 - the distance separating breeding sites;

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Norwich Main National Grid substation and an appropriate buffer as per the areas scoped in for

an HSI score to be calculated. This score gives a quantitative assessment of each waterbody for

Location (in Britain) - this accommodates the large scale habitat features which affect

waterbodies and more typically occur in fair-sized waterbodies, usually greater than 100

 Desiccation Rate (years out of ten that waterbody dries) - GCNs have to spend a large proportion of the year in water and therefore tend to occur in waterbodies that are permanent and present all year round (although occasional drying may be of benefit as it

Water Quality (subjective assessment) - GCNs tend to occur in nutrient-rich waters and

Number of waterfowl - large numbers of waterfowl can damage the habitat and cause

Fish Population (subjective assessment) - GCNs are vulnerable to fish predation and

Number of waterbodies within 1km - GCN population persistence depends in part upon

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- Terrestrial Habitat Quality GCNs require more than 0.5ha of suitable and accessible terrestrial habitat for a population to be viable. The primary requirements for GCN terrestrial habitats are refuge habitat for shelter and over-wintering, foraging opportunities, and connectivity to aid dispersal; and
- % Macrophyte Cover GCNs require aquatic vegetation for egg-laying and tend to occur in waterbodies with a fair amount of aquatic vegetation.
- 3.2.4 In addition to the HSI data collected, each waterbody was photographed and a brief description was made of the waterbody and its surroundings.
- 3.2.5 The SI scores (expressed as values between 0 and 1) are used to calculate the HSI of each waterbody and are determined as a geometric mean using the following equation: HSI = (SI1 * SI2 * SI3 * SI4 * SI5 * SI6 * SI7 * SI8 * SI9 * SI10)/10 The result of this calculation is a single number between 0 and 1. A score of 0 represents a waterbody considered to be unsuitable for GCN, a score of 1 would represent ideal habitat for GCN.
- 3.2.6 A suitability category was assigned to each standing waterbody based on the HSI score as shown in the Table 1.

Table 1: HSI Categories

HSI Score	Suitability Category			
> 0.80	Excellent			
0.70 - 0.79	Good			
0.60 - 0.69	Average			
0.50 - 0.59	Below Average			
< 0.50	Poor			

- HSI scores are required to enable completion of a Natural England Licence Mitigation Method 3.2.7 Statement should GCN be found to be present on a site and mitigation be required. However, the HSI score is not a reliable indicator of GCN presence or likely absence (Sellars, 2010). Therefore waterbodies were not screened out of further survey based on HSI score alone.
- 3.2.8 Waterbodies were scoped out of further survey where they were obviously:
 - Filled in or dry for at least most of the year;
 - A slurry pond;
 - A chlorinated swimming pool;
 - A fishing lake or pond which is stocked with fish and where emergent/submerged vegetation is absent;
 - Running water (streams and rivers);
 - A lake greater than 2ha in size; or
 - Saline.

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3.2.9 The results of the HSI were used to ascertain where further survey was required to determine presence or likely absence. The method statements supplied to Natural England indicate that eDNA surveys will be undertaken in waterbodies identified as having an HSI of 0.5 (below average) or above (Thomson Ecology 2017).

Desmoulin's Whorl Snail 3.3

- DWS HSA surveys were undertaken in marginal vegetation adjacent to waterbodies 3.3.1 concurrently with some GCN HSI within accessible areas inside the onshore cable corridor search area, following best-practice guidance (Killeen & Moorkens, 2003).
- The following information was collected at each accessible survey location: 3.3.2
 - Vegetation height;
 - Vegetation species composition (dominant and other plants);
 - 4 (very wet) or 5 (under water);
 - Scrub cover (as a percentage);
 - Site management (grazing or mowing); and
 - Hydrological information (water level, depth, hydrology regime).
- 3.3.3 A suitability category was assigned for each habitat survey parcel, based on the vegetation height (although this will be refined during the further surveys), plant species composition, ground moisture levels and site management.
- 3.3.4 Better quality habitat has an average vegetation height in August of 70cm, a plant species spp., great fen-sedge Cladium mariscus), ground moisture levels between 2 and 4, and a site management regime that has light/rotational grazing, or no grazing. Categories were assigned review of the information collected. Habitat survey parcels assessed as being poor were screened out for further survey, as recommended by the DWS specialist, Paul Lee.

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Ground moisture levels (recorded on a semi-quantitative scale of 1 (dry), 2(damp), 3 (wet),

composition dominated by category 1 species (such as reed sweet-grass, sedge species Carex as being excellent, good, average, below average or poor based on best practice guidance and



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Results 4.

Great Crested Newt 4.1

- The GCN HSI results are presented in Figure 2. Figure 3 presents the location of waterbodies 4.1.1 that still require GCN HSI or have been scoped out. Photographs of all of the GCN HSI waterbodies are presented in Figure 4.
- 4.1.2 The full GCN HSI results are presented in Appendix 1. A total of 255 waterbodies were surveyed, with 178 assessed as being suitable for GCN (as detailed in the methodology). Fortytwo waterbodies were scoped out of further survey either due to the presence of running water, an absence of a waterbody or the waterbody was used by anglers. Table 2 gives the number of waterbodies within each HSI category.

HSI Category	Number of waterbodies
Excellent	50
Good	59
Average	52
Below Average	35
Poor	32
Scoped Out/No HSI Category	42
Total	270

Table 2: Summary of GCN HSI results

- 4.1.3 Based on the result of the GCN HSI surveys undertaken to date, 196 waterbodies were scoped in for eDNA survey to determine presence or absence of GCN.
- The 63 waterbodies that were not accessible at the time of the survey and will require future 4.1.4 survey when access becomes available. The HSI survey can be undertaken at the same time as the eDNA survey.

Desmoulin's Whorl Snail 4.2

- The DWS HSA results are presented in Figure 5 and photographs of the DWS HSA habitat 4.2.1 survey parcels are presented in Figure 6.
- 4.2.2 The full DWS HSA results are presented in Appendix 2. Thirty-seven habitat survey parcels were surveyed. The DWS HSA results are summarised in Table 3.

Table 3: Summary of the DWS HSA results.

DWS HSA Category	Number of habitat survey parcels in each category
Good	4
Average	8
Below Average	6
Poor	13

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DWS HSA Category Nu Total

4.2.3 It is recommended that a presence/absence survey is undertaken of habitat survey parcels with an HSA of below average and above. Therefore 18 habitat survey parcels require further survey to determine presence or likely absence. This includes the River Wensum SSSI/SAC. Surveys will be undertaken between July and August 2017 by an experienced DWS surveyor and will also include further notes on the habitat suitability once, at the peak DWS season and vegetation is at its peak height. Additional areas will be surveyed, including those that could not previously be assessed (due to access restrictions, eight habitat survey parcels) and also additional habitat within the onshore cable corridor search area that has the potential to support the species.

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nber of habitat survey parcels in each category	
31	



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- 5.1.8 Sellars, K. (2010) Habitat Suitability Index Scores as an Indicator of the Presence of Great Crested Newts. In Practice, 69, September 2010. Chartered Institute of Ecology and Environmental Management.
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6. Appendix 1 - Great Crested Newt Habitat Suitability Index Results

Waterbody ID	RPS (2016) Reference	Water`body Description	SI1 - Geographic Location	SI2 - Pond Area (m2)	SI3 - Permanence	SI4 - Water Quality	SI5 - Shade	SI6 - Waterfowl	SI7 - Fish	SI8 - Pond Count	SI9 - Terrestrial Habitat	SI10 - Macrophytes	HSI Score	HSI Category	eDNA Survey recommended
G1A1	PA1	Other	A	300	Sometimes Dries	Poor	90	Absent	Absent	16	Good	40	0.7	Average	Yes
G1A16		Ditch	А	151	Never Dries	Good	50	Absent	Possible	11	Moderate	0	0.72	Scoped out (running water)	No
G1A17		Ditch	А	91	Dries Annually	Bad	90	Absent	Absent	>13	Moderate	100	0.34	Poor	No
G1A18		Ditch	А	216	Dries Annually	Moderate	80	Absent	Absent	11	Moderate	10	0.58	Below Average	Yes
G1A19		Ditch	А	364	Rarely Dries	Good	90	Minor	Possible	11	Moderate	90	0.77	Scoped out (running water)	No
G1A2		Ditch	А	38	Sometimes Dries	Poor	70	Absent	Absent	16	Poor	0	0.48	Poor	No
G1A20		Ditch	А	326	Rarely Dries	Good	30	Minor	Possible	9	Moderate	80	0.85	Scoped out (running water)	No
G1A21		Ditch	А	332	Rarely Dries	Good	30	Minor	Possible	8	Moderate	80	0.84	Scoped out (running water)	No
G1A22c		Ditch	А	432	Sometimes Dries	Good	60	Absent	Absent	>13	Moderate	60	0.89	Excellent	Yes
G1A22b		Ditch	А	194	Rarely Dries	Poor	50	Absent	Absent	>13	Moderate	10	0.71	Good	Yes
G1A3		Ditch	А	118	Sometimes Dries	Poor	60	Absent	Absent	16	Good	40	0.69	Average	Yes
G1A4	PA2	Farm Pond	А	171	Sometimes Dries	Poor	40	Absent	Absent	16	Good	20	0.69	Average	Yes
G1A5		Other	А	170	Rarely Dries	Moderate	40	Absent	Absent	11	Moderate	10	0.74	Good	Yes
G1A9		Other	А	146	Never Dries	Good	60	Absent	Absent	13	Moderate	30	0.8	Scoped out (running water)	No
G1B10		Farm Pond	А	984	Never Dries	Moderate	40	Absent	Possible	13	Moderate	20	0.82	Excellent	Yes
G1B13		Ditch	А	904	Never Dries	Moderate	90	Absent	Possible	13	Good	10	0.76	Scoped out (running water)	No
G1B14		Ditch	А	12	Rarely Dries	Moderate	100	Absent	Absent	13	Good	0	0.54	Scoped out (running water)	No
G1B15		Ditch	A	442	Never Dries	Good	70	Absent	Possible	13	Good	10	0.84	Scoped out (running water)	No
G1B16		Ditch	A	12	Dries Annually	Poor	100	Absent	Absent	13	Good	0	0.4	Poor	No
G1B17	PB5	Farm Pond	A	585	Rarely Dries	Moderate	80	Absent	Absent	13	Good	10	0.83	Excellent	Yes
G1B18	PB4	Farm Pond	А	506	Sometimes Dries	Moderate	80	Absent	Absent	13	Good	30	0.81	Excellent	Yes
G1B19	PB3	Farm Pond	А	326	Rarely Dries	Moderate	100	Absent	Absent	13	Good	0	0.7	Average	Yes
G1B2		Ditch	А	224	Rarely Dries	Moderate	70	Absent	Absent	13	Moderate	30	0.78	Scoped out (running water)	No
G1B20	PB2	Farm Pond	А	222	Dries Annually	Poor	90	Absent	Absent	13	Good	100	0.58	Below Average	Yes
G1B21		Ditch	A	262	Never Dries	Good	100	Absent	Possible	13	Good	10	0.69	Scoped out (running water)	No
G1B22		Ditch	А	119	Sometimes Dries	Moderate	10	Absent	Absent	13	Good	60	0.76	Good	Yes
G1B23		Ditch	А	427	Never Dries	Good	100	Absent	Possible	13	Good	10	0.73	Scoped out (running water)	No
G1B24		Ditch	А	30	Sometimes Dries	Poor	80	Minor	Absent	9	Good	0	0.5	Poor	No
G1B25		Ditch	А	386	Sometimes Dries	Moderate	90	Absent	Absent	13	Good	10	0.73	Scoped out (running water)	No
G1B26		Ditch	А	53	Sometimes Dries	Moderate	80	Absent	Absent	6	Moderate	60	0.63	Average	Yes
G1B27		Ditch	A	281	Rarely Dries	Moderate	100	Absent	Absent	8	Good	20	0.71	Good	Yes
G1B28		Ditch	A	49	Dries Annually	Moderate	100	Absent	Absent	8	Moderate	50	0.45	Poor	No
G1B30	PB6	Farm Pond	A	348	Rarely Dries	Poor	0	Absent	Possible	7	Moderate	20	0.73	Good	Yes
G1B31	PB7	Farm Pond	А	583	Never Dries	Good	20	Major	Possible	7	Moderate	80	0.57	Below Average	Yes

Hornsea Three Onshore ECR Corridor

Waterbody ID	RPS (2016) Reference	Water`body Description	SI1 - Geographic Location	SI2 - Pond Area (m2)	SI3 - Permanence	SI4 - Water Quality	SI5 - Shade	SI6 - Waterfowl	SI7 - Fish	SI8 - Pond Count	SI9 - Terrestrial Habitat	SI10 - Macrophytes	HSI Score	HSI Category	eDNA Survey recommended
G1B32	PB8	Farm Pond	A	463	Never Dries	Moderate	40	Minor	Possible	5	Poor	20	0.7	Good	Yes
G1B34		Farm Pond	A	997	Never Dries	Moderate	20	Minor	Possible	4	Moderate	20	0.76	Good	Yes
G1B6		Ditch	A	201	Rarely Dries	Good	20	Minor	Possible	8	Good	10	0.76	Scoped out (running water)	No
G1B62		Other	A	3345	Never Dries	Moderate	40	Minor	Possible	5	Good	10	0.8	Good	Yes
G1B64	PB10	Farm Pond	A	35	Rarely Dries	Moderate	30	Minor	Absent	2	Good	0	0.57	Below Average	Yes
G1B65		Ditch	A	120	Dries Annually	Bad	10	Absent	Absent	2	Good	0	0.35	Poor	No
G1B67	PB11	Farm Pond	A	756	Never Dries	Moderate	20	Minor	Possible	2	Good	60	0.81	Excellent	Yes
G1B68		Farm Pond	A	131	Sometimes Dries	Poor	90	Minor	Absent	9	Moderate	20	0.58	Below Average	Yes
G1B7	PB1	Farm Pond	A	70	Sometimes Dries	Good	20	Minor	Possible	8	Moderate	50	0.63	Average	Yes
G1B74	PB12	Farm Pond	A	447	Rarely Dries	Moderate	80	Minor	Possible	1	Moderate	80	0.73	Good	Yes
G1B75		Farm Pond	A	200	Dries Annually	Poor	0	Absent	Absent	2	Moderate	0	0.52	Below Average	Yes
G1B76		Other	A	22730	Never Dries	Moderate	0	Minor	Absent	2	Moderate	0	0.75	Good	Yes
G1B8		Ditch	A	190	Rarely Dries	Good	80	Absent	Possible	8	Moderate	10	0.72	Scoped out (running water)	No
G1B9		Ditch	A	173	Rarely Dries	Good	20	Absent	Absent	13	Moderate	80	0.85	Excellent	Yes
G1C1		Ditch	A	155	Sometimes Dries	Moderate	0	Minor	Possible	13	Moderate	70	0.7	Good	Yes
G1C10		Ditch	A	85	Dries Annually	Poor	50	Absent	Absent	13	Moderate	90	0.58	Scoped out (no waterbody)	No
G1C12	PC1	Other	А	3953	Never Dries	Moderate	20	Absent	Minor	13	Good	30	0.83	Excellent	Yes
G1C13		Ditch	A	114	Dries Annually	Poor	40	Absent	Absent	13	Good	60	0.6	Below Average	Yes
G1C14		Ditch	A	173	Sometimes Dries	Moderate	0	Minor	Possible	13	Poor	70	0.66	Average	Yes
G1C15		Woodland Pond	A	632	Never Dries	Good	70	Absent	Possible	20	Moderate	20	0.83	Excellent	Yes
G1C16		Woodland Pond	A	91	Sometimes Dries	Poor	80	Absent	Absent	19	Moderate	30	0.62	Average	Yes
G1C17	PC4	Woodland Pond	A	43	Dries Annually	Bad	80	Absent	Absent	13	Moderate	0	0.3	Poor	No
G1C18	PC3	Woodland Pond	A	573	Rarely Dries	Moderate	60	Minor	Possible	13	Poor	10	0.72	Good	Yes
G1C19	PC2	Woodland Pond	A	55	Sometimes Dries	Moderate	70	Minor	Absent	13	Moderate	10	0.59	Below Average	Yes
G1C2		Ditch	A	178	Sometimes Dries	Moderate	0	Minor	Possible	13	Moderate	70	0.73	Good	Yes
G1C20	PC5	Farm Pond	A	157	Rarely Dries	Good	30	Minor	Absent	13	Moderate	30	0.78	Good	Yes
G1C21		Ditch	А	298	Sometimes Dries	Poor	40	Absent	Absent	13	Poor	20	0.66	Scoped out (running water)	No
G1C22	PC6	Farm Pond	A	130	Never Dries	Good	40	Minor	Possible	13	Good	10	0.74	Good	Yes
G1C23	PC7	Woodland Pond	A	514	Sometimes Dries	Poor	70	Absent	Absent	13	Moderate	10	0.72	Good	Yes
G1C24	PC8	Farm Pond	A	150	Never Dries	Poor	60	Absent	Absent	13	Moderate	20	0.7	Good	Yes
G1C25		Ditch	A	168	Sometimes Dries	Moderate	10	Absent	Absent	13	Poor	20	0.66	Average	Yes
G1C26		Ditch	A	128	Sometimes Dries	Good	50	Absent	Absent	13	Moderate	50	0.78	Good	Yes
G1C27		Ditch	A	210	Sometimes Dries	Good	50	Absent	Absent	13	Moderate	50	0.8	Good	Yes
G1C28		Farm Pond	A	123	Rarely Dries	Moderate	70	Absent	Absent	13	Poor	20	0.67	Average	Yes
G1C29	PC10	Farm Pond	A	356	Never Dries	Good	60	Minor	Absent	13	Moderate	20	0.82	Excellent	Yes

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Waterbody ID	RPS (2016) Reference	Water`body Description	SI1 - Geographic Location	SI2 - Pond Area (m2)	SI3 - Permanence	SI4 - Water Quality	SI5 - Shade	Sl6 - Waterfowl	SI7 - Fish	SI8 - Pond Count	SI9 - Terrestrial Habitat	SI10 - Macrophytes	HSI Score	HSI Category	eDNA Survey recommended
G1C3		Ditch	A	128	Sometimes Dries	Moderate	0	Minor	Possible	13	Moderate	70	0.7	Good	Yes
G1C30		Farm Pond	A	81	Sometimes Dries	Moderate	100	Absent	Absent	13	Moderate	0	0.55	Below Average	Yes
G1C31		Farm Pond	A	182	Sometimes Dries	Poor	20	Absent	Absent	13	Poor	20	0.64	Average	Yes
G1C32		Farm Pond	A	113	Never Dries	Poor	30	Absent	Absent	13	Poor	0	0.6	Below Average	Yes
G1C33		Farm Pond	A	78	Rarely Dries	Moderate	70	Absent	Absent	13	Moderate	10	0.7	Good	Yes
G1C34	PC9	Woodland Pond	A	175	Never Dries	Moderate	70	Minor	Absent	13	Good	30	0.75	Good	Yes
G1C35		Ditch	A	180	Sometimes Dries	Poor	40	Absent	Absent	13	Moderate	30	0.7	Average	Yes
G1C36		Ditch	A	144	Sometimes Dries	Good	60	Absent	Absent	13	Good	40	0.8	Good	Yes
G1G37		Ditch	A	130	Sometimes Dries	Moderate	70	Absent	Absent	>13	Good	90	0.55	Below Average	Yes
G1C38		Ditch	A	96	Sometimes Dries	Good	60	Absent	Absent	13	Good	40	0.77	Good	Yes
G1C39		Ditch	A	96	Sometimes Dries	Moderate	60	Absent	Absent	13	Moderate	20	0.68	Average	Yes
G1C4		Ditch	A	196	Sometimes Dries	Moderate	0	Minor	Possible	13	Moderate	70	0.73	Good	Yes
G1C40		Residential Pond	A	41	Sometimes Dries	Moderate	20	Absent	Absent	13	Good	30	0.63	Average	Yes
G1C41	PC11	Farm Pond	A	211	Rarely Dries	Moderate	30	Major	Absent	13	Moderate	40	0.51	Below Average	Yes
G1C42		Farm Pond	A	199	Rarely Dries	Moderate	80	Absent	Absent	13	Moderate	20	0.75	Good	Yes
G1C43	PC12	Farm Pond	A	190	Rarely Dries	Moderate	20	Minor	Absent	13	Moderate	60	0.8	Excellent	Yes
G1C44		Farm Pond	A	185	Rarely Dries	Moderate	40	Minor	Absent	13	Moderate	20	0.75	Good	Yes
G1C46	PC13	Woodland Pond	A	569	Rarely Dries	Moderate	70	Minor	Absent	13	Good	30	0.86	Excellent	Yes
G1C47	PC14	Farm Pond	A	73	Sometimes Dries	Moderate	20	Absent	Absent	13	Moderate	40	0.66	Average	Yes
G1C48	PC15	Farm Pond	A	98	Rarely Dries	Good	100	Absent	Absent	13	Moderate	0	0.62	Average	Yes
G1C49	PC16	Farm Pond	А	27	Sometimes Dries	Moderate	100	Absent	Absent	13	Moderate	10	0.5	Poor	No
G1C5		Ditch	А	278	Sometimes Dries	Moderate	0	Minor	Possible	13	Moderate	70	0.76	Good	Yes
G1C50	PC18	Farm Pond	A	226	Never Dries	Good	40	Minor	Absent	13	Moderate	10	0.78	Good	Yes
G1C51		Farm Pond	A	134	Rarely Dries	Good	10	Absent	Absent	13	Moderate	60	0.84	Excellent	Yes
G1C52	PC18	Farm Pond	А	284	Never Dries	Good	50	Absent	Absent	13	Moderate	0	0.8	Excellent	Yes
G1C53	PC17	Farm Pond	A	100	Rarely Dries	Good	70	Absent	Absent	13	Moderate	50	0.78	Good	Yes
G1C54	PC20	Farm Pond	A	238	Sometimes Dries	Moderate	40	Absent	Absent	13	Moderate	10	0.73	Good	Yes
G1C55		Ditch	A	462	Dries Annually	Moderate	80	Absent	Absent	13	Good	60	0.71	Good	Yes
G1C56	PC21	Farm Pond	A	229	Rarely Dries	Good	30	Absent	Absent	13	Moderate	10	0.82	Excellent	Yes
G1C57	PC22	Farm Pond	A	279	Rarely Dries	Good	70	Absent	Absent	13	Moderate	10	0.81	Excellent	Yes
G1C58		Woodland Pond	A	36	Sometimes Dries	Moderate	80	Absent	Absent	14	Moderate	0	0.54	Below Average	Yes
G1C59		Ditch	A	256	Dries Annually	Good	100	Absent	Absent	13	Good	0	0.56	Below Average	Yes
G1C60		Ditch	A	118	Dries Annually	Good	20	Absent	Absent	13	Moderate	80	0.65	Average	Yes
G1C61		Woodland Pond	A	122	Dries Annually	Poor	100	Absent	Absent	13	Good	0	0.46	Poor	No
G1C62		Ditch	A	2825	Rarely Dries	Good	0	Absent	Minor	13	Moderate	20	0.82	Excellent	Yes

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Hornsea Three Onshore ECR Corridor

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G1C63		Ditch	A	204	Dries Annually	Poor	100	Absent	Absent	13	Poor	0	0.44	Poor	No
G1C64		Residential Pond	A	462	Never Dries	Good	40	Minor	Possible	13	Poor	20	0.75	Good	Yes
G1C65		Farm Pond	А	925	Never Dries	Moderate	60	Minor	Minor	13	Moderate	0	0.7	Average	Yes
G1C66	PC28	Farm Pond	A	262	Dries Annually	Poor	100	Absent	Absent	13	Good	0	0.5	Below Average	Yes
G1C67	PC27	Woodland Pond	A	70	Dries Annually	Poor	100	Absent	Absent	13	Good	0	0.43	Poor	No
G1C68	PC29	Woodland Pond	A	482	Never Dries	Moderate	70	Absent	Absent	13	Good	0	0.82	Excellent	Yes
G1C69	PC30	Farm Pond	A	867	Rarely Dries	Good	70	Minor	Absent	13	Moderate	0	0.8	Good	Yes
G1C7		Farm Pond	A	50	Dries Annually	Poor	80	Absent	Absent	13	Moderate	0	0.43	Poor	No
G1C70		Farm Pond	A	491	Never Dries	Good	80	Absent	Absent	13	Moderate	0	0.8	Excellent	Yes
G1C71		Ditch	A	203	Dries Annually	Moderate	0	Absent	Absent	13	Moderate	60	0.66	Scoped out (running water)	No
G1C72		Ditch	A	84	Dries Annually	Poor	90	Absent	Absent	13	Good	0	0.49	Poor	No
G1C73		Residential Pond	A	223	Rarely Dries	Good	10	Minor	Minor	>13	Moderate	70	0.76	Good	Yes
G1C8		Ditch	A	58	Dries Annually	Poor	70	Absent	Absent	13	Moderate	0	0.47	Poor	No
G1C9		Ditch	A	356	Dries Annually	Poor	80	Absent	Absent	13	Good	90	0.65	Average	Yes
G1D1		Ditch	A	483	Sometimes Dries	Moderate	40	Minor	Absent	13	Good	70	0.86	Excellent	Yes
G1D11		Ditch	A	375	Sometimes Dries	Poor	60	Absent	Absent	13	Moderate	80	0.77	Good	Yes
G1D12		Ditch	A	228	Dries Annually	Bad	50	Absent	Absent	13	Moderate	100	0.44	Poor	No
G1D13		Ditch	A	358	Dries Annually	Bad	70	Absent	Absent	13	Moderate	90	0.45	Poor	No
G1D14		Ditch	A	39	Dries Annually	Bad	40	Absent	Absent	13	Moderate	100	0.35	Poor	No
G1D15	PD3	Woodland Pond	A	176	Sometimes Dries	Poor	80	Absent	Absent	13	Moderate	0	0.62	Average	Yes
G1D16		Farm Pond	A	28	Sometimes Dries	Moderate	50	Minor	Absent	13	Good	20	0.6	Below Average	Yes
G1D17		Ditch	A	78	Dries Annually	Moderate	50	Minor	Absent	13	Good	70	0.62	Scoped out (running water)	No
G1D18		Ditch	A	97	Dries Annually	Moderate	30	Absent	Absent	13	Good	90	0.64	Average	Yes
G1D2		Other	A	5143	Never Dries	Moderate	70	Minor	Possible	13	Good	30	0.83	Scoped out (running water)	No
G1D20	PD7	Farm Pond	A	161	Sometimes Dries	Moderate	50	Absent	Absent	11	Poor	10	0.65	Average	Yes
G1D21	PD8	Farm Pond	A	228	Rarely Dries	Moderate	80	Absent	Absent	11	Poor	0	0.67	Average	Yes
G1D22	PD10	Farm Pond	A	53	Sometimes Dries	Poor	90	Absent	Absent	10	Moderate	0	0.51	Below Average	Yes
G1D23	PD9	Farm Pond	А	122	Dries Annually	Poor	80	Absent	Absent	13	Poor	0	0.46	Poor	No
G1D3		Ditch	A	217	Sometimes Dries	Poor	50	Absent	Absent	13	Good	80	0.76	Good	Yes
G1D4		Residential Pond	А	240	Never Dries	Moderate	30	Absent	Possible	13	Good	30	0.81	Excellent	Yes
G1D5		Ditch	A	83	Sometimes Dries	Poor	60	Absent	Absent	13	Good	80	0.71	Good	Yes
G1D6		Ditch	A	152	Sometimes Dries	Poor	50	Absent	Absent	13	Good	50	0.72	Good	Yes
G1D7		Ditch	A	464	Sometimes Dries	Moderate	50	Absent	Absent	13	Good	70	0.89	Excellent	Yes
G1D8		Ditch	A	70	Sometimes Dries	Poor	60	Absent	Absent	13	Good	70	0.66	Average	Yes
G1D9		Ditch	А	417	Sometimes Dries	Moderate	80	Absent	Absent	13	Good	70	0.83	Excellent	Yes

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G1E1		Ditch	A	176	Sometimes Dries	Poor	60	Absent	Possible	13	Moderate	10	0.64	Scoped out (running water)	No
G1E10	PE4	Woodland Pond	A	167	Rarely Dries	Good	10	Absent	Absent	13	Good	40	0.86	Excellent	Yes
G1E11	PE5	Woodland Pond	А	117	Sometimes Dries	Moderate	50	Absent	Absent	13	Good	40	0.74	Good	Yes
G1E12	PE1	Other	A	50	Dries Annually	Poor	70	Absent	Absent	13	Good	10	0.47	Poor	No
G1E13	PE1	Other	A	64	Dries Annually	Poor	10	Absent	Absent	13	Good	100	0.55	Below Average	Yes
G1E14	PE1	Other	A	92	Rarely Dries	Good	0	Absent	Absent	13	Good	80	0.85	Excellent	Yes
G1E15		Ditch	A	187	Sometimes Dries	Bad	90	Absent	Absent	13	Good	0	0.43	Poor	No
G1E16		Woodland Pond	A	293	Sometimes Dries	Moderate	70	Absent	Absent	13	Good	0	0.74	Good	Yes
G1E17		Woodland Pond	A	513	Sometimes Dries	Moderate	80	Absent	Absent	13	Good	0	0.76	Good	Yes
G1E18		Ditch	A	485	Rarely Dries	Moderate	70	Absent	Absent	13	Good	30	0.89	Excellent	Yes
G1E19		Woodland Pond	A	256	Sometimes Dries	Moderate	90	Absent	Absent	13	Good	0	0.68	Average	Yes
G1E2		Ditch	A	951	Sometimes Dries	Poor	70	Absent	Possible	13	Moderate	10	0.69	Scoped out (running water)	No
G1E20		Woodland Pond	A	197	Sometimes Dries	Moderate	70	Absent	Absent	13	Good	0	0.71	Good	Yes
G1E21	PE6	Woodland Pond	A	331	Rarely Dries	Moderate	80	Absent	Absent	13	Good	10	0.8	Excellent	Yes
G1E22		Woodland Pond	A	126	Sometimes Dries	Moderate	80	Absent	Absent	13	Good	0	0.67	Average	Yes
G1E23		Woodland Pond	A	147	Sometimes Dries	Moderate	90	Absent	Absent	13	Good	0	0.64	Average	Yes
G1E24		Ditch	А	2166	Never Dries	Moderate	70	Minor	Possible	13	Good	30	0.83	Excellent	Yes
G1E25		Ditch	A	84	Rarely Dries	Moderate	60	Absent	Absent	13	Good	40	0.79	Good	Yes
G1E26		Ditch	A	148	Never Dries	Moderate	60	Absent	Possible	13	Good	30	0.77	Good	Yes
G1E27		Ditch	A	1061	Never Dries	Moderate	60	Absent	Possible	13	Good	30	0.86	Excellent	Yes
G1E28		Ditch	A	733	Never Dries	Good	40	Absent	Possible	13	Moderate	50	0.89	Excellent	Yes
G1E29		Ditch	A	52	Sometimes Dries	Moderate	40	Absent	Absent	13	Good	80	0.71	Good	Yes
G1E30		Ditch	A	673	Sometimes Dries	Moderate	80	Minor	Absent	13	Good	70	0.82	Excellent	Yes
G1E31		Ditch	А	792	Rarely Dries	Moderate	80	Absent	Possible	13	Good	10	0.8	Excellent	Yes
G1E32		Ditch	A	1990	Never Dries	Good	60	Absent	Possible	13	Good	30	0.88	Excellent	Yes
G1E33		Ditch	A	1742	Never Dries	Good	60	Minor	Possible	13	Good	30	0.85	Excellent	Yes
G1E34	PE8	Farm Pond	A	537	Rarely Dries	Good	10	Absent	Absent	13	Moderate	80	0.96	Excellent	Yes
G1E35		Ditch	А	284	Sometimes Dries	Good	20	Absent	Absent	13	Good	90	0.88	Excellent	Yes
G1E36		Ditch	A	26	Rarely Dries	Moderate	70	Absent	Absent	13	Moderate	10	0.61	Average	Yes
G1E37		Ditch	A	311	Sometimes Dries	Moderate	90	Absent	Absent	13	Moderate	20	0.7	Average	Yes
G1E38		Ditch	A	733	Sometimes Dries	Moderate	40	Absent	Absent	13	Moderate	80	0.86	Excellent	Yes
G1E39		Ditch	A	296	Never Dries	Moderate	70	Absent	Absent	13	Good	50	0.86	Excellent	Yes
G1E4		Other	A	2327	Never Dries	Poor	90	Minor	Possible	13	Good	0	0.69	Scoped out (running water)	No
G1E40		Farm Pond	A	512	Rarely Dries	Moderate	40	Absent	Absent	8	Good	50	0.92	Excellent	Yes
G1E41		Farm Pond	A	905	Rarely Dries	Moderate	30	Minor	Minor	4	Good	30	0.76	Good	Yes

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G1E42		Ditch	А	32	Sometimes Dries	Moderate	70	Absent	Absent	4	Good	60	0.62	Average	Yes
G1E45	PE11	Farm Pond	A	110	Never Dries	Good	30	Absent	Possible	3	Good	80	0.78	Good	Yes
G1E5		Other	A	223	Never Dries	Poor	80	Minor	Possible	13	Good	0	0.63	Scoped out (running water)	No
G1E6		Woodland Pond	A	84	Rarely Dries	Moderate	20	Absent	Absent	13	Good	80	0.82	Excellent	Yes
G1E7	PE2	Woodland Pond	A	117	Rarely Dries	Good	20	Absent	Absent	13	Good	70	0.85	Excellent	Yes
G1E8	PE3	Woodland Pond	A	148	Sometimes Dries	Good	60	Absent	Possible	24	Good	100	0.78	Good	Yes
G1E9		Woodland Pond	A	31	Rarely Dries	Moderate	20	Absent	Absent	13	Good	30	0.68	Average	Yes
G1F12		Ditch	А	545	Rarely Dries	Good	10	Major	Absent	13	Good	70	0.63	Average	Yes
G1F13		Other	A	147	Dries Annually	Good	0	Minor	Absent	26	Poor	80	0.61	Average	Yes
G1F15		Ditch	A	530	Dries Annually	Good	0	Major	Absent	13	Moderate	100	0.47	Poor	No
G1F16		Farm Pond	A	62	Dries Annually	Poor	0	Minor	Absent	13	Good	100	0.53	Below Average	Yes
G1F17		Farm Pond	A	871	Never Dries	Good	0	Major	Possible	13	Good	70	0.6	Below Average	Yes
G1F18		Ditch	A	693	Never Dries	Good	20	Minor	Possible	13	Good	50	0.89	Excellent	Yes
G1F22		Farm Pond	A	518	Never Dries	Good	60	Minor	Possible	13	Good	50	0.89	Excellent	Yes
G1F23	PF8	Farm Pond	A	582	Never Dries	Moderate	40	Absent	Possible	13	Good	30	0.87	Excellent	Yes
G1F24		Other	A	2573	Never Dries	Good	50	Minor	Possible	13	Good	50	0.9	Scoped out (running water)	No
G1F25	PF9	Farm Pond	A	851	Never Dries	Moderate	20	Minor	Possible	13	Good	20	0.82	Excellent	Yes
G1F26		Other	A	1508	Never Dries	Good	50	Minor	Possible	13	Moderate	50	0.85	Scoped out (running water)	No
G1F27		Ditch	A	154	Dries Annually	Poor	80	Absent	Absent	13	Good	0	0.53	Below Average	Yes
G1F28	PF10	Other	A	1157	Dries Annually	Poor	80	Absent	Absent	13	Good	0	0.59	Below Average	Yes
G1F29		Farm Pond	A	44	Sometimes Dries	Poor	80	Absent	Absent	13	Moderate	10	0.52	Below Average	Yes
G1F30		Farm Pond	A	225	Sometimes Dries	Moderate	90	Absent	Absent	13	Good	10	0.68	Average	Yes
G1F31		Ditch	A	27	Sometimes Dries	Moderate	90	Absent	Absent	13	Good	0	0.54	Below Average	Yes
G1F32		Ditch	A	16	Rarely Dries	Good	50	Absent	Absent	13	Good	60	0.73	Scoped out (running water)	No
G1F33		Ditch	A	26	Sometimes Dries	Poor	90	Absent	Absent	13	Good	80	0.56	Below Average	Yes
G1F34		Other	A	6924	Never Dries	Good	70	Minor	Major	13	Good	30	0.59	Scoped out (used for fishing)	No
G1F35		Woodland Pond	A	180	Never Dries	Good	90	Minor	Possible	13	Good	40	0.73	Good	Yes
G1F36		Scoped out (no waterbody)	A										0	Scoped out (no waterbody)	No
G1F37	PF12	Residential Pond	A	1505	Sometimes Dries	Moderate	70	Minor	Absent	13	Good	40	0.8	Excellent	Yes
G1F39	PF11	Farm Pond	A	78	Sometimes Dries	Moderate	80	Absent	Absent	13	Moderate	10	0.64	Average	Yes
G1F40	PF11	Farm Pond	A	87	Sometimes Dries	Moderate	80	Minor	Absent	13	Moderate	10	0.61	Average	Yes
G1F41	PF11	Farm Pond	A	89	Sometimes Dries	Moderate	90	Minor	Possible	13	Moderate	20	0.58	Below Average	Yes
G1F44		Ditch	A	243	Sometimes Dries	Poor	50	Absent	Absent	13	Moderate	10	0.68	Average	Yes
G1F45	PF13	Farm Pond	A	422	Never Dries	Moderate	60	Minor	Possible	13	Moderate	40	0.8	Good	Yes
G1F46	PF14	Farm Pond	A	136	Never Dries	Poor	60	Minor	Possible	13	Moderate	20	0.65	Average	Yes

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Waterbody ID	RPS (2016) Reference	Water`body Description	SI1 - Geographic Location	SI2 - Pond Area (m2)	SI3 - Permanence	SI4 - Water Quality	SI5 - Shade	SI6 - Waterfowl	SI7 - Fish	SI8 - Pond Count	SI9 - Terrestrial Habitat	SI10 - Macrophytes	HSI Score	HSI Category	eDNA Survey recommended
G1F49	PF15	Farm Pond	A	152	Sometimes Dries	Moderate	90	Absent	Absent	13	Moderate	50	0.68	Average	Yes
G1F50		Farm Pond	A	301	Never Dries	Moderate	30	Minor	Possible	13	Moderate	10	0.73	Good	Yes
G1F51	PF16	Farm Pond	A	446	Sometimes Dries	Poor	60	Absent	Absent	13	Moderate	80	0.79	Good	Yes
G1F52		Ditch	А	204	Dries Annually	Poor	10	Absent	Absent	13	Moderate	100	0.61	Average	Yes
G1F53		Ditch	A	29	Dries Annually	Poor	0	Absent	Absent	13	Moderate	0	0.45	Poor	No
G1F55		Ditch	A	140	Never Dries	Poor	50	Minor	Possible	7	Moderate	10	0.62	Scoped out (running water)	No
G1F56		Farm Pond	A	325	Sometimes Dries	Poor	40	Major	Possible	7	Moderate	40	0.44	Poor	No
G1F57		Ditch	A	175	Sometimes Dries	Moderate	20	Minor	Absent	7	Moderate	80	0.72	Good	Yes
G1F58		Ditch	A	178	Dries Annually	Poor	100	Absent	Absent	5	Moderate	0	0.46	Poor	No
G1F59		Residential Pond	A	184	Rarely Dries	Moderate	80	Minor	Possible	5	Moderate	10	0.65	Average	Yes
G1F60		Residential Pond	A	1998	Never Dries	Poor	10	Major	Major	5	Moderate	20	0.3	Poor	No
G1F61	PF19	Residential Pond	A	2585	Never Dries	Poor	20	Major	Major	5	Moderate	10	0.34	Poor	No
G1F62		Ditch	A	183	Rarely Dries	Poor	60	Minor	Possible	5	Moderate	20	0.66	Scoped out (running water)	No
G1F63	PF20	Residential Pond	A	362	Never Dries	Poor	50	Minor	Possible	7	Moderate	40	0.72	Good	Yes
G1F67	PF21	Woodland Pond	A	162	Sometimes Dries	Poor	70	Absent	Absent	13	Moderate	50	0.68	Average	Yes
G1F69		Other	A	266	Never Dries	Good	50	Absent	Absent	13	Moderate	10	0.81	Scoped out (running water)	No
G1F70		Farm Pond	A	1425	Never Dries	Good	30	Minor	Possible	13	Moderate	20	0.81	Excellent	Yes
G1F71		Other	A	425	Sometimes Dries	Good	100	Absent	Possible	13	Moderate	20	0.67	Average	Yes
G1F72		Other	A	709	Sometimes Dries	Good	30	Absent	Absent	13	Moderate	20	0.84	Scoped out (running water)	No
G1F73		Other	A	504	Never Dries	Good	70	Minor	Absent	13	Moderate	40	0.86	Scoped out (running water)	No
G1F74		Other	A	448	Never Dries	Good	20	Minor	Possible	13	Good	70	0.9	Excellent	Yes
G1G1		Ditch	А	77	Dries Annually	Bad	90	Absent	Absent	16	Poor	0	0.31	Poor	No
G1G10		Woodland Pond	A	121	Sometimes Dries	Moderate	60	Absent	Absent	13	Good	0	0.68	Average	Yes
G1G11		Ditch	A	249	Dries Annually	Moderate	70	Absent	Absent	13	Good	0	0.62	Average	Yes
G1G12		Other	A	996	Never Dries	Good	60	Absent	Absent	13	Good	10	0.9	Scoped out (running water)	No
G1G13		Ditch	A	246	Rarely Dries	Moderate	50	Absent	Absent	13	Good	80	0.9	Excellent	Yes
G1G14		Other	А	257	Never Dries	Good	30	Absent	Absent	13	Good	50	0.9	Scoped out (running water)	No
G1G15		Ditch	A	2461	Never Dries	Good	80	Absent	Possible	21	Moderate	20	0.83	Scoped out (running water)	No
G1G16		Ditch	А	170	Never Dries	Good	50	Absent	Possible	20	Moderate	20	0.76	Scoped out (running water)	No
G1G17		Farm Pond	A	354	Sometimes Dries	Moderate	70	Absent	Absent	13	Good	100	0.83	Excellent	Yes
G1G18		Ditch	А	46	Sometimes Dries	Moderate	0	Absent	Absent	17	Poor	10	0.54	Below Average	Yes
G1G19	PG5	Farm Pond	А	95	Sometimes Dries	Poor	30	Absent	Absent	13	Moderate	10	0.62	Average	Yes
G1G2		Ditch	A	1605	Rarely Dries	Moderate	20	Absent	Possible	15	Moderate	60	0.87	Scoped out (running water)	No
G1G20	PG4	Woodland Pond	A	197	Rarely Dries	Moderate	40	Absent	Possible	20	Good	40	0.81	Excellent	Yes
G1G3		Ditch	A	26	Sometimes Dries	Poor	70	Absent	Possible	14	Poor	10	0.47	Poor	No
G1G32		Ditch	А	23	Dries Annually	Poor	90	Absent	Absent	21	Moderate	0	0.41	Poor	No

at Suitability Assessment Surveys - Interim Report Hornsea Three Onshore ECR Corridor

Hornsea Three Onshore ECR Corridor

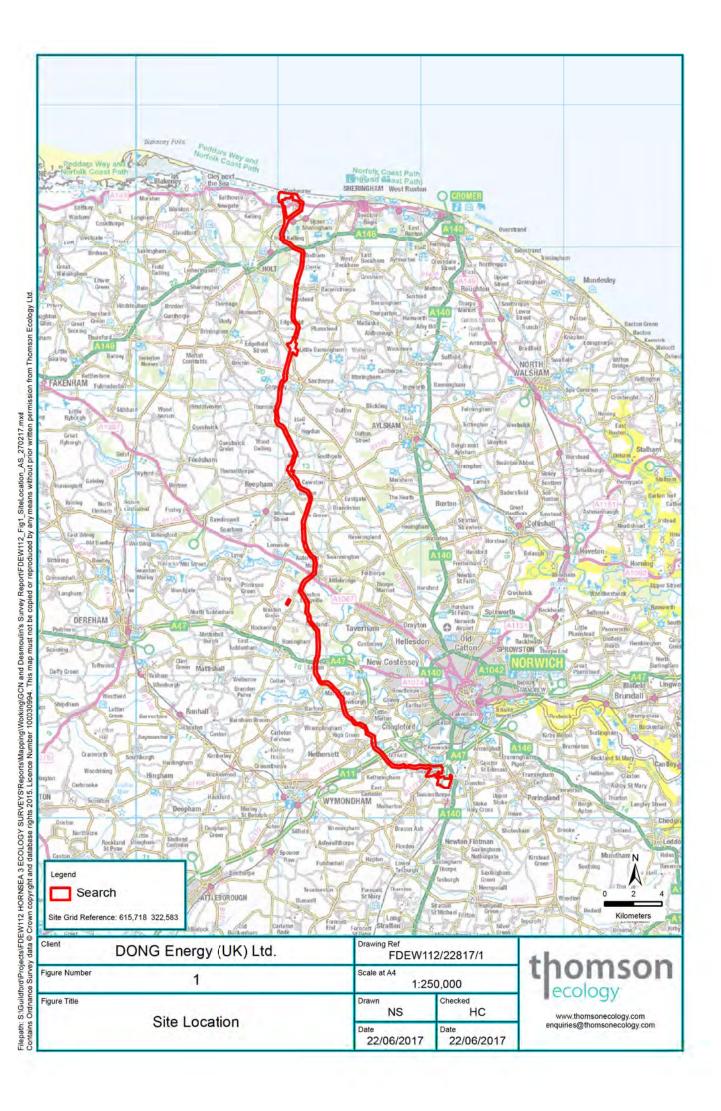
Waterbody ID	RPS (2016) Reference	Water`body Description	SI1 - Geographic Location	SI2 - Pond Area (m2)	SI3 - Permanence	SI4 - Water Quality	SI5 - Shade	SI6 - Waterfowl	SI7 - Fish	SI8 - Pond Count	SI9 - Terrestrial Habitat	SI10 - Macrophytes	HSI Score	HSI Category	eDNA Survey recommended
G1G33		Ditch	А	14	Dries Annually	Moderate	60	Absent	Absent	21	Good	10	0.52	Below Average	Yes
G1G34		Ditch	A	15	Dries Annually	Moderate	60	Absent	Absent	21	Good	10	0.52	Below Average	Yes
G1G35	PG29	Woodland Pond	A	213	Dries Annually	Poor	90	Absent	Absent	20	Good	0	0.52	Below Average	Yes
G1G36		Woodland Pond	A	458	Rarely Dries	Moderate	80	Minor	Possible	17	Moderate	0	0.71	Good	Yes
G1G37		Woodland Pond	A	130	Dries Annually	Moderate	80	Absent	Absent	17	Moderate	0	0.55	Below Average	Yes
G1G38		Woodland Pond	A	330	Dries Annually	Moderate	70	Absent	Absent	18	Moderate	0	0.61	Average	Yes
G1G39		Woodland Pond	A	213	Dries Annually	Moderate	80	Absent	Absent	19	Moderate	0	0.56	Below Average	Yes
G1G40		Woodland Pond	A	377	Rarely Dries	Poor	60	Absent	Possible	19	Moderate	0	0.72	Good	Yes
G1G41		Ditch	А	467	Dries Annually	Moderate	90	Absent	Absent	19	Good	10	0.63	Average	Yes
G1G42	PG32	Woodland Pond	А	879	Rarely Dries	Moderate	80	Absent	Possible	18	Good	10	0.8	Good	Yes
G1G44		Woodland Pond	A	364	Sometimes Dries	Poor	90	Absent	Absent	23	Moderate	10	0.64	Average	Yes
G1G45		Woodland Pond	A	86	Sometimes Dries	Poor	100	Absent	Absent	22	Moderate	10	0.53	Below Average	Yes
G1G46	PG33	Woodland Pond	A	405	Dries Annually	Moderate	80	Major	Absent	18	Good	0	0.4	Poor	No
G1G47	PG34	Woodland Pond	A	295	Dries Annually	Moderate	70	Absent	Absent	18	Good	0	0.63	Average	Yes
G1G48	PG35	Woodland Pond	A	445	Rarely Dries	Moderate	70	Absent	Possible	18	Good	0	0.79	Good	Yes
G1G49		Ditch	А	16	Dries Annually	Poor	50	Absent	Absent	17	Poor	10	0.43	Poor	No
G1G50		Woodland Pond	A	81	Dries Annually	Moderate	80	Absent	Absent	18	Moderate	10	0.54	Below Average	Yes
G1G51	PG31	Farm Pond	А	144	Sometimes Dries	Moderate	100	Absent	Absent	18	Moderate	30	0.62	Average	Yes
G1G52		Ditch	A	1952	Dries Annually	Poor	80	Absent	Absent	20	Poor	30	0.56	Below Average	Yes
G1G58		Ditch	A	643	Dries Annually	Poor	20	Absent	Absent	19	Poor	30	0.6	Average	Yes
G1G7		Ditch	A	210	Never Dries	Good	50	Absent	Possible	12	Poor	0	0.69	Scoped out (running water)	No
G1G75	PG2	Farm Pond	A	814	Never Dries	Poor	30	Major	Possible	13	Moderate	0	0.46	Poor	No
G1G77		Ditch	A	724	Dries Annually	Poor	100	Absent	Possible	11	Good	10	0.53	Scoped out (running water)	No
G1G8		Ditch	A	268	Never Dries	Good	50	Absent	Possible	12	Poor	80	0.79	Scoped out (running water)	No
G1G9		Ditch	A	510	Never Dries	Good	100	Absent	Possible	14	Good	0	0.72	Scoped out (running water)	No

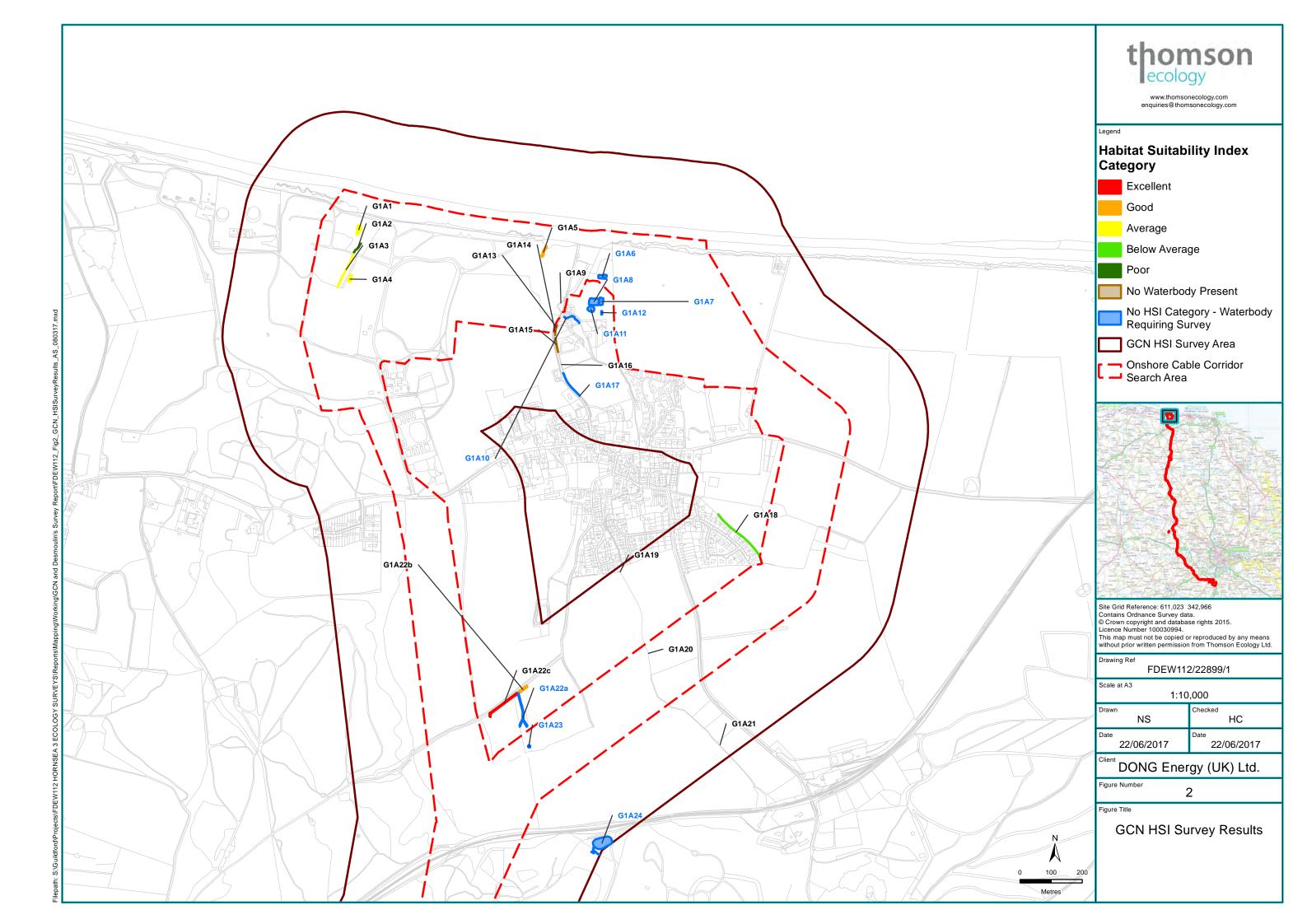
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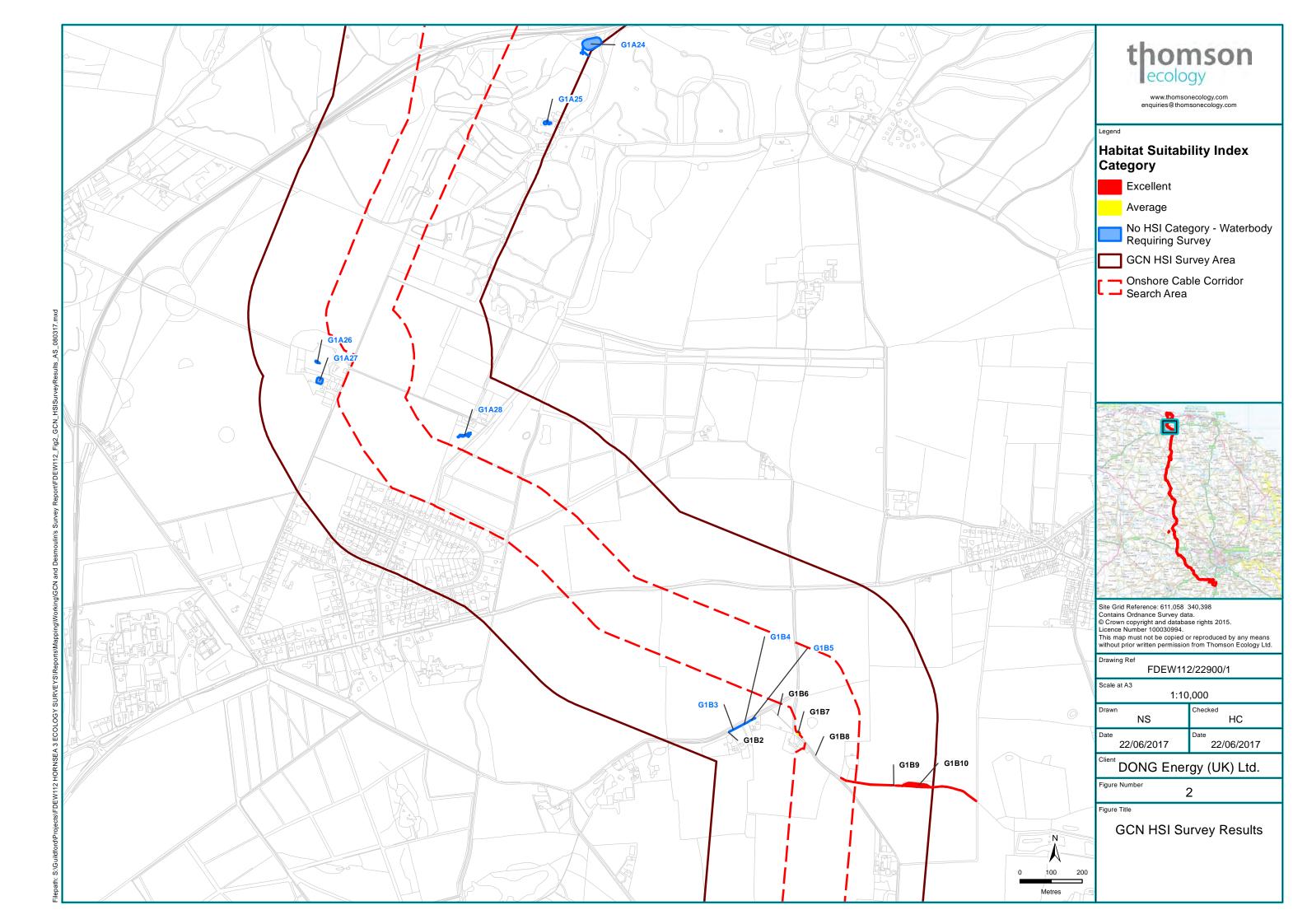
Great Crested Newt Habitat Suitability Index and Desmoulin's Whorl Snail Habitat Suitability Assessment Surveys Hornsea Three Onshore ECR

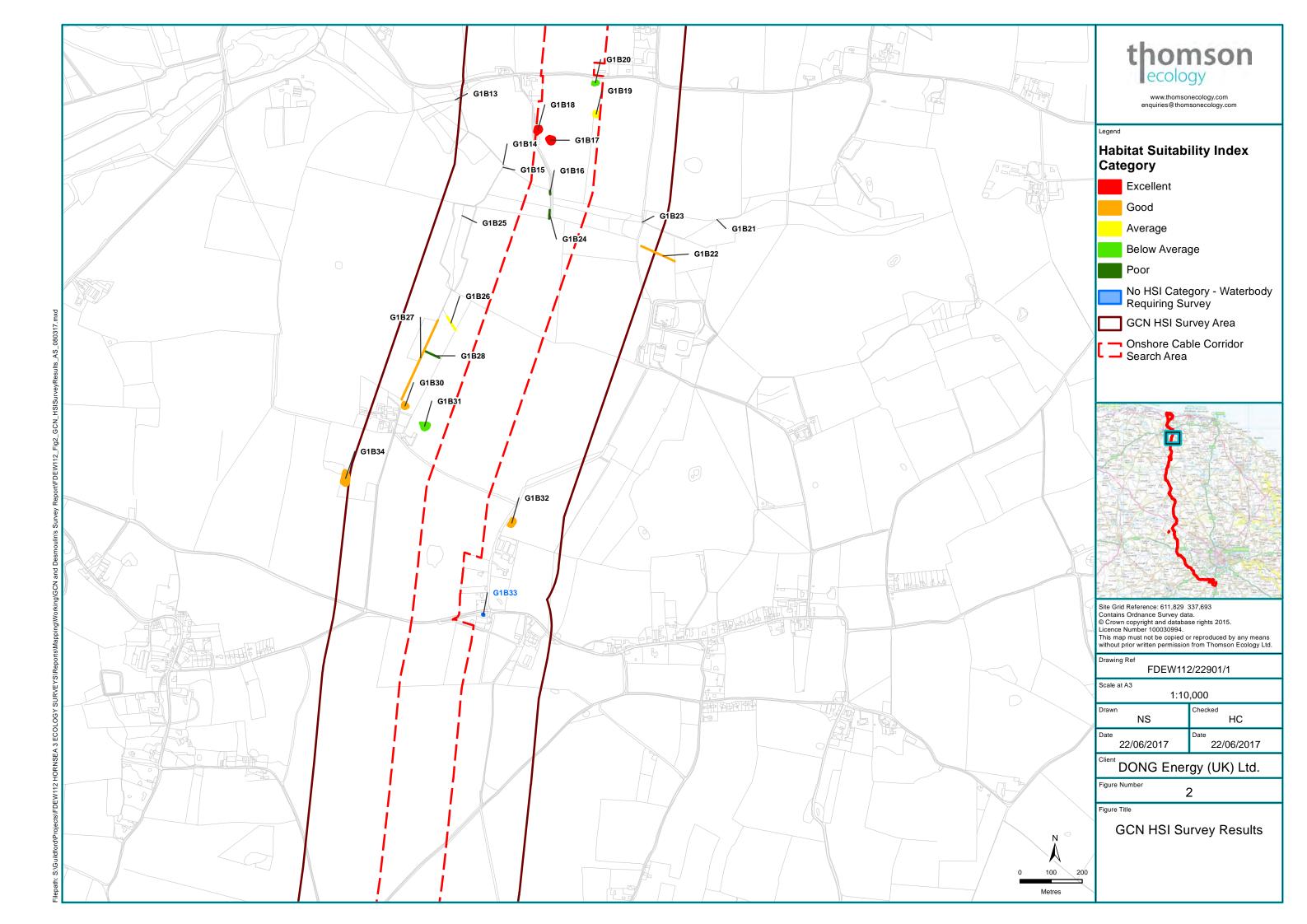
7. Appendix 2 - DWS Habitat Suitability Assessment Results

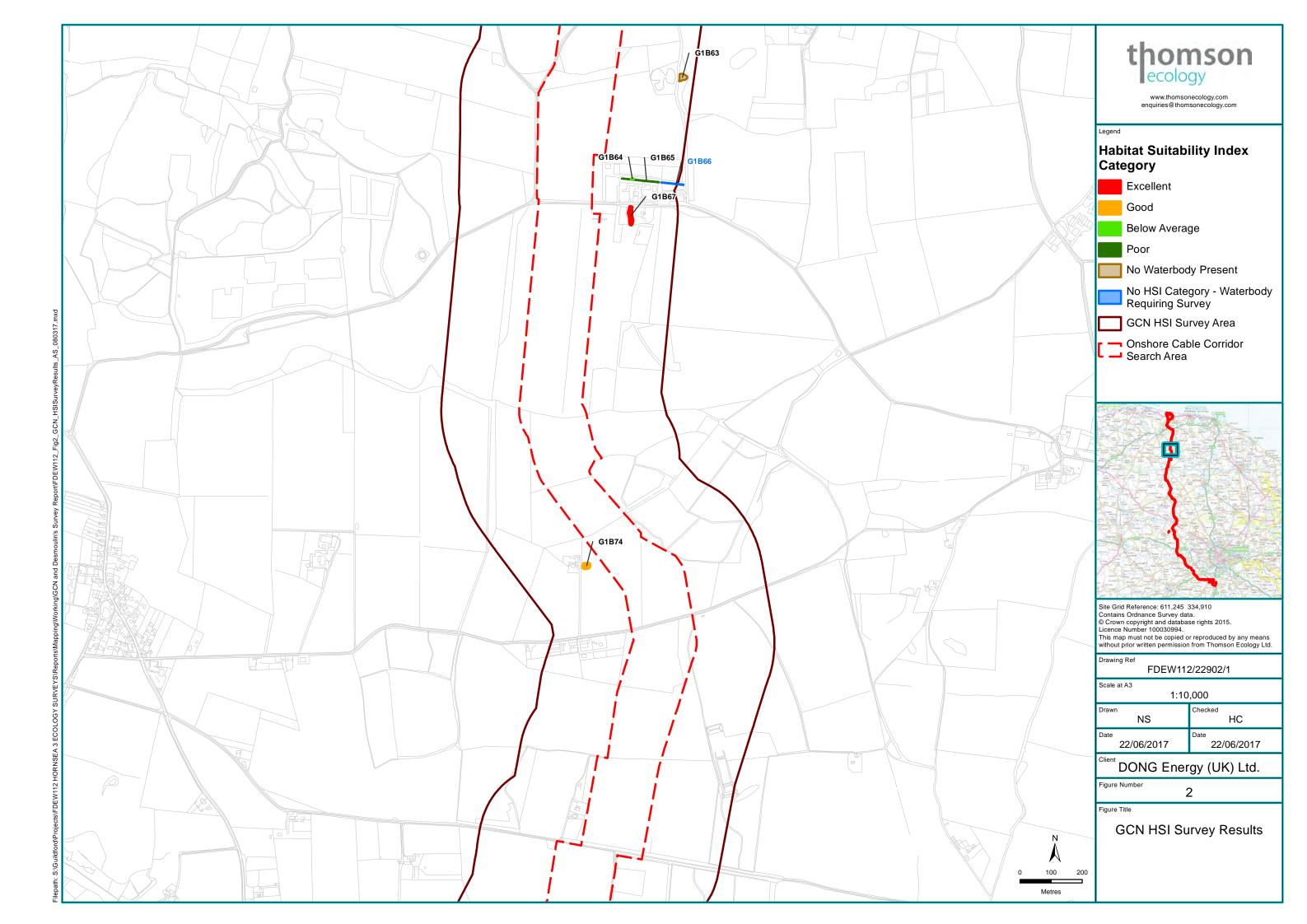
Habitat Survey parcel ID	RPS (2016) reference	Vegetation adjacent to Waterbody type	Vegetation Height (m)	Vegetation Species Composition	Ground Moisture Levels	Scrub Cover (%)	HSA Category	Further surveys recommended
D1A1	PA1	Pond	1.5	Willowherbs (III)	1 (Dry)	50	Poor	No
D1A2	N/A	Ditch	0.25	Other (IV)	2 (Damp)	65	Below Average	Yes
D1A3	N/A	Ditch	20	Other (IV)	2 (Damp)	50	Average	Yes
D1B4	PB5	Pond	0.1	Other (IV)	5 (Under water)	50	Poor	No
D1B5	N/A	Ditch	0	Other (IV)	2 (Damp)	80	Poor	No
D1B6	N/A	Ditch	10	Willowherbs (III)	2 (Damp)	60	Poor	No
D1B7	N/A	Ditch	10	Willowherbs (III)	2 (Damp)	80	Poor	No
D1B8	N/A	Ditch	0	Stinging nettle (II)	2 (Damp)	80	Poor	No
D1C1	N/A	Ditch	1	Willowherbs (III)	3 (Wet)	60	Poor	No
D1C3	N/A	Ditch	1	Other (IV)	3 (Wet)	10	Average	Yes
D1C4	N/A	Pond	1	Other (IV)	5 (Under water)	30	Poor	No
D1C5	N/A	Ditch	0.2	Reed canary-grass (II)	3 (Wet)	0	Below Average	Yes
D1D1	N/A	Ditch	3.5	Other (IV)	5 (Under water)	60	Average	Yes
D1D2	N/A	Ditch	2	Willowherbs (III)	3 (Wet)	80	Poor	No
D1D3	N/A	Ditch	1	Stinging nettle (II)	3 (Wet)	100	Poor	No
D1D4	N/A	Ditch	1	Stinging nettle (II)	3 (Wet)	90	Poor	No
D1E1	N/A	Ditch	0.5	Other (IV)	3 (Wet)	20	Average	Yes
D1E2	N/A	Ditch	1	Other (IV)	3 (Wet)	90	Below Average	Yes
D1E4	N/A	Ditch	1,5	Reed sweet-grass (I)	4 (Very wet)	80	Average	Yes (River Wensu SSSI/SAC)
D1E5	N/A	Ditch	1.5	Reed sweet-grass (I)	4 (Very wet)	90	Good	Yes
D1E6	N/A	Ditch	2	Reed sweet-grass (I)	4 (Very wet)	90	Good	Yes (River Wensu SSSI/SAC)
D1E7	N/A	Ditch	3	Reed sweet-grass (I)	4 (Very wet)	70	Good	Yes (River Wensu SSSI/SAC)
D1F2	N/A	Ditch	30	Reed sweet-grass (I)	2 (Damp)	0	Average	Yes
D1F3	N/A	Ditch	1.5	Reed sweet-grass (I)	2 (Damp)	50	Good	Yes
D1F4	N/A	Ditch	4	Other (IV)	5 (Under water)	100	Poor	No
D1F5	N/A	Ditch	2	Other (IV)	5 (Under water)	20	Average	Yes
D1F6	N/A	Ditch	0.2	Other (IV)	3 (Wet)	50	Below Average	Yes
D1F7	N/A	Ditch	0.2	Other (IV)	3 (Wet)	0	Poor	No
D1F8	N/A	Ditch	40	Willowherbs (III)	1 (Dry)	20	20 Below Average	
D1G2	N/A	Ditch	50	Reed canary-grass (II)	3 (Wet)	50	Average	Yes
D1G3	N/A	Ditch	0.1	Other (IV)	5 (Under water)	80	Below Average	Yes

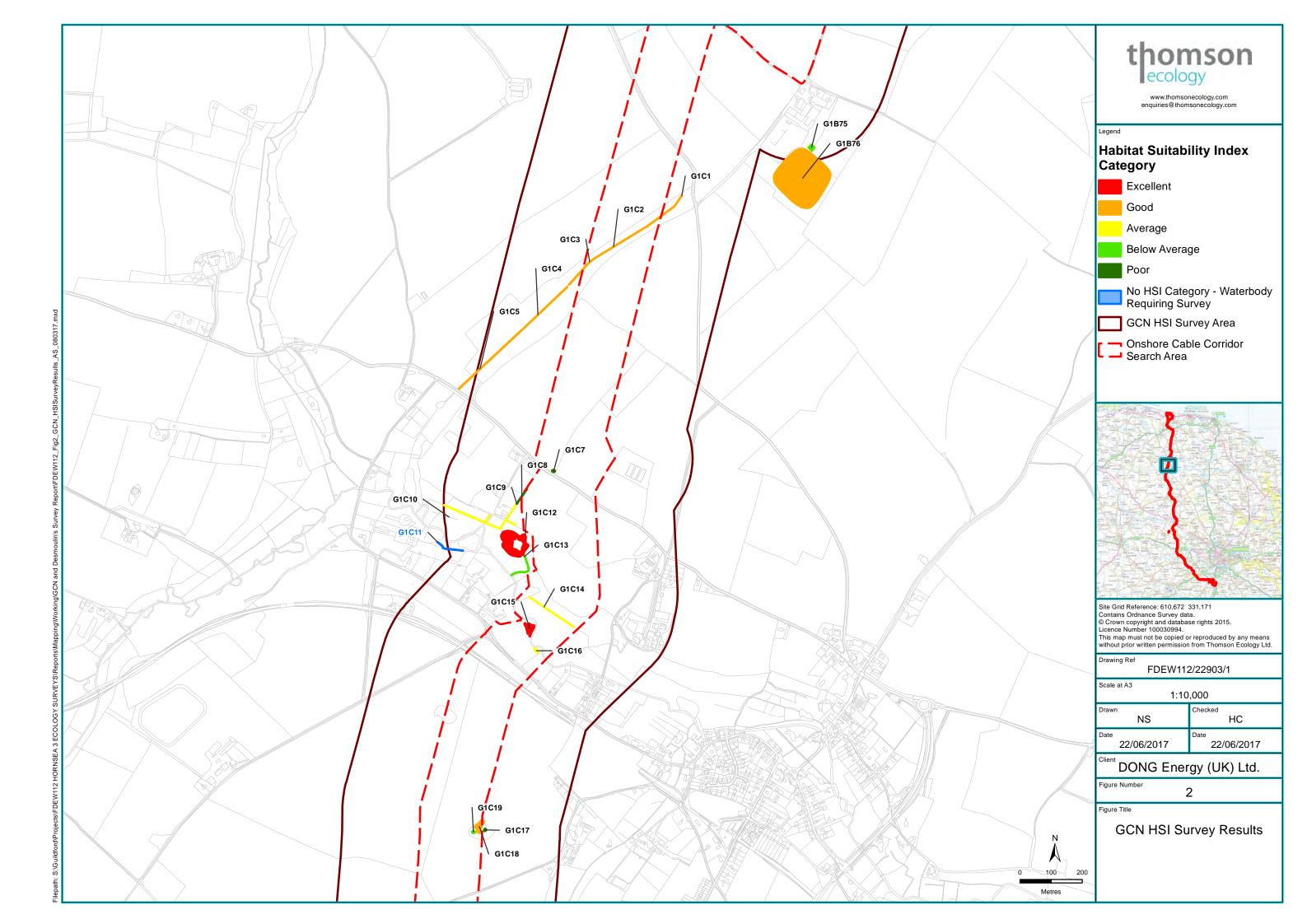


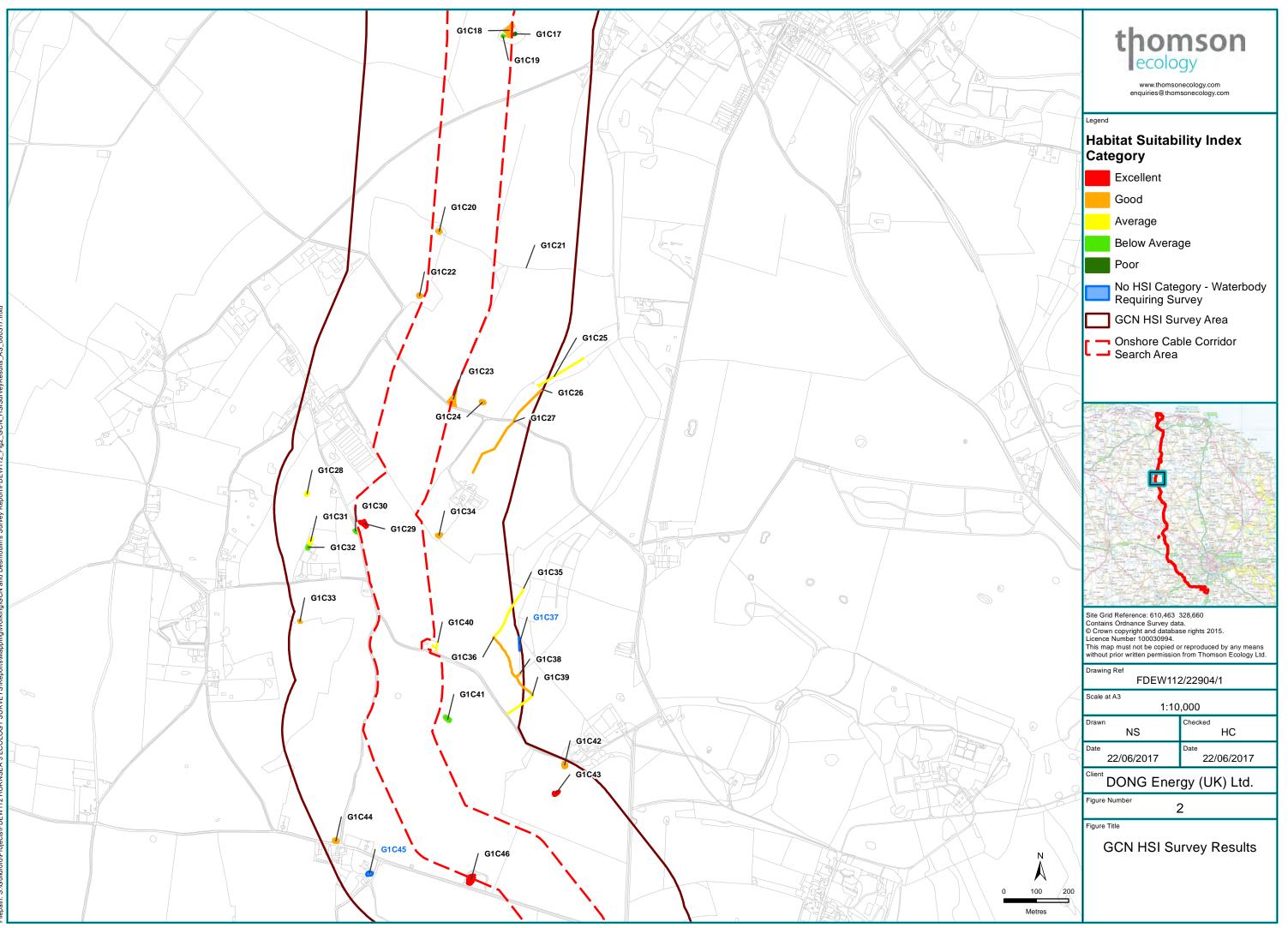


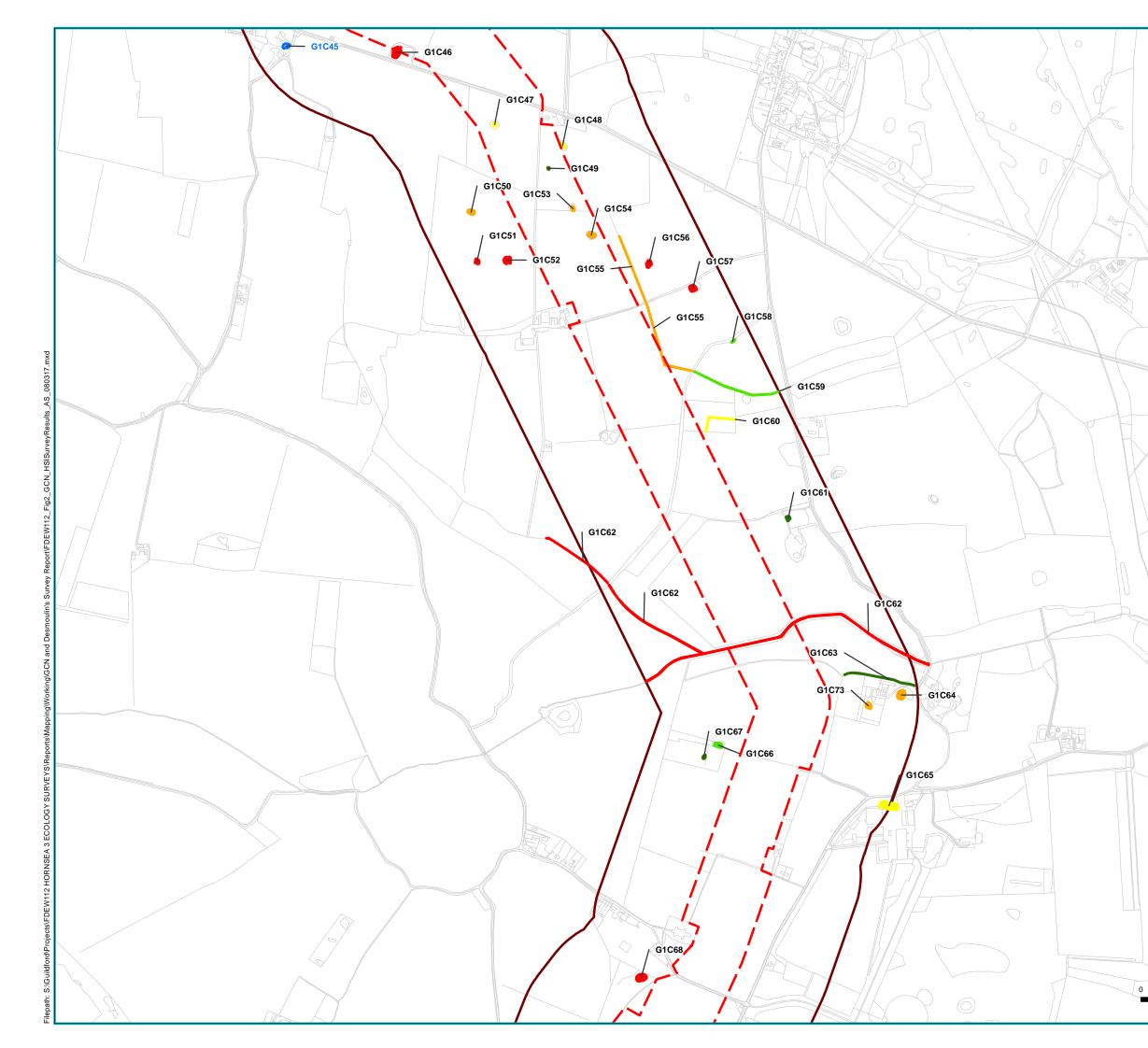


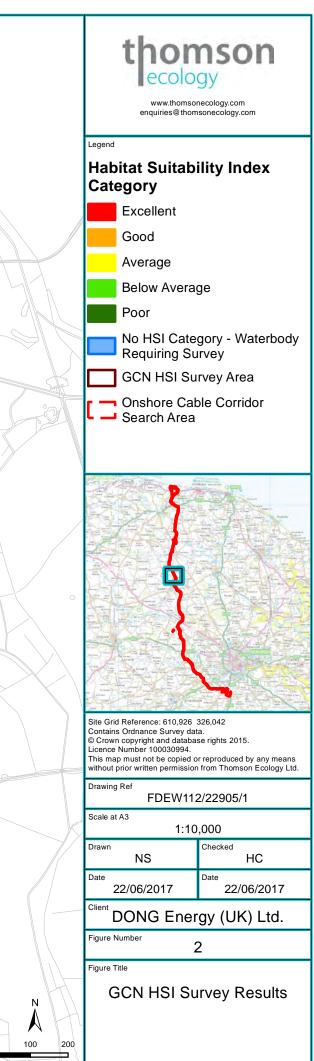












Metres

