APPENDIX UES10-3

MARINE SURVEYS AT NORTH KILLINGHOLME AND CHERRY COBB SANDS (AUTUMN 2015)

ABLE MARINE ENERGY PARK
(Material Change 2 – TR030006)

Report to: Able UK Ltd

Marine Surveys at North Killingholme and Cherry Cobb Sands (Autumn 2015).

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1. Introduction

The development of the Able Marine Energy Park (AMEP) east of North Killingholme on the Lincolnshire Coast will partly affect the Humber Estuary Special Area of Conservation (SAC) and the Special Protection Area (SPA) / Ramsar site. Consequently a series of measures have been derived to both compensate and mitigate for the effects of the AMEP on the habitats and species within this area of the Humber estuary and these will be implemented as part of any future development. As part of this process a Marine Environmental Management and Monitoring Plan (MEMMP) was produced in April 2013 following close consultation with stakeholders and in addition to other components included requirements for the monitoring of intertidal and subtidal benthic invertebrate and fish communities in the vicinity of the proposed development at North Killingholme (NKM) and the compensation site at Cherry Cobb Sands (CCS). The current report summarises the results of the autumn 2015 intertidal benthic invertebrate at North Killingholme and Cherry Cobb Sands undertaken in September and October 2015.

2. Methods

2.1 Intertidal Benthic Survey

The methods employed for the survey follow those outlined in the MEMMP and utilised a survey design which aimed to provide additional information on intertidal benthic infauna at North Killingholme and Cherry Cobb Sands in relation to observed avifaunal usage. The survey design and methods outlined in the MEMMP are based on existing guidelines and methodologies followed Procedural Guideline No. 3-6: Quantitative sampling of intertidal sediment species using cores (from the Marine Monitoring Handbook - Davies et al, 2001).

As with the 2013 invertebrate surveys a beyond BACI (Before-After Control-Impact) gradient design was utilised to take into account the existence of different zones of impact (primary impact, under the direct footprint of the quay development, and secondary impact) and also control areas subject to no impact. The survey design also takes into account shore level (upper, middle and lower shore strata) to account for the variability of communities that occur at different shore levels. The proposed survey design outlined in the MEMMP involved sampling along a series of 17 transects running from the seawall or lower extent of the saltmarsh to approximately mean low water (tides permitting) which cover the direct impact area (10 transects within the development footprint), indirect impact areas to the south (transects 1.1 and 1.2) and north (transects 1.8 and 1.9) a control area to the north (transects 3.1, 3.2 and 3.3). The survey included a higher number of transects within the development area to provide greater coverage and rather than employ replicate sampling a series of nine sites were sampled along each transect to cover the upper, mid and low shore areas with three sites (A, B and C) in each shore zone. In 2015 following a request by Natural England an additional transect was sampled (1.6A) in an area where increased avifaunal usage was noted. At each sampling site one 0.01m^2 core sample was taken from the sediment using a hand held corer (0.01 m^2) and placed into sealable plastic bags, each carrying a unique code for the station. Cores were taken to a depth of 30cm (in contrast to 15 to 20 cm in 2013) to ensure adequate recovery of burrowing invertebrates and an additional sample at each sampling

station was collected for Particle Size Analysis. At Cherry Cobb Sands a similar approach was taken with sampling undertaken along transects in the control areas utilised for the 2013 surveys. This involved taking three samples (A, B and C) along each transect in the upper, mid and low shore areas of each transect at the northern control area (Transects CN1, CN2 and CN4) and the southern control area (transects CS1, CS2 and CS3). The locations of the survey areas and positions of the sample sites are provided in Figure 1 in Section 3.

The Cherry Cobb Sands site differs in terms of general topography from the North Killingholme site as this area has a much wider intertidal area with increasingly sandy sediments on the low shore. There is also extensive encroachment of saltmarsh (*Spartina*) with dense creek systems on the upper shore in the region of the northern control sites which made much of the upper shore area inaccessible – for transects CN1 and CN2 the nine sample sites ran from the lowest extent of the upper-mid shore saltmarsh with an additional upper shore site (CN1U2 and CN2U2) sampled on the fringe of Stone Creek which runs parallel to the shore in this area.

The samples collected were kept cool until laboratory processing which took place the following day in which samples were sieved through a 0.5mm mesh sieve and stored in 4% buffered saline formalin solution. Due to the nature of the sediments in the area (soft mud) sampling was undertaken using a hovercraft platform and sample positions were logged using a Magellan Promark 3 GPS logger. The intertidal survey was undertaken on spring tides between the 16th September and the 2nd October 2015.

2.2 Laboratory Analysis

All laboratory methodologies were based on best practice and followed tried and tested method statements widely acknowledged within the industry (Ware & Kenny, 2011; Worsfold & Hall, 2010; Cooper & Rees 2002; Rees, 1999; Barnett, 1993; Rees et al, 1990). PMSL are members of the National Marine Biological and Analytical Quality Control scheme (NMBAQC).

Two experienced members of PMSL undertook the sample sorting, conducting all the sieving, sorting work and sample description with a further member of staff carrying out standard sorting quality control. Experienced taxonomists carried out the identification of the sorted fauna, with an additional member of staff carrying out quality control for faunal identification. A standard sample tracking procedure was followed throughout the analysis period.

2.3 Sorting of Invertebrate Samples

Each sample was sieved in freshwater water and then rinsed with running tap water through a 0.5mm stainless steel sieve with a nest of 20cm diameter 5mm and 1mm sieves used as required for any coarser material. The sieve contents were backwashed over a white tray to catch any potential spillage, into pre-labelled plastic storage buckets. A borax buffered 4% saline formalin solution was then added to the samples. The samples were then well mixed and stored for at least 48 hours to ensure adequate preservation and shaken once during the period.

Prior to identification each sample was washed through a nest of sieves, with the smallest mesh aperture of 0.5mm, to remove the preservative and partition the sample for ease of sorting. The residue from each sieve was then gently washed into separate white trays. Water was added to the trays and the contents agitated. Immediately after agitation, the light fraction was decanted to another tray. This procedure was repeated up to 3 times, and each tray of light fractions examined as a sub-sample of the heavy fraction. The trays were marked with the appropriate sample code (relating to the client, date, specific site, sample and replicate number). All fractions were then decanted into separate 100mm Petri dishes and examined under a stereoscopic microscope with 20x eyepieces giving a maximum magnification of up to 80x. The fauna derived was added to the retained containers, preserved and stored ready for identification. Each petri dish was checked for a final time by another member of staff.

2.4 Taxonomic Identification

Identification was carried out using Olympus SZ40 zoom microscopes with 10x and 20x eyepieces, giving a maximum magnification of up to 80x. An additional 2x objective was occasionally used to increase the potential magnification to 160x. Olympus BX41 compound microscopes were used for further magnification, up to 800x.

Identification of infaunal samples was to the lowest possible taxonomic level (i.e. species), and during identification, all individuals were initially separated into families, with part animals being assigned to families where possible. The macrofaunal specimens were identified to species level using standard taxonomic keys, low and high power stereoscopic microscopes and dissection when necessary, for identification. Incomplete animals without anterior ends are not recorded as individuals to be included in the quantitative dataset. However, they were identified where possible and recorded as present. Similarly, motile and colonial sessile epibenthic taxa and meiofauna were only recorded as present and not included within the infaunal quantitative data set.

As part of the standard quality assessment (QA) procedure, regular cross-reference identification was carried out. Each sample residue was described textually with the residue retained for possible further analysis and Analytical Quality Control (AQC). All fauna will be retained under the standard codes for 2 years or returned to the clients representative for further analysis and AQC should this be required.

The taxonomic literature used is essentially as given in Rees et al (1990) and reporting nomenclature was based on that of the Species Directory of the Marine Fauna and Flora of the British Isles and Surrounding Seas (Howson & Picton, 1997), with updated nomenclature as required following WoRMS standards (Appletans *et al*., 2010).

2.5 Biomass of Invertebrates

Biomass analysis was performed by wet weight (tissue blotted) and carried out for individual species in each sample. Each taxa was placed on blotting paper for 30 seconds to allow absorption of preservative into the blotting paper. Following this time period the individuals were placed on the microbalance and the reading taken. The macrofaunal organisms were

then placed back in their respective pots and stored. Biomass calculations include all identifiable fragments and calculated to ± 0.0001g, all biomass data was recorded in grams or fractions thereof. Following collation of wet weight biomass data conversions to Ash Free Dry Weight Biomass were undertaken using coefficients derived from Rumohr et al. (1987) and Ricciardi and Bourget (1998) for comparison with targets. Following analysis each specimen was returned to its sample pot and stored in 70% IMS (Industrial Methylated Spirits).

2.6 Invertebrate Size Class Determination

Following a request from Natural England an assessment of invertebrate size classes was also undertaken. Initially this was to target key prey species for key avifaunal species which utilise the North Killingholme area (e.g. Black Tail Godwit) namely *Macoma balthica* and *Hediste diversicolor* and this request was then expanded to cover all polychaete taxa. In order to maximise information from the 2015 survey size/biomass measurements were collected for all polychaete, oligochaete and mollusc taxa. As agreed prior to survey certain taxa/phyla were not included namely Nematoda (extremely small unsegmented worms), insect taxa and crustacea which are almost exclusively represented by the small amphipod *Corophium volutator*. *Corophium* is present in very high numbers at North Killingholme so measurements of each individual would entail a significant increase in analysis effort. However, this species is not considered an important prey resource for Black Tail Godwit (Stillman et al., 2005) and given that *Corophium* have a very restricted size range with animals typically falling into only one or two size classes it was not considered necessary to carry out a full size class assessment of this taxa. Specimens from the survey have however been retained should further analysis be required. The full dataset from this exercise is available on request but a summary of size class data is provide for key taxa (*Limicola* (*Macoma) balthica* and *Hediste diversicolor*) and the main phyla for North Killingholme and Cherry Cobb Sands in Appendix 1 (Gastropod taxa summaries are not shown as only one size class was present).

2.7 Particle Size Analysis (PSA)

Particle Size Analysis was undertaken following latest NMBAQC guidance (Mason, 2016). Prior to processing each of the sediment samples were visually assessed and the sample was mixed thoroughly until homogeneity is reached. PSA was undertaken using a combination of laser granulometry (Malvern Mastersizer 3000) and dry sieving. Any sample containing sediment greater than 1mm were processed using laser granulometry for the <1mm fraction and dry sieving for the >1mm fraction. Samples with no coarse fraction (>1mm) were processed by laser granulometry alone. A small sub-sample (approx. 100ml) was taken for laser granulometry and screened through a 1mm mesh sieve prior to analysis. If any evidence of coarser material was found then the remaining PSA sample was wet sieved through a 1mm sieve. The <1mm fraction was left to settle for 24 hours and the sediment then oven dried and weighed. The coarser sediment fraction (>1mm) was also oven dried and then dry sieved using an Endecotts sieve shaker for 20 minutes using a nest of sieves at 0.5phi intervals and each fraction weighed.

Data generated from these methods was analysed separately but for visualisation purposes the finer fractions were also merged to the coarse fraction (if present) to provide an overall grain size distribution for each sample following NMBAQC protocols. The combined data

generated from the analysis of both the coarse and the fine fractions was subject to further analysis using the software programme Gradistat. Each sample was assigned a description based on the Folk and/or the Wentworth classification system. Statistics relating to particle size distribution including mean/median grain size, skewness, kurtosis, sorting coefficient and bulk sediment classes (e.g. % silt, sand & gravel) were also calculated using the Gradistat software. These methods are consistent with the procedures identified at the recent NMBAQC PSA workshop on laboratory methods and those used for NMBAQC ring tests.

Estimates of total organic carbon were determined by loss on ignition. Each sample was oven dried at 105ºC until the weight stabilises (± 0.01g). The weight of the sample was recorded and the sample was then placed into a kiln at 450ºC +/- 10 ºC for eight hours or until weights stabilise. Once the sample had cooled the sample was then re-weighed and the difference between the two weights expressed as the percentage loss on ignition (% LOI).

3. Intertidal Benthic Survey Results

In total 154 samples were collected along 17 transects at North Killingholme whilst 57 samples were collected from Cherry Cobb Sands from 6 transects. The location of sampling sites surveyed during the intertidal survey is provided in Figures 1 and 2.

3.1 Sedimentary Parameters

3.1.1 North Killingholme

A summary of sedimentary parameters from survey sites at North Killingholme are provided in Table 1 with the full data provided in Appendix 2. The mean values of key sedimentary parameters for each survey area and shore position are provided in Figures 3 to 8 whilst maps showing sediment composition, sediment type and median phi grain size are given in Figures 9, 11 and 13.

Sediments at North Killingholme were relatively uniform sandy muds or occasionally slightly gravelly sandy mud and correspond to the sediment types recorded during the spring and autumn 2013 surveys. Median phi grain sizes showed relatively little variation across the survey area and ranged from 4.14 to 6.1 phi with slightly larger median phi values (finer sediments) in upper shore areas. Gravels were generally absent aside from a few samples which had very low quantities of gravel (<2%). Mud content ranged from 52.5% to 87% with the majority of sites having between 60% to 80% mud content which was somewhat lower than in 2015. Sand content ranged from 12% to 48% with higher sand content generally recorded at lower shore sites. It was noted (as in previous surveys) that coarser sediments were present in patches on the low shore toward Humber Sea Terminal adjacent to transects 1. 8 and 1.9. These areas were not sampled for invertebrates as the surface cobbles/stones precluded coring but additional sediment samples taken here indicated the sediments were muddy gravels with surface stones (72% gravel, 6% sand and 22% mud).

All sites at North Killingholme were characterised by sediments which were poorly or very poorly sorted whilst sediment skewness was quite variable with sediments ranging from coarse skewed to fine skewed. The majority of sites exhibited fine skewed or symmetrical

distributions with coarser skewed sediments generally recorded in upper shore habitats. Levels of organic content (represented by % LOI) were low to moderate and ranged from 3.8% to 9.9% and higher values were usually recorded at upper shore sites and particularly those adjacent to saltmarsh where larger quantities of plant detritus were present in the sediment. Overall there were relatively few obvious differences between the different survey areas and sedimentary parameters were broadly similar to those recorded during previous surveys (sandy muds) although overall sediments were slightly sandier and with slightly lower mud content than in 2013. As noted above the other feature of note in terms of sediment were the small areas of barren pebbles on extreme low shore mud at the upstream end of the northern indirect impact area adjacent to Humber Sea Terminal. These were adjacent to the survey transects and not amenable to coring but appeared to have a similar mud or muddy gravel habitat beneath the pebbles.

3.1.2 Cherry Cobb Sands

A summary of sedimentary parameters from survey sites at Cherry Cobb Sands are provided in Table 2 with the full data provided in Appendix 3. Mean values of key sedimentary parameters for the northern and southern control areas are provided per shore area in Figures 3 to 8 whilst maps showing sediment composition, sediment type and median phi grain size are given in Figures 10, 12 and 14. Sediments at Cherry Cobb Sands were quite heterogeneous and exhibited much more variability than at North Killingholme and a similar range of sediments were recorded during the 2013 surveys. Sediments included (slightly muddy) sands, muddy sands and sandy mud with occasional slightly gravelly sandy muds. Median phi grain size ranged from 2.6 to 5.96 phi with progressively higher values (finer sediments) recorded higher up the shore. Mud content was extremely variable and ranged from 3% to 83% whilst sand content ranged from 16.9% to 96.7%. The majority of sites in the northern control area had mud contents in excess of 60% (sandy mud) although the low shore sites tended to exhibit sandier sediments with one site classified as muddy sand. Low shore sites from the northern control area tended to be muddier than was the case in 2013 with surface sediments often characterised by a layer of muddy sediment overlying sand or muddy sand.

A higher proportion of sandier sediments were recorded within the southern control area with the exception of the upper shore areas which were generally characterised as sandy muds. Sediments on the mid shore were more variable and included both sandy muds and muddy sands. Whilst somewhat variable the lower shore sites in the southern control area were generally much sandier and included sandy muds, muddy sands and cleaner sands. Two sites on the low shore had a particularly low mud content (<5%) with predominantly sandy sediments (sites CS2 LB and CS2 LC).

The majority of Cherry Cobb Sands sites exhibited poorly (or very poorly sorted) sorted sediments with the exception of those low shore sites on transect CS2 characterised by sandier sediments which tended to be moderately sorted. Sediment skewness was variable and sediments ranged from very fine skewed to symmetrical with muddier sites on the upper shore tending to have lower skewness values particularly in the northern control area which predominantly had symmetrical distributions. Levels of organic matter in the sediment as expressed by % LOI were similar to those recorded at North Killingholme but generally slightly

lower (particularly at the sandier sites) with LOI values ranging from 1.4% to 8.8%. As at North Killingholme higher levels of organic matter tended to be recorded in muddier sediments, particularly on the upper shore with slightly higher LOI values generally recorded in the northern control area. Aside from an increase in mud content on the low shore in the northern control area sediments in 2015 were very similar to those recorded in 2013.

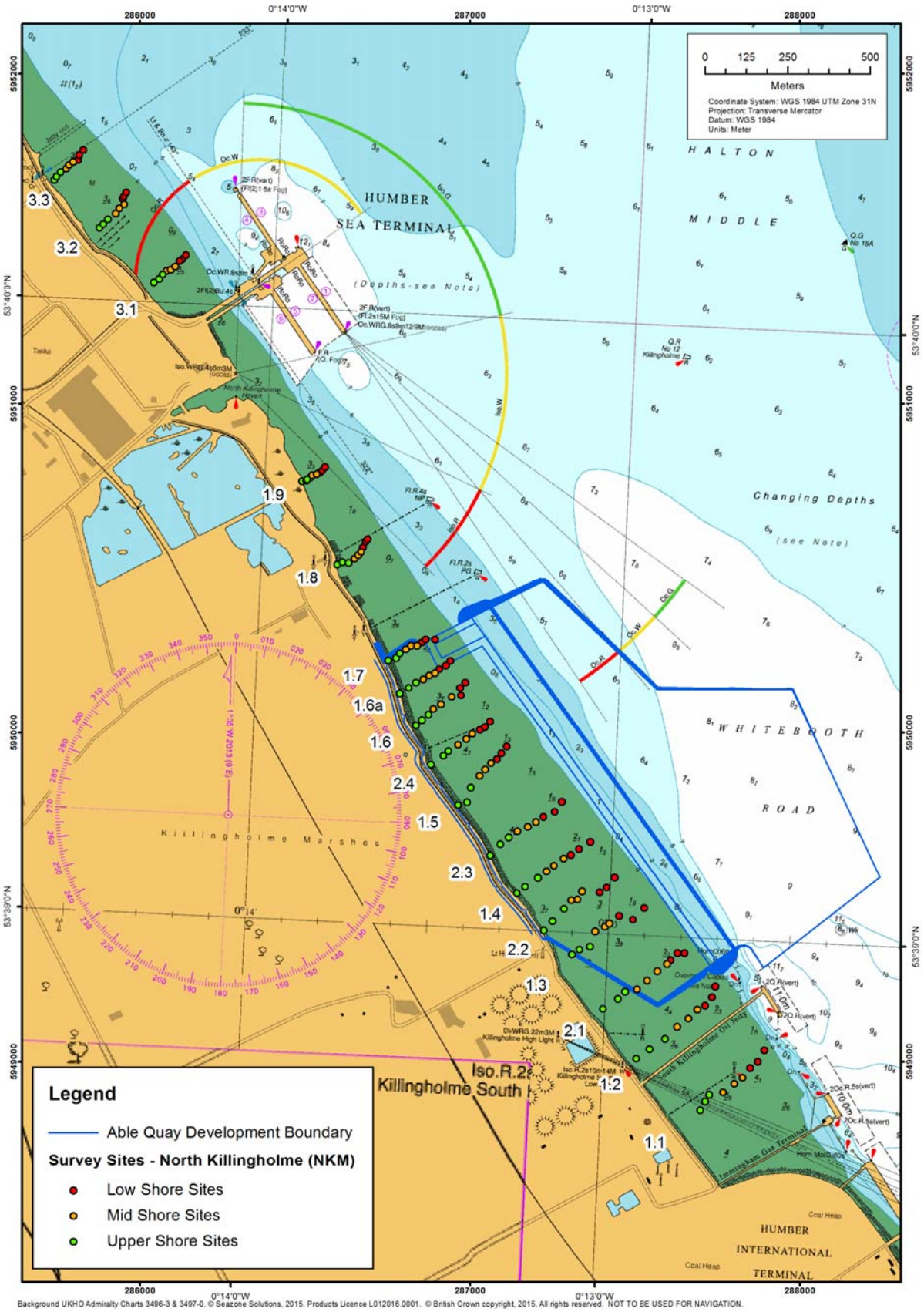

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Figure 1. Location of survey sites at North Killingholme (NKM).

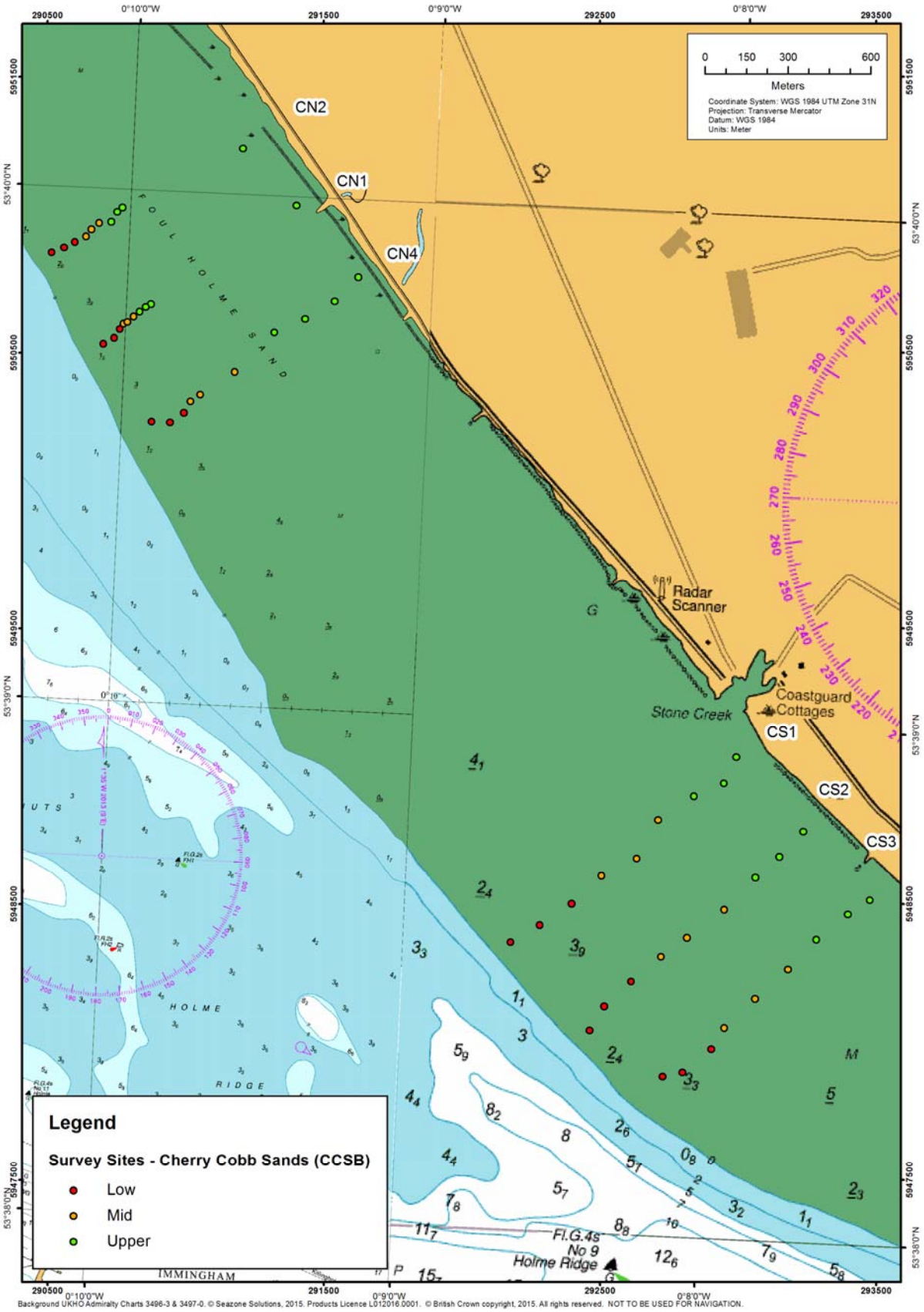

Figure 2. Location of survey sites at Cherry Cobb Sands (CCS).

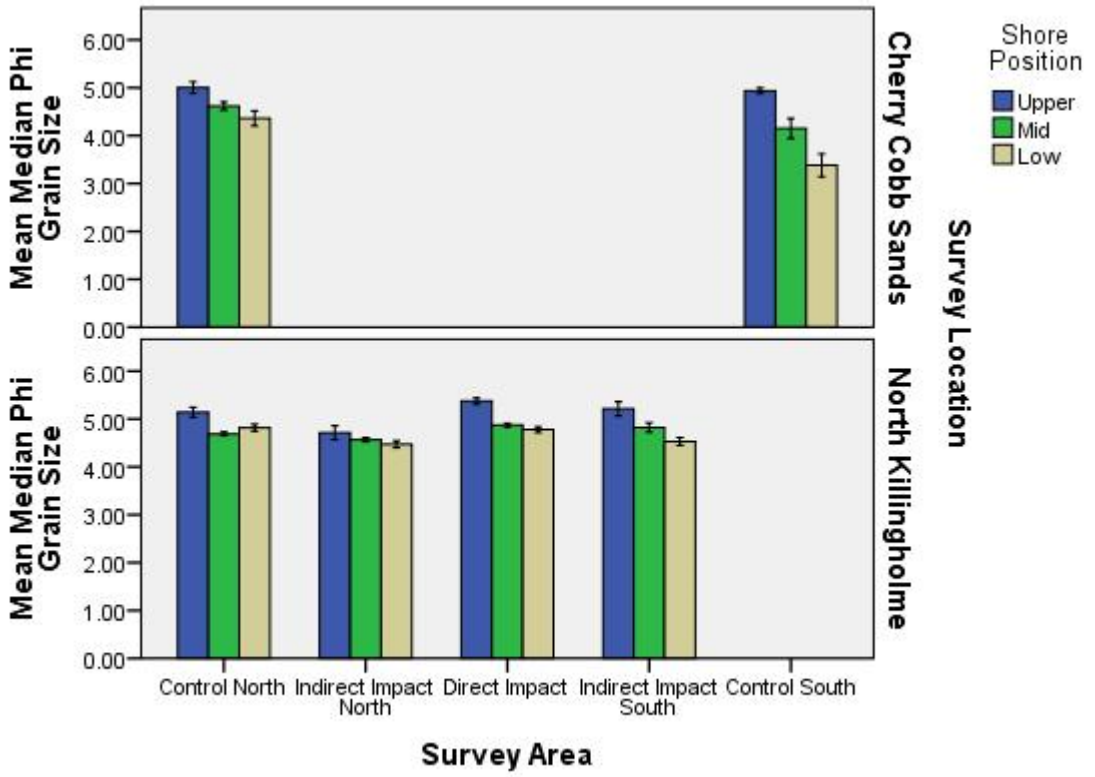

Figure 3. Mean median phi grain size with standard error for each survey area at North Killingholme & Cherry Cobb Sands.

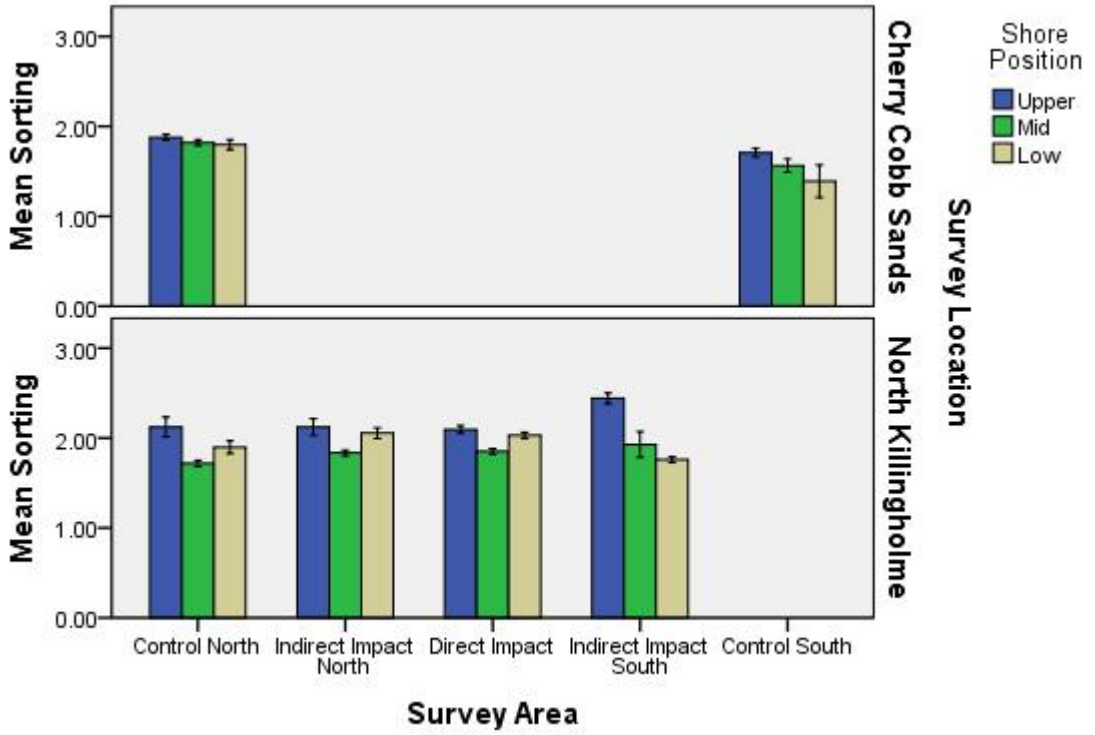

Figure 4. Mean sediment sorting with standard error for each survey area at North Killingholme & Cherry Cobb Sands.

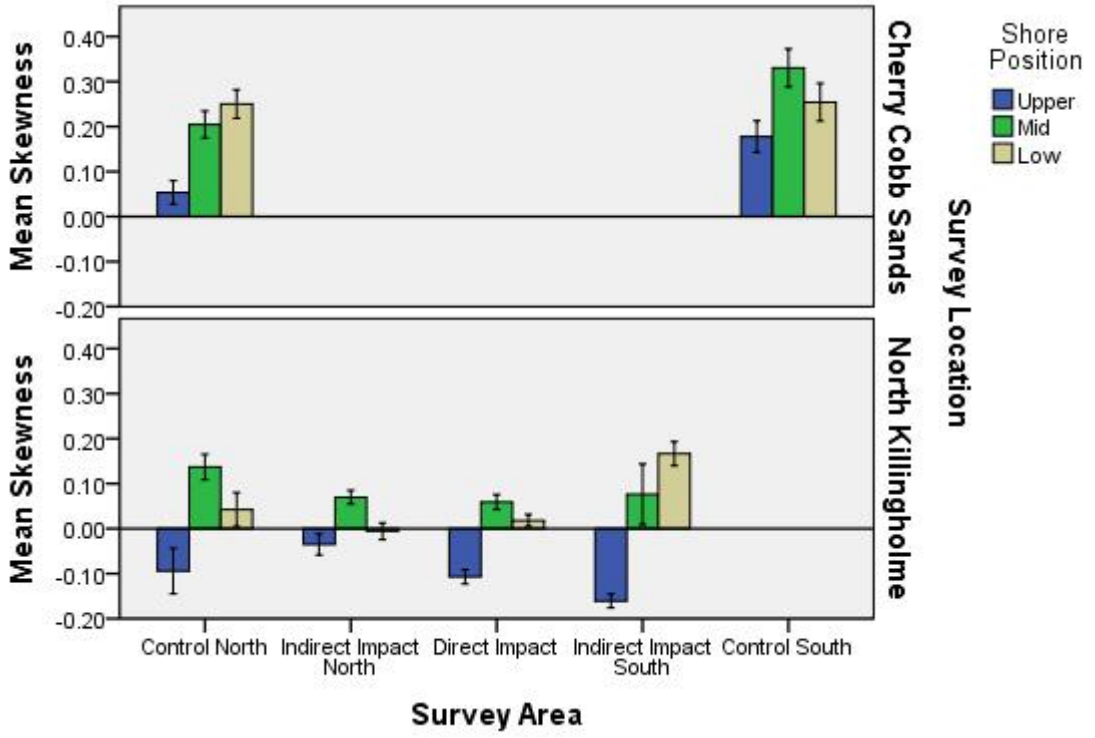

Figure 5. Mean sediment skewness with standard error for each survey area at North Killingholme & Cherry Cobb Sands.

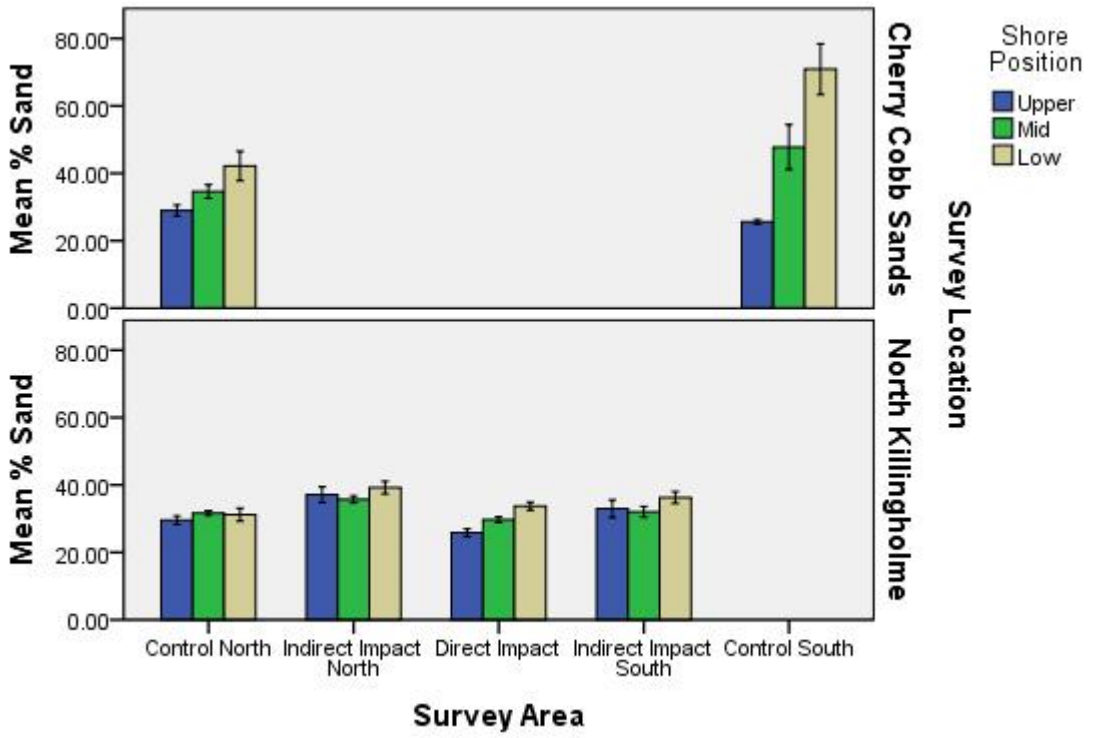

Figure 6. Mean sand content with standard error for each survey area at North Killingholme & Cherry Cobb Sands.

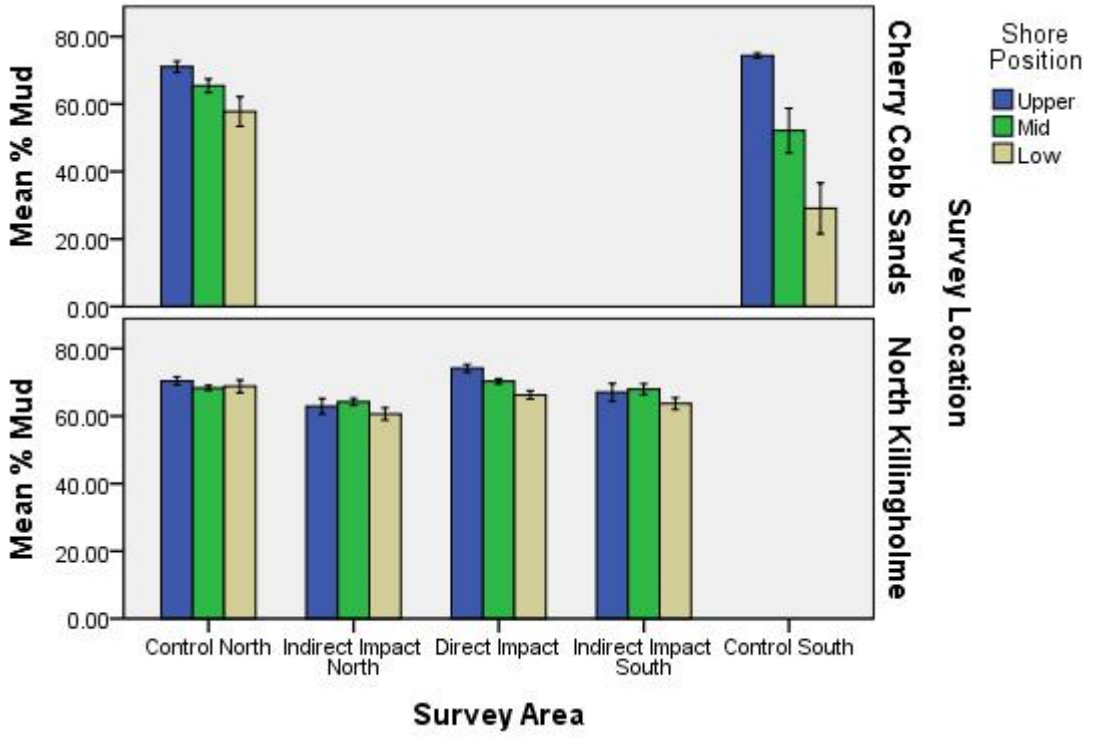

Figure 7. Mean mud content with standard error for each survey area at North Killingholme & Cherry Cobb Sands.

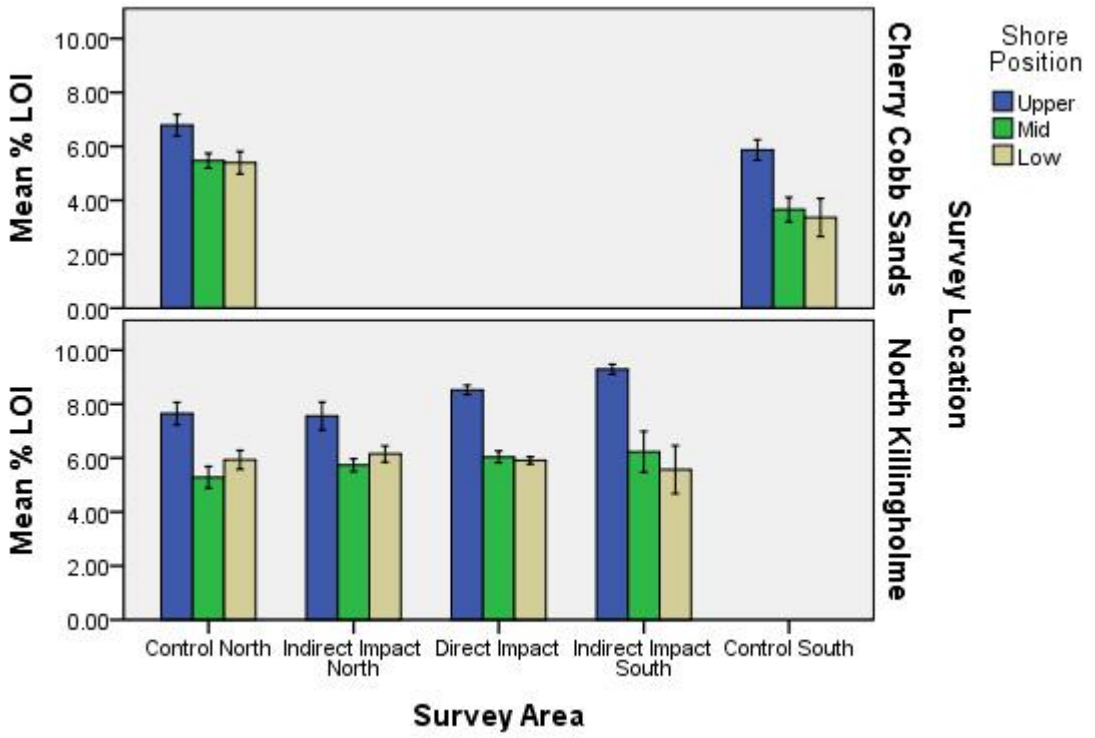

Figure 8. Mean % LOI with standard error for each survey area at North Killingholme & Cherry Cobb Sands.

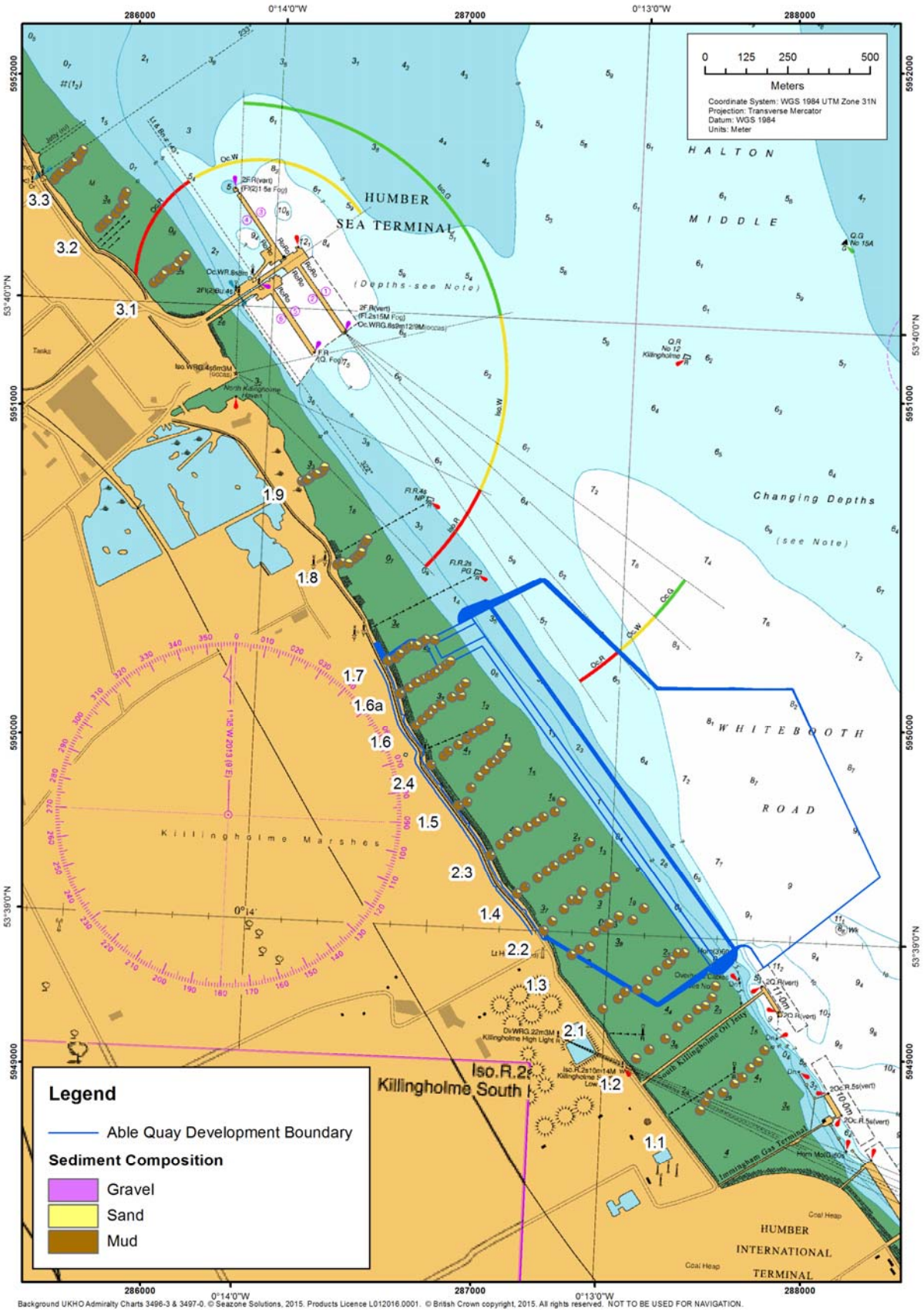

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Figure 9. Sediment composition at North Killingholme.

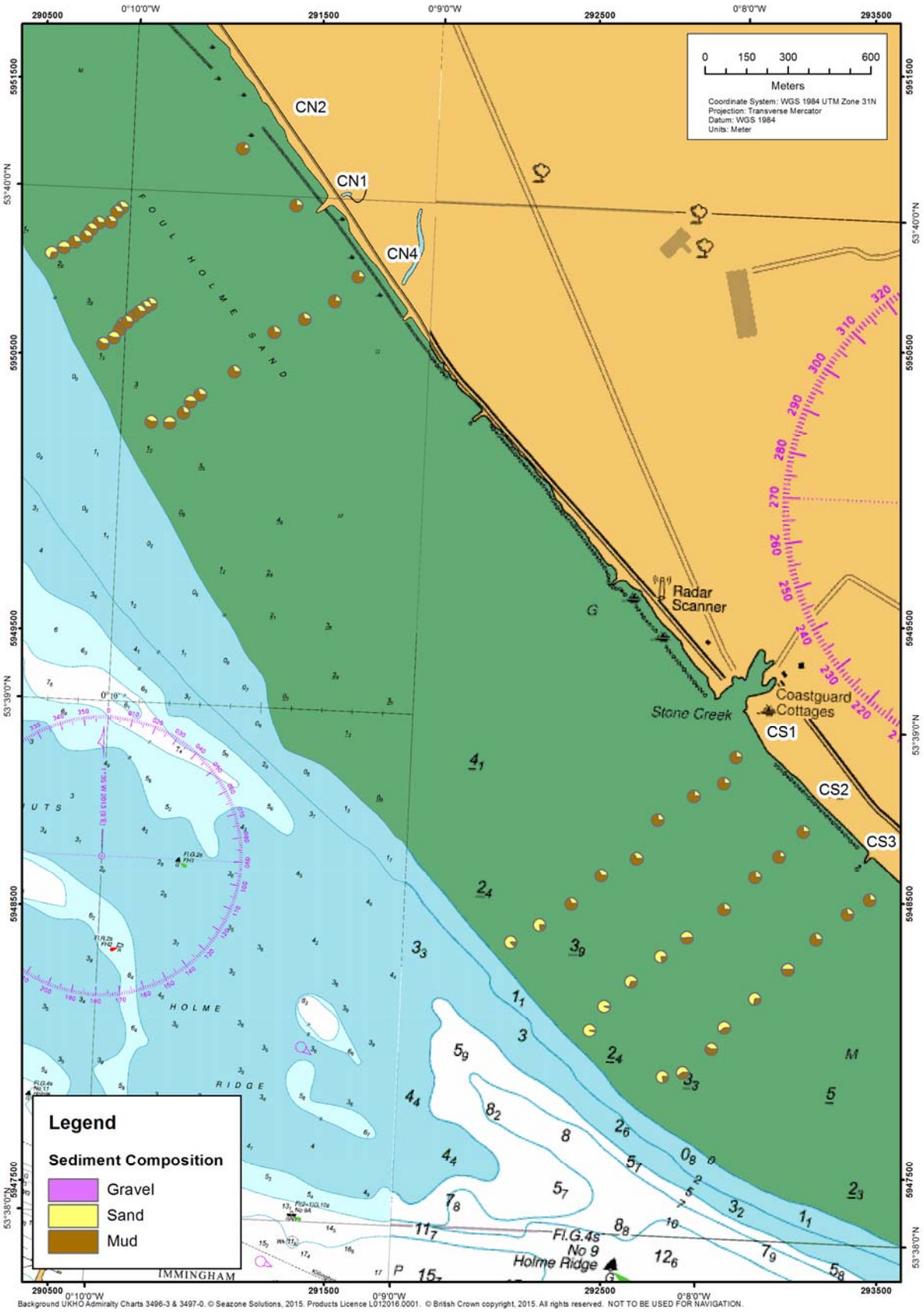

Figure 10. Sediment composition at Cherry Cobb Sands.

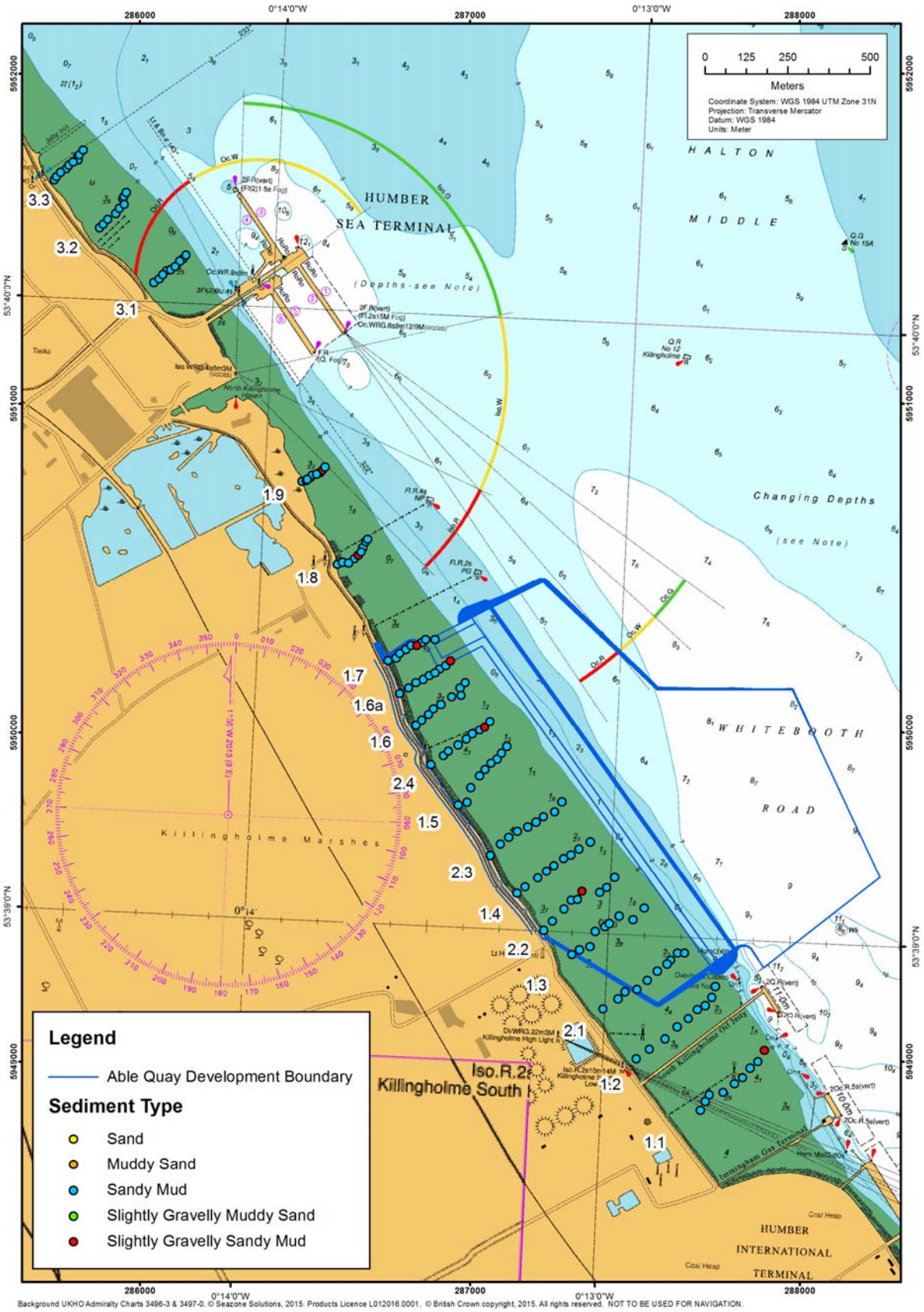

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Figure 11. Sediment type at North Killingholme.

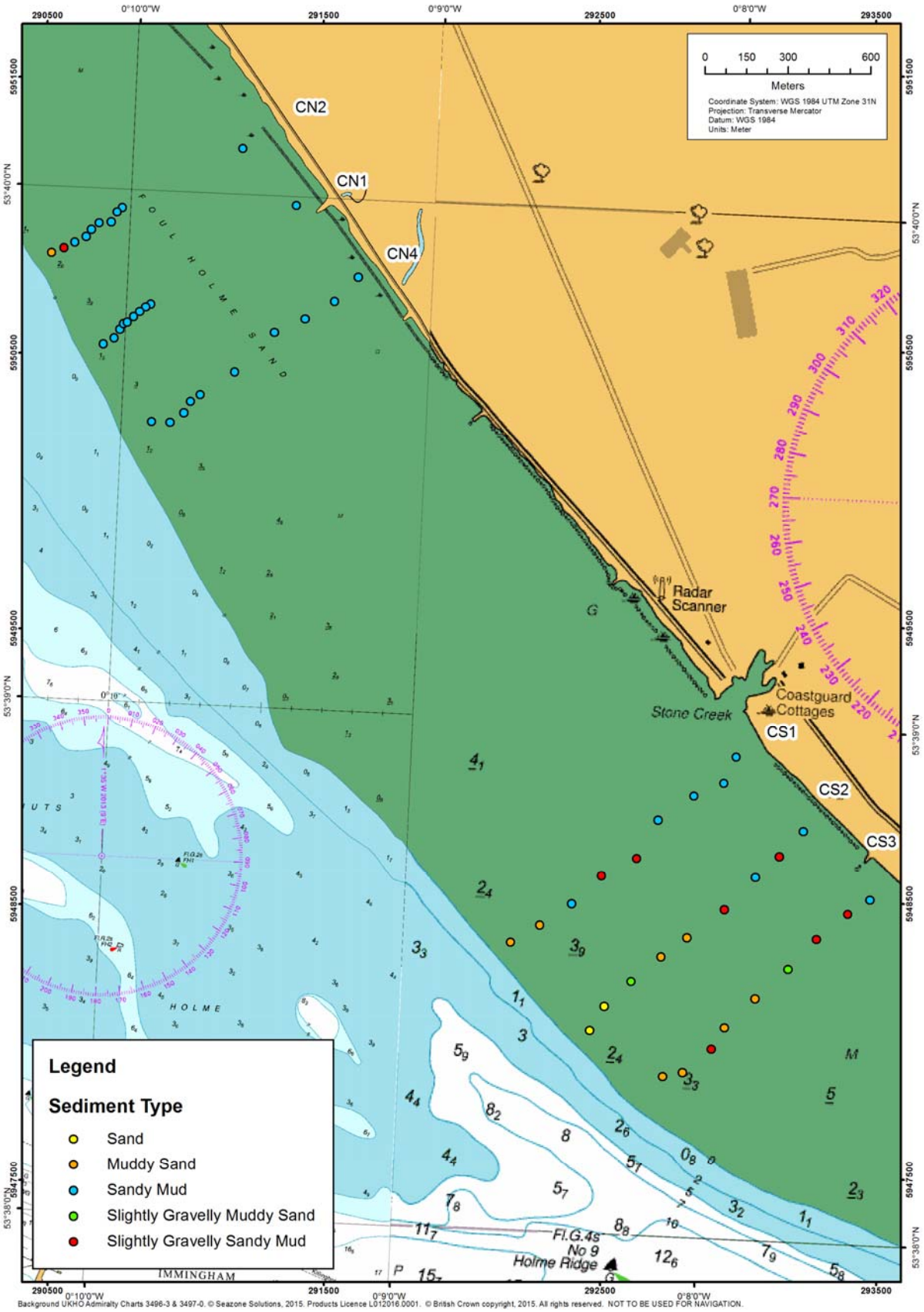

Figure 12. Sediment type at Cherry Cobb Sands.

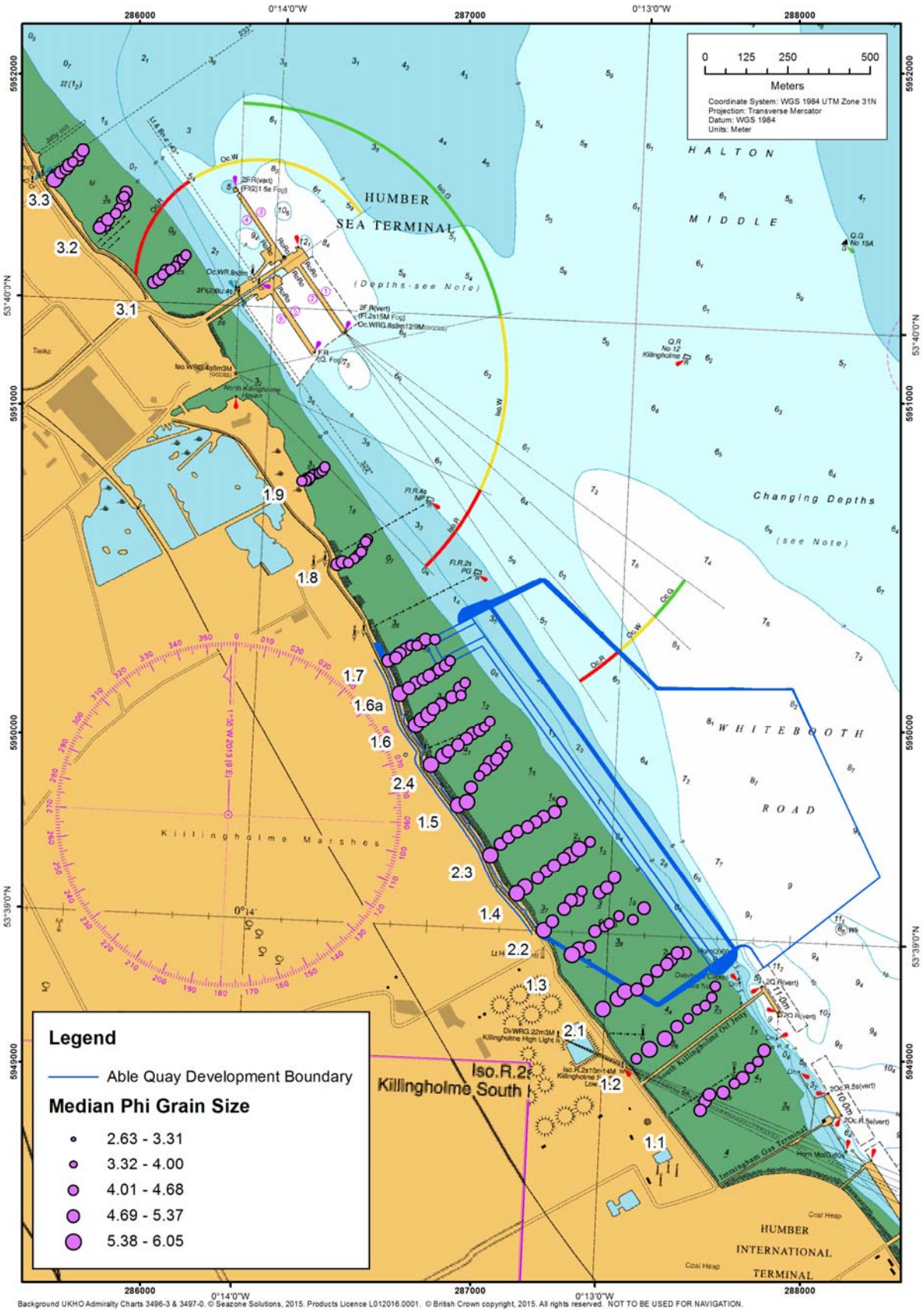

Figure 13. Median phi grain size at North Killingholme.

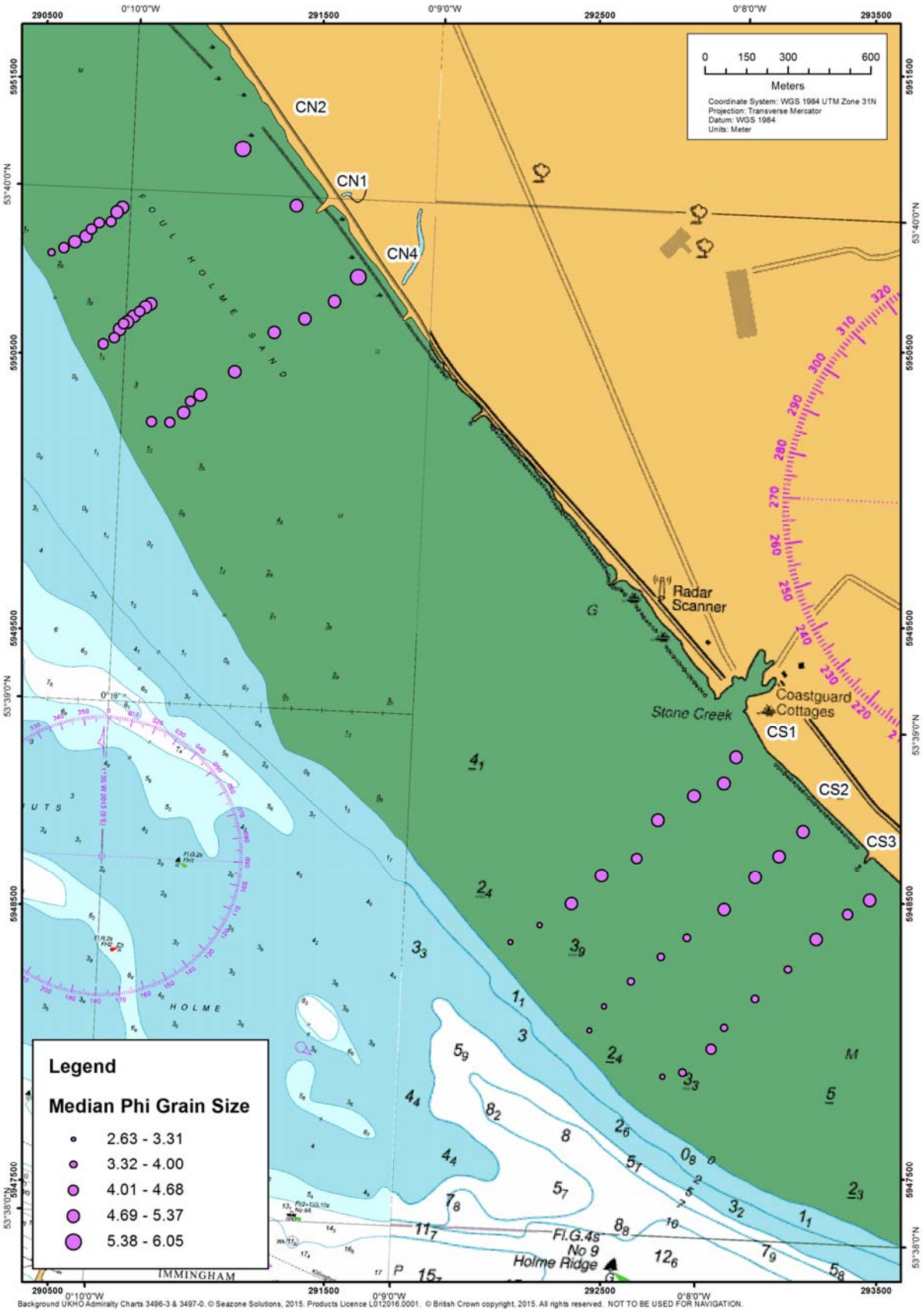

Figure 14. Median phi grain size at Cherry Cobb Sands.

Table 1. Summary of sedimentary parameters at North Killingholme.

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE		SORTING		SKEWNESS	% GRAVEL	% SAND	% MUD	% LOI
Control North	3.1 LA	Sandy Mud	4.667	4.812	1.747	Poorly Sorted	0.109	Fine Skewed	0.00	33.34	66.66	4.39
Control North	3.1 LB	Sandy Mud	4.725	4.938	1.672	Poorly Sorted	0.175	Fine Skewed	0.00	30.79	69.21	4.50
Control North	3.1 LC	Sandy Mud	4.487	4.362	2.165	Very Poorly Sorted	-0.069	Symmetrical	0.00	40.17	59.83	6.61
Control North	3.1 MA	Sandy Mud	4.790	5.036	1.604	Poorly Sorted	0.215	Fine Skewed	0.00	27.38	72.62	4.82
Control North	3.1 MB	Sandy Mud	4.474	4.725	1.556	Poorly Sorted	0.250	Fine Skewed	0.00	34.85	65.15	4.21
Control North	3.1 MC	Sandy Mud	4.602	4.899	1.633	Poorly Sorted	0.258	Fine Skewed	0.00	32.75	67.25	4.20
Control North	3.1 UA	Sandy Mud	5.160	4.814	2.410	Very Poorly Sorted	-0.189	Coarse Skewed	0.00	32.94	67.06	9.07
Control North	3.1 UB	Sandy Mud	4.809	4.954	1.761	Poorly Sorted	0.103	Fine Skewed	0.00	30.24	69.76	7.07
Control North	3.1 UC	Sandy Mud	4.617	4.801	1.655	Poorly Sorted	0.158	Fine Skewed	0.00	32.58	67.42	5.02
Control North	3.2 LA	Sandy Mud	4.761	4.860	1.840	Poorly Sorted	0.049	Symmetrical	0.00	31.66	68.34	5.85
Control North	3.2 LB	Sandy Mud	4.636	4.637	2.023	Very Poorly Sorted	-0.006	Symmetrical	0.00	36.29	63.71	6.64
Control North	3.2 LC	Sandy Mud	5.118	5.127	1.940	Poorly Sorted	-0.034	Symmetrical	0.00	26.95	73.05	5.98
Control North	3.2 MA	Sandy Mud	4.599	4.754	1.715	Poorly Sorted	0.112	Fine Skewed	0.00	33.39	66.61	5.65
Control North	3.2 MB	Sandy Mud	4.678	4.865	1.730	Poorly Sorted	0.131	Fine Skewed	0.00	31.88	68.12	4.72
Control North	3.2 MC	Sandy Mud	4.771	4.926	1.754	Poorly Sorted	0.107	Fine Skewed	0.00	30.77	69.23	4.60
Control North	3.2 UA	Sandy Mud	5.172	4.642	2.642	Very Poorly Sorted	-0.237	Coarse Skewed	0.00	35.97	64.03	8.88
Control North	3.2 UB	Sandy Mud	5.481	5.121	2.344	Very Poorly Sorted	-0.224	Coarse Skewed	0.00	27.97	72.03	8.72
Control North	3.2 UC	Sandy Mud	4.896	4.997	1.815	Poorly Sorted	0.040	Symmetrical	0.00	28.24	71.76	6.73
Control North	3.3 LA	Sandy Mud	5.030	5.296	1.702	Poorly Sorted	0.199	Fine Skewed	0.00	22.76	77.24	5.59
Control North	3.3 LB	Sandy Mud	5.027	5.204	1.744	Poorly Sorted	0.100	Symmetrical	0.00	24.09	75.91	6.02
Control North	3.3 LC	Sandy Mud	4.923	4.662	2.248	Very Poorly Sorted	-0.141	Coarse Skewed	0.00	34.56	65.44	7.81
Control North	3.3 MA	Sandy Mud	4.859	4.937	1.858	Poorly Sorted	0.035	Symmetrical	0.00	30.32	69.68	7.22
Control North	3.3 MB	Sandy Mud	4.766	4.870	1.861	Poorly Sorted	0.037	Symmetrical	0.00	31.05	68.95	7.35
Control North	3.3 MC	Sandy Mud	4.651	4.781	1.745	Poorly Sorted	0.090	Symmetrical	0.00	32.59	67.41	4.80
Control North	3.3 UA	Sandy Mud	5.374	5.101	2.231	Very Poorly Sorted	-0.201	Coarse Skewed	0.00	26.68	73.32	7.64
Control North	3.3 UB	Sandy Mud	5.454	5.329	2.035	Very Poorly Sorted	-0.134	Coarse Skewed	0.00	23.78	76.22	8.07
Control North	3.3 UC	Sandy Mud	5.316	5.101	2.215	Very Poorly Sorted	-0.164	Coarse Skewed	0.00	27.77	72.23	7.61
Direct Impact	1.3 LA	Sandy Mud	4.307	4.386	1.958	Poorly Sorted	0.053	Symmetrical	0.00	42.39	57.61	5.84
Direct Impact	1.3 LB	Sandy Mud	4.666	4.740	1.892	Poorly Sorted	0.026	Symmetrical	0.00	34.19	65.81	5.37
Direct Impact	1.3 LC	Sandy Mud	4.835	4.813	2.097	Very Poorly Sorted	-0.040	Symmetrical	0.00	33.69	66.31	7.83
Direct Impact	1.3 MA	Sandy Mud	4.914	4.894	1.971	Poorly Sorted	-0.048	Symmetrical	0.00	31.00	69.00	7.29
Direct Impact	1.3 MB	Sandy Mud	4.607	4.587	1.951	Poorly Sorted	-0.013	Symmetrical	0.00	36.98	63.02	6.82
Direct Impact	1.3 MC	Sandy Mud	4.502	4.604	1.702	Poorly Sorted	0.077	Symmetrical	0.00	35.79	64.21	4.86
Direct Impact	1.3 UA	Sandy Mud	5.423	4.952	2.578	Very Poorly Sorted	-0.241	Coarse Skewed	0.00	31.63	68.37	9.07
Direct Impact	1.3 UB	Sandy Mud	5.666	5.280	2.422	Very Poorly Sorted	-0.250	Coarse Skewed	0.00	26.20	73.80	9.90

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE		SORTING		SKEWNESS	% GRAVEL	% SAND	% MUD	% LOI
Direct Impact	1.3 UC	Sandy Mud	5.092	4.858	2.373	Very Poorly Sorted	-0.151	Coarse Skewed	0.00	32.64	67.36	9.63
Direct Impact	1.4 LA	Sandy Mud	5.545	5.643	1.834	Poorly Sorted	0.039	Symmetrical	0.00	19.25	80.75	4.83
Direct Impact	1.4 LB	Sandy Mud	5.408	5.477	1.930	Poorly Sorted	-0.008	Symmetrical	0.00	22.28	77.72	5.34
Direct Impact	1.4 LC	Sandy Mud	4.515	4.716	1.837	Poorly Sorted	0.120	Fine Skewed	0.00	36.43	63.57	5.01
Direct Impact	1.4 MA	Sandy Mud	5.276	5.348	1.882	Poorly Sorted	0.009	Symmetrical	0.00	23.60	76.40	7.56
Direct Impact	1.4 MB	Sandy Mud	5.023	5.183	1.857	Poorly Sorted	0.074	Symmetrical	0.00	26.03	73.97	6.53
Direct Impact	1.4 MC	Sandy Mud	5.031	5.174	1.909	Poorly Sorted	0.048	Symmetrical	0.00	26.26	73.74	5.99
Direct Impact	1.4 UA	Sandy Mud	5.381	5.195	2.145	Very Poorly Sorted	-0.137	Coarse Skewed	0.00	27.04	72.96	9.35
Direct Impact	1.4 UB	Sandy Mud	6.050	6.031	1.733	Poorly Sorted	-0.060	Symmetrical	0.00	12.86	87.14	7.86
Direct Impact	1.4 UC	Sandy Mud	5.077	5.006	2.071	Very Poorly Sorted	-0.072	Symmetrical	0.00	29.72	70.28	8.73
Direct Impact	1.5 LA	Sandy Mud	4.700	4.580	2.252	Very Poorly Sorted	-0.065	Symmetrical	0.00	37.21	62.79	5.68
Direct Impact	1.5 LB	Sandy Mud	4.701	4.971	1.766	Poorly Sorted	0.184	Fine Skewed	0.00	31.96	68.04	5.71
Direct Impact	1.5 LC	Sandy Mud	4.257	4.172	2.311	Very Poorly Sorted	-0.033	Symmetrical	0.00	44.69	55.31	6.24
Direct Impact	1.5 MA	Sandy Mud	4.546	4.660	1.857	Poorly Sorted	0.079	Symmetrical	0.00	36.95	63.05	6.93
Direct Impact	1.5 MB	Sandy Mud	4.820	4.948	1.855	Poorly Sorted	0.063	Symmetrical	0.00	30.25	69.75	5.68
Direct Impact	1.5 MC	Sandy Mud	5.495	5.658	1.833	Poorly Sorted	0.090	Symmetrical	0.00	19.33	80.67	5.92
Direct Impact	1.5 UA	Sandy Mud	6.016	5.940	1.863	Poorly Sorted	-0.123	Coarse Skewed	0.00	15.59	84.41	9.87
Direct Impact	1.5 UB	Sandy Mud	5.738	5.676	1.963	Poorly Sorted	-0.117	Coarse Skewed	0.00	19.10	80.90	9.35
Direct Impact	1.5 UC	Sandy Mud	5.282	5.365	1.898	Poorly Sorted	0.023	Symmetrical	0.00	23.90	76.10	7.74
Direct Impact	1.6 LA	Sandy Mud	4.345	4.550	2.018	Very Poorly Sorted	0.102	Fine Skewed	0.00	41.61	58.39	5.42
Direct Impact	1.6 LB	Sandy Mud	5.041	5.009	2.195	Very Poorly Sorted	-0.066	Symmetrical	0.00	31.38	68.62	6.06
Direct Impact	1.6 LC	Sandy Mud	4.409	4.624	2.180	Very Poorly Sorted	0.091	Symmetrical	0.00	41.24	58.76	6.09
Direct Impact	1.6 MA	Sandy Mud	4.813	4.848	1.914	Poorly Sorted	0.003	Symmetrical	0.00	32.21	67.79	7.32
Direct Impact	1.6 MB	Sandy Mud	4.906	5.094	1.716	Poorly Sorted	0.129	Fine Skewed	0.00	26.65	73.35	5.42
Direct Impact	1.6 MC	Sandy Mud	5.011	5.064	2.012	Very Poorly Sorted	-0.010	Symmetrical	0.00	28.57	71.43	5.59
Direct Impact	1.6 UA	Sandy Mud	5.680	5.313	2.351	Very Poorly Sorted	-0.256	Coarse Skewed	0.00	25.14	74.86	9.92
Direct Impact	1.6 UB	Sandy Mud	5.573	5.635	1.755	Poorly Sorted	0.005	Symmetrical	0.00	17.28	82.72	6.89
Direct Impact	1.6 UC	Sandy Mud	5.408	5.456	1.932	Poorly Sorted	-0.027	Symmetrical	0.00	21.86	78.14	7.02
Direct Impact	1.6A LA	Sandy Mud	4.955	4.975	2.055	Very Poorly Sorted	-0.024	Symmetrical	0.00	30.65	69.35	5.80
Direct Impact	1.6A LB	Sandy Mud	4.880	4.803	2.227	Very Poorly Sorted	-0.042	Symmetrical	0.00	35.50	64.50	5.88
Direct Impact	1.6A LC	Slightly Gravelly Sandy Mud	4.305	4.219	2.325	Very Poorly Sorted	-0.040	Symmetrical	0.02	44.10	55.88	5.96
Direct Impact	1.6A MA	Sandy Mud	4.714	4.775	1.704	Poorly Sorted	0.047	Symmetrical	0.00	31.19	68.81	5.15
Direct Impact	1.6A MB	Sandy Mud	4.705	4.815	1.879	Poorly Sorted	0.054	Symmetrical	0.00	32.91	67.09	4.95
Direct Impact	1.6A MC	Sandy Mud	5.040	5.294	1.770	Poorly Sorted	0.172	Fine Skewed	0.00	24.28	75.72	4.84
Direct Impact	1.6A UA	Sandy Mud	5.565	5.503	1.916	Poorly Sorted	-0.101	Coarse Skewed	0.00	20.86	79.14	8.44
Direct Impact	1.6A UB	Sandy Mud	5.025	5.042	1.957	Poorly Sorted	-0.031	Symmetrical	0.00	28.09	71.91	7.53
Direct Impact	1.6A UC	Sandy Mud	5.040	5.077	1.894	Poorly Sorted	-0.010	Symmetrical	0.00	27.86	72.14	8.12

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE	SORTING		SKEWNESS		% GRAVEL	% SAND	% MUD	% LOI
Direct Impact	1.7 LA	Sandy Mud	4.996	5.032	1.979	Poorly Sorted	-0.024	Symmetrical	0.00	28.27	71.73	7.10
Direct Impact	1.7 LB	Sandy Mud	4.829	5.000	1.953	Poorly Sorted	0.078	Symmetrical	0.00	31.66	68.34	4.95
Direct Impact	1.7 LC	Sandy Mud	4.667	4.553	2.213	Very Poorly Sorted	-0.061	Symmetrical	0.00	38.37	61.63	6.33
Direct Impact	1.7 MA	Sandy Mud	4.891	5.113	1.611	Poorly Sorted	0.184	Fine Skewed	0.00	24.68	75.32	5.32
Direct Impact	1.7 MB	Sandy Mud	4.663	4.871	1.572	Poorly Sorted	0.199	Fine Skewed	0.00	30.19	69.81	4.95
Direct Impact	1.7 MC	Slightly Gravelly Sandy Mud	4.606	4.654	1.657	Poorly Sorted	0.059	Symmetrical	0.02	33.95	66.03	4.85
Direct Impact	1.7 UA	Sandy Mud	5.046	4.984	1.945	Poorly Sorted	-0.067	Symmetrical	0.00	28.94	71.06	7.53
Direct Impact	1.7 UB	Sandy Mud	4.848	4.659	2.220	Very Poorly Sorted	-0.113	Coarse Skewed	0.00	35.30	64.70	8.56
Direct Impact	1.7 UC	Sandy Mud	4.875	4.766	2.125	Very Poorly Sorted	-0.059	Symmetrical	0.00	34.26	65.74	8.82
Direct Impact	2.1 LA	Sandy Mud	4.972	5.021	1.941	Poorly Sorted	-0.001	Symmetrical	0.00	29.86	70.14	6.53
Direct Impact	2.1 LB	Sandy Mud	4.807	4.752	2.112	Very Poorly Sorted	-0.060	Symmetrical	0.00	34.38	65.62	6.12
Direct Impact	2.1 LC	Sandy Mud	4.960	4.861	2.151	Very Poorly Sorted	-0.084	Symmetrical	0.00	32.96	67.04	7.24
Direct Impact	2.1 MA	Sandy Mud	4.804	4.786	1.930	Poorly Sorted	-0.042	Symmetrical	0.00	32.12	67.88	6.66
Direct Impact	2.1 MA2	Sandy Mud	5.036	5.023	2.061	Very Poorly Sorted	-0.051	Symmetrical	0.00	29.81	70.19	8.47
Direct Impact	2.1 MB	Sandy Mud	4.759	5.065	1.654	Poorly Sorted	0.251	Fine Skewed	0.00	29.14	70.86	4.20
Direct Impact	2.1 MC	Sandy Mud	4.743	4.987	1.676	Poorly Sorted	0.198	Fine Skewed	0.00	30.31	69.69	4.10
Direct Impact	2.1 UA	Sandy Mud	5.631	5.176	2.474	Very Poorly Sorted	-0.260	Coarse Skewed	0.00	28.11	71.89	9.72
Direct Impact	2.1 UB	Sandy Mud	5.579	5.493	2.045	Very Poorly Sorted	-0.116	Coarse Skewed	0.00	22.20	77.80	8.05
Direct Impact	2.1 UC	Sandy Mud	5.477	5.318	2.207	Very Poorly Sorted	-0.154	Coarse Skewed	0.00	26.15	73.85	9.59
Direct Impact	2.2 LA	Sandy Mud	4.746	4.855	1.730	Poorly Sorted	0.083	Symmetrical	0.00	31.36	68.64	5.96
Direct Impact	2.2 LB	Sandy Mud	4.703	4.853	1.830	Poorly Sorted	0.089	Symmetrical	0.00	32.68	67.32	5.44
Direct Impact	2.2 LC	Sandy Mud	5.009	4.931	2.160	Very Poorly Sorted	-0.089	Symmetrical	0.00	30.96	69.04	7.13
Direct Impact	2.2 MA	Sandy Mud	4.897	4.681	2.213	Very Poorly Sorted	-0.133	Coarse Skewed	0.00	33.66	66.34	8.08
Direct Impact	2.2 MB	Sandy Mud	5.001	5.019	1.932	Poorly Sorted	-0.022	Symmetrical	0.00	29.47	70.53	7.06
Direct Impact	2.2 MC	Slightly Gravelly Sandy Mud	4.605	4.691	1.662	Poorly Sorted	0.070	Symmetrical	0.01	33.46	66.53	6.02
Direct Impact	2.2 UA	Sandy Mud	5.448	5.010	2.424	Very Poorly Sorted	-0.250	Coarse Skewed	0.00	28.85	71.15	9.22
Direct Impact	2.2 UB	Sandy Mud	5.094	4.675	2.510	Very Poorly Sorted	-0.208	Coarse Skewed	0.00	33.81	66.19	8.80
Direct Impact	2.2 UC	Sandy Mud	4.693	4.599	2.140	Very Poorly Sorted	-0.055	Symmetrical	0.00	36.88	63.12	8.10
Direct Impact	2.3 LA	Sandy Mud	5.042	5.144	1.965	Poorly Sorted	0.029	Symmetrical	0.00	28.10	71.90	5.88
Direct Impact	2.3 LB	Sandy Mud	5.115	5.305	1.724	Poorly Sorted	0.131	Fine Skewed	0.00	22.94	77.06	4.67
Direct Impact	2.3 LC	Sandy Mud	4.647	4.648	2.183	Very Poorly Sorted	-0.027	Symmetrical	0.00	37.07	62.93	6.17
Direct Impact	2.3 MA	Sandy Mud	4.832	4.532	2.380	Very Poorly Sorted	-0.145	Coarse Skewed	0.00	36.85	63.15	8.49
Direct Impact	2.3 MB	Sandy Mud	4.708	4.930	1.777	Poorly Sorted	0.141	Fine Skewed	0.00	30.79	69.21	4.89
Direct Impact	2.3 MC	Sandy Mud	4.955	5.165	1.836	Poorly Sorted	0.108	Fine Skewed	0.00	26.86	73.14	5.53
Direct Impact	2.3 UA	Sandy Mud	5.629	5.620	1.875	Poorly Sorted	-0.055	Symmetrical	0.00	19.31	80.69	9.01
Direct Impact	2.3 UB	Sandy Mud	5.149	4.911	2.243	Very Poorly Sorted	-0.152	Coarse Skewed	0.00	30.84	69.16	7.57
Direct Impact	2.3 UC	Sandy Mud	5.043	4.944	2.121	Very Poorly Sorted	-0.086	Symmetrical	0.00	30.99	69.01	8.09

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE		SORTING		SKEWNESS	% GRAVEL	% SAND	% MUD	% LOI
Direct Impact	2.4 LA	Sandy Mud	5.181	5.353	1.794	Poorly Sorted	0.104	Fine Skewed	0.00	23.40	76.60	5.30
Direct Impact	2.4 LB	Slightly Gravelly Sandy Mud	4.501	4.703	1.968	Poorly Sorted	0.107	Fine Skewed	0.18	38.03	61.79	5.15
Direct Impact	2.4 LC	Sandy Mud	4.298	4.189	2.333	Very Poorly Sorted	-0.035	Symmetrical	0.00	44.97	55.03	6.33
Direct Impact	2.4 MA	Sandy Mud	4.812	4.917	1.857	Poorly Sorted	0.048	Symmetrical	0.00	31.06	68.94	6.81
Direct Impact	2.4 MB	Sandy Mud	5.094	5.333	1.853	Poorly Sorted	0.120	Fine Skewed	0.00	23.07	76.93	5.32
Direct Impact	2.4 MC	Sandy Mud	5.239	5.429	1.934	Poorly Sorted	0.072	Symmetrical	0.00	23.52	76.48	5.51
Direct Impact	2.4 UA	Sandy Mud	5.927	5.831	1.950	Poorly Sorted	-0.146	Coarse Skewed	0.00	17.32	82.68	9.16
Direct Impact	2.4 UB	Sandy Mud	5.450	5.543	1.839	Poorly Sorted	0.019	Symmetrical	0.00	19.35	80.65	7.12
Direct Impact	2.4 UC	Sandy Mud	5.309	5.417	1.872	Poorly Sorted	0.037	Symmetrical	0.00	22.31	77.69	6.85
Indirect Impact North	1.8 LA	Sandy Mud	4.594	4.682	1.896	Poorly Sorted	0.036	Symmetrical	0.00	35.76	64.24	5.47
Indirect Impact North	1.8 LB	Sandy Mud	4.434	4.251	2.194	Very Poorly Sorted	-0.090	Symmetrical	0.00	41.01	58.99	6.90
Indirect Impact North	1.8 LC	Sandy Mud	4.498	4.536	1.932	Poorly Sorted	0.021	Symmetrical	0.00	38.21	61.79	7.09
Indirect Impact North	1.8 MA	Sandy Mud	4.537	4.681	1.738	Poorly Sorted	0.109	Fine Skewed	0.00	34.87	65.13	4.91
Indirect Impact North	1.8 MB	Slightly Gravelly Sandy Mud	4.606	4.697	1.800	Poorly Sorted	0.051	Symmetrical	0.09	33.99	65.92	5.79
Indirect Impact North	1.8 MC	Sandy Mud	4.355	4.482	1.794	Poorly Sorted	0.114	Fine Skewed	0.00	40.80	59.20	5.20
Indirect Impact North	1.8 UA	Sandy Mud	5.319	5.156	2.245	Very Poorly Sorted	-0.118	Coarse Skewed	0.00	29.83	70.17	7.25
Indirect Impact North	1.8 UB	Sandy Mud	4.856	4.741	2.177	Very Poorly Sorted	-0.074	Symmetrical	0.00	35.69	64.31	8.91
Indirect Impact North	1.8 UC	Sandy Mud	4.322	4.268	1.918	Poorly Sorted	-0.010	Symmetrical	0.00	42.24	57.76	5.99
Indirect Impact North	1.9 LA	Sandy Mud	4.619	4.671	1.976	Poorly Sorted	0.020	Symmetrical	0.00	35.88	64.12	5.26
Indirect Impact North	1.9 LB	Slightly Gravelly Sandy Mud	4.548	4.592	2.074	Very Poorly Sorted	-0.006	Symmetrical	1.03	36.85	62.12	5.93
Indirect Impact North	1.9 LC	Sandy Mud	4.137	4.040	2.258	Very Poorly Sorted	-0.016	Symmetrical	0.00	47.49	52.51	6.26
Indirect Impact North	1.9 MA	Sandy Mud	4.615	4.753	1.836	Poorly Sorted	0.083	Symmetrical	0.00	34.40	65.60	6.34
Indirect Impact North	1.9 MB	Sandy Mud	4.630	4.671	1.961	Poorly Sorted	0.023	Symmetrical	0.00	35.85	64.15	6.26
Indirect Impact North	1.9 MC	Sandy Mud	4.658	4.734	1.878	Poorly Sorted	0.038	Symmetrical	0.00	34.58	65.42	5.92
Indirect Impact North	1.9 UA	Sandy Mud	4.395	4.237	2.492	Very Poorly Sorted	-0.056	Symmetrical	0.00	45.07	54.93	9.28
Indirect Impact North	1.9 UB	Sandy Mud	4.598	4.647	1.962	Poorly Sorted	0.023	Symmetrical	0.00	36.87	63.13	7.02
Indirect Impact North	1.9 UC	Sandy Mud	4.779	4.853	1.944	Poorly Sorted	0.026	Symmetrical	0.00	32.94	67.06	6.88
Indirect Impact South	1.1 LA	Sandy Mud	4.672	4.951	1.682	Poorly Sorted	0.223	Fine Skewed	0.00	31.73	68.27	4.46
Indirect Impact South	1.1 LB	Sandy Mud	4.419	4.718	1.748	Poorly Sorted	0.231	Fine Skewed	0.00	38.39	61.61	4.04
Indirect Impact South	1.1 LC	Slightly Gravelly Sandy Mud	4.854	4.989	1.854	Poorly Sorted	0.070	Symmetrical	0.28	30.23	69.50	6.64
Indirect Impact South	1.1 MA	Sandy Mud	5.121	4.682	2.592	Very Poorly Sorted	-0.207	Coarse Skewed	0.00	35.08	64.92	9.41
Indirect Impact South	1.1 MB	Sandy Mud	4.671	4.725	1.982	Poorly Sorted	0.031	Symmetrical	0.00	35.49	64.51	6.41
Indirect Impact South	1.1 MC	Sandy Mud	4.993	5.262	1.788	Poorly Sorted	0.187	Fine Skewed	0.00	26.03	73.97	5.74
Indirect Impact South	1.1 UA	Sandy Mud	4.937	4.668	2.473	Very Poorly Sorted	-0.130	Coarse Skewed	0.00	36.95	63.05	9.36
Indirect Impact South	1.1 UB	Sandy Mud	5.322	5.035	2.393	Very Poorly Sorted	-0.156	Coarse Skewed	0.00	32.19	67.81	9.79
Indirect Impact South	1.1 UC	Sandy Mud	5.249	4.926	2.472	Very Poorly Sorted	-0.169	Coarse Skewed	0.00	33.38	66.62	8.45
Indirect Impact South	1.2 LA	Sandy Mud	4.330	4.558	1.669	Poorly Sorted	0.194	Fine Skewed	0.00	40.81	59.19	3.86

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE		SORTING		SKEWNESS	% GRAVEL	% SAND	% MUD	% LOI
Indirect Impact South	1.2 LB	Sandy Mud	4.486	4.752	1.791	Poorly Sorted	0.175	Fine Skewed	0.00	36.89	63.11	4.90
Indirect Impact South	1.2 LC	Sandy Mud	4.422	4.568	1.814	Poorly Sorted	0.104	Fine Skewed	0.00	39.54	60.46	9.52
Indirect Impact South	1.2 MA	Sandy Mud	4.971	5.083	1.907	Poorly Sorted	0.046	Symmetrical	0.00	28.41	71.59	6.87
Indirect Impact South	1.2 MB	Sandy Mud	4.658	4.812	1.697	Poorly Sorted	0.125	Fine Skewed	0.00	32.54	67.46	4.83
Indirect Impact South	1.2 MC	Sandy Mud	4.515	4.818	1.603	Poorly Sorted	0.275	Fine Skewed	0.00	34.57	65.43	4.13
Indirect Impact South	1.2 UA	Sandy Mud	4.637	4.344	2.683	Very Poorly Sorted	-0.113	Coarse Skewed	0.00	42.87	57.13	9.39
Indirect Impact South	1.2 UB	Sandy Mud	5.509	5.179	2.390	Very Poorly Sorted	-0.218	Coarse Skewed	0.00	26.81	73.19	9.47
Indirect Impact South	1.2 UC	Sandy Mud	5.621	5.389	2.237	Very Poorly Sorted	-0.179	Coarse Skewed	0.00	25.55	74.45	9.29

Table 2. Summary of sedimentary parameters at Cherry Cobb Sands.

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE		SORTING		SKEWNESS	% GRAVEL	% SAND	% MUD	% LOI
Control North	CN1 LA	Sandy Mud	4.832	5.161	1.828	Poorly Sorted	0.218	Fine Skewed	0.000	29.474	70.526	5.39
Control North	CN1 LB	Sandy Mud	4.239	4.722	1.801	Poorly Sorted	0.355	Very Fine Skewed	0.000	44.079	55.921	4.19
Control North	CN1 LC	Sandy Mud	4.584	4.813	1.980	Poorly Sorted	0.145	Fine Skewed	0.000	39.602	60.398	6.98
Control North	CN1 MA	Sandy Mud	4.891	5.246	1.728	Poorly Sorted	0.275	Fine Skewed	0.000	26.537	73.463	4.66
Control North	CN1 MB	Sandy Mud	4.393	4.622	1.908	Poorly Sorted	0.147	Fine Skewed	0.000	40.249	59.751	5.78
Control North	CN1 MC	Sandy Mud	4.727	5.073	1.810	Poorly Sorted	0.251	Fine Skewed	0.000	31.852	68.148	5.15
Control North	CN1 U2	Sandy Mud	5.356	5.329	2.070	Very Poorly Sorted	-0.058	Symmetrical	0.000	26.082	73.918	7.76
Control North	CN1 UA	Sandy Mud	4.855	4.974	1.939	Poorly Sorted	0.065	Symmetrical	0.000	31.893	68.107	7.31
Control North	CN1 UB	Sandy Mud	4.706	4.855	1.871	Poorly Sorted	0.096	Symmetrical	0.000	33.699	66.301	6.62
Control North	CN1 UC	Sandy Mud	4.582	4.828	1.691	Poorly Sorted	0.199	Fine Skewed	0.000	33.526	66.474	4.78
Control North	CN2 LA	Sandy Mud	4.829	5.071	1.834	Poorly Sorted	0.148	Fine Skewed	0.000	29.672	70.328	5.86
Control North	CN2 LB	Slightly Gravelly Sandy Mud	4.103	4.451	1.896	Poorly Sorted	0.220	Fine Skewed	0.012	47.308	52.680	7.66
Control North	CN2 LC	Muddy Sand	3.413	3.706	1.500	Poorly Sorted	0.353	Very Fine Skewed	0.000	70.392	29.608	4.07
Control North	CN2 MA	Sandy Mud	4.546	4.794	1.707	Poorly Sorted	0.192	Fine Skewed	0.000	34.029	65.971	4.59
Control North	CN2 MB	Sandy Mud	4.510	4.852	1.769	Poorly Sorted	0.258	Fine Skewed	0.000	36.632	63.368	5.89
Control North	CN2 MC	Sandy Mud	4.757	4.945	1.973	Poorly Sorted	0.099	Symmetrical	0.000	33.505	66.495	6.95
Control North	CN2 U2	Sandy Mud	5.956	5.898	1.911	Poorly Sorted	-0.093	Symmetrical	0.000	16.895	83.105	7.90
Control North	CN2 UA	Sandy Mud	4.734	4.799	1.961	Poorly Sorted	0.043	Symmetrical	0.000	34.615	65.385	7.33
Control North	CN2 UB	Sandy Mud	4.727	4.898	1.831	Poorly Sorted	0.104	Fine Skewed	0.000	32.117	67.883	4.79
Control North	CN2 UC	Sandy Mud	4.572	4.828	1.764	Poorly Sorted	0.181	Fine Skewed	0.000	34.424	65.576	4.63
Control North	CN4 LA	Sandy Mud	4.739	5.169	1.701	Poorly Sorted	0.345	Very Fine Skewed	0.000	28.569	71.431	4.18
Control North	CN4 LB	Sandy Mud	4.025	4.381	1.607	Poorly Sorted	0.331	Very Fine Skewed	0.000	49.225	50.775	5.02

AREA	SAMPLE	TEXTURAL GROUP	MEDIAN PHI GRAIN SIZE	MEAN PHI GRAIN SIZE		SORTING		SKEWNESS	% GRAVEL	% SAND	% MUD	% LOI
Control North	CN4 LC	Sandy Mud	4.485	4.717	2.024	Very Poorly Sorted	0.137	Fine Skewed	0.000	41.657	58.343	5.21
Control North	CN4 MA	Sandy Mud	4.937	5.053	1.937	Poorly Sorted	0.052	Symmetrical	0.000	30.010	69.990	6.37
Control North	CN4 MB	Sandy Mud	4.692	5.023	1.772	Poorly Sorted	0.240	Fine Skewed	0.000	31.687	68.313	4.66
Control North	CN4 MC	Sandy Mud	4.116	4.541	1.776	Poorly Sorted	0.328	Very Fine Skewed	0.000	46.811	53.189	5.14
Control North	CN4 U2	Sandy Mud	5.491	5.503	2.015	Very Poorly Sorted	-0.045	Symmetrical	0.000	23.252	76.748	8.80
Control North	CN4 UA	Sandy Mud	5.237	5.336	1.774	Poorly Sorted	0.040	Symmetrical	0.000	22.193	77.807	7.14
Control North	CN4 UB	Sandy Mud	4.886	4.930	1.913	Poorly Sorted	0.019	Symmetrical	0.000	31.267	68.733	7.92
Control North	CN4 UC	Sandy Mud	4.928	5.091	1.798	Poorly Sorted	0.093	Symmetrical	0.000	27.546	72.454	6.48
Control South	CS1 LA	Sandy Mud	4.742	5.126	1.820	Poorly Sorted	0.274	Fine Skewed	0.000	31.418	68.582	4.44
Control South	CS1 LB	Muddy Sand	3.127	3.404	1.400	Poorly Sorted	0.437	Very Fine Skewed	0.000	77.304	22.696	2.63
Control South	CS1 LC	Muddy Sand	2.902	2.981	1.045	Poorly Sorted	0.307	Very Fine Skewed	0.000	87.374	12.626	1.54
Control South	CS1 MA	Sandy Mud	4.930	5.241	1.680	Poorly Sorted	0.245	Fine Skewed	0.000	24.508	75.492	5.49
Control South	CS1 MB	Slightly Gravelly Sandy Mud	4.497	4.798	1.598	Poorly Sorted	0.275	Fine Skewed	0.323	33.424	66.253	4.00
Control South	CS1 MC	Slightly Gravelly Sandy Mud	4.759	4.965	1.891	Poorly Sorted	0.120	Fine Skewed	0.206	32.623	67.171	5.33
Control South	CS1 UA	Sandy Mud	5.095	5.226	1.834	Poorly Sorted	0.065	Symmetrical	0.000	25.538	74.462	6.26
Control South	CS1 UB	Sandy Mud	4.871	5.189	1.623	Poorly Sorted	0.270	Fine Skewed	0.000	24.237	75.763	6.10
Control South	CS1 UC	Sandy Mud	4.998	5.275	1.751	Poorly Sorted	0.192	Fine Skewed	0.000	24.309	75.691	5.35
Control South	CS2 LA	Slightly Gravelly Muddy Sand	3.457	3.724	1.433	Poorly Sorted	0.382	Very Fine Skewed	0.008	69.052	30.940	2.81
Control South	CS2 LB	Sand	2.839	2.845	0.617	Moderately Well Sorted	0.061	Symmetrical	0.000	95.567	4.433	1.41
Control South	CS2 LC	Sand	2.630	2.654	0.632	Moderately Well Sorted	0.090	Symmetrical	0.000	96.676	3.324	1.43
Control South	CS2 MA	Slightly Gravelly Sandy Mud	4.854	5.149	1.683	Poorly Sorted	0.230	Fine Skewed	0.132	26.286	73.582	4.86
Control South	CS2 MB	Muddy Sand	3.970	4.333	1.479	Poorly Sorted	0.416	Very Fine Skewed	0.000	51.211	48.789	2.58
Control South	CS2 MC	Muddy Sand	3.337	3.422	1.071	Poorly Sorted	0.314	Very Fine Skewed	0.000	78.030	21.970	2.00
Control South	CS2 UA	Sandy Mud	5.122	5.195	1.876	Poorly Sorted	0.017	Symmetrical	0.000	26.180	73.820	7.16
Control South	CS2 UB	Slightly Gravelly Sandy Mud	5.086	5.349	1.734	Poorly Sorted	0.182	Fine Skewed	0.139	22.049	77.812	5.74
Control South	CS2 UC	Sandy Mud	4.859	5.153	1.632	Poorly Sorted	0.246	Fine Skewed	0.000	24.820	75.180	4.75
Control South	CS3 LA	Slightly Gravelly Sandy Mud	4.287	4.686	1.823	Poorly Sorted	0.301	Very Fine Skewed	0.019	42.841	57.140	3.67
Control South	CS3 LB	Muddy Sand	3.529	3.724	2.218	Very Poorly Sorted	0.159	Fine Skewed	0.000	60.064	39.936	8.06
Control South	CS3 LC	Muddy Sand	2.922	3.117	1.522	Poorly Sorted	0.277	Fine Skewed	0.000	77.875	22.125	4.27
Control South	CS3 MA	Slightly Gravelly Muddy Sand	3.998	4.375	1.512	Poorly Sorted	0.417	Very Fine Skewed	0.017	50.072	49.911	3.73
Control South	CS3 MB	Muddy Sand	3.334	3.829	1.563	Poorly Sorted	0.534	Very Fine Skewed	0.000	72.779	27.221	2.00
Control South	CS3 MC	Muddy Sand	3.675	4.065	1.592	Poorly Sorted	0.423	Very Fine Skewed	0.000	61.116	38.884	2.96
Control South	CS3 UA	Sandy Mud	5.090	5.230	1.877	Poorly Sorted	0.063	Symmetrical	0.000	26.126	73.874	6.52
Control South	CS3 UB	Slightly Gravelly Sandy Mud	4.614	4.881	1.483	Poorly Sorted	0.292	Fine Skewed	0.238	28.647	71.115	3.66
Control South	CS3 UC	Slightly Gravelly Sandy Mud	4.705	4.994	1.550	Poorly Sorted	0.275	Fine Skewed	0.061	28.430	71.509	7.26

3.2 Biological Parameters

A number of primary and derived biological parameters values were calculated from the species data for each sample and the data input into GIS and statistical analysis software (SPSS). The standard biological parameters utilised for benthic analysis include the following:

- The total number of taxa at each site/replicate (including qualitative taxa)
- The total number of individuals (abundance) at each site/replicate
- The total biomass (in grams AFDW) at each site/replicate.
- Margalef's index of species richness (d)
- Shannon's diversity index (H')

This index is a univariate measure of diversity which incorporates both the number of species and the distribution or equitability of individuals between species. High values of H' indicate a more diverse community whilst low values indicate low diversity.

- Pielou's evenness (J)

This index is a univariate measure of evenness or equitability which describes the distribution of individuals between species. High values of J (approaching 1) indicate that the abundance of animals are evenly spread between species whilst low values of J (approaching 0) indicate that the majority of animals are comprised of a few species, a situation which often occurs in low diversity areas subject to disturbance or organic enrichment.

In addition, the PRIMER package developed by Primer-E (Clarke and Gorley, 2006) was used to derive the w statistic from Abundance Biomass Comparison (ABC) plots (Warwick, 1986) for each replicate and per site. ABC plots show the cumulative % dominance of abundance and biomass per species rank and have been used to detect stress in benthic communities. In healthy communities the biomass curve is usually elevated above the abundance curve whilst in transitional or disturbed communities the abundance curves intersects the biomass curves or is elevated above it as the community is characterised by numerous small-bodied opportunist species. In naturally stressed environments such as estuaries some communities naturally exhibit curves indicative of chronic levels of disturbance e.g. due to salinity fluctuations or sediment disturbance although the curves still provide a useful graphical description of community structure and the contribution of larger bodied animals which may for example be an important food source for other groups of animals such as birds/fish. The ABC plots produced by PRIMER also provide the w statistic, which is a univariate descriptor of the ABC plots and measures the extent to which the biomass curve lies above the abundance curve (positive values for relatively undisturbed communities and negative values for potentially disturbed communities) and this was subsequently used as an additional biological parameter.

A summary of the biological parameters at each site is provided in Tables 3 and 4 which gives values per 0.01m^2 sample for North Killingholme and Cherry Cobb Sands respectively.

Abundance values and AFDW biomass values in Tables 3 and 4 are also provided per m^2. Average values (and standard error) per $0.01m^2$ of the biological parameters have also been derived for each survey area and shore level using the software package SPSS (Figures 15 to 21) and the spatial variation in the number of taxa, number of individuals, AFDW biomass and Shannon's diversity H' is highlighted in Figures 22 to 29.

3.2.1 North Killingholme

Values of biological parameters appear to be typical for mid estuary muddy intertidal habitats and generally correspond to values recorded elsewhere in the middle Humber and the previous benthic surveys at North Killingholme undertaken in spring and autumn 2013. Total numbers of taxa recorded were relatively low and ranged from 1 to 11 taxa per $0.01m^2$ sample whilst the total numbers of individuals was extremely variable with fewer than 10 animals per core recorded in some areas, predominantly at lower shore sites or occasionally on the upper shore. The number of individuals ranged from 0 to 422 individuals per $0.01m^2$ (0 to 42000 animals per m^2) whilst AFDW biomass values ranged from 0.0005 g to 0.1107 g per $0.01m^2$ (0.05 g to 11.1g per m^2).

Some spatial patterns in biological patterns were evident (Figures 15 to 29) predominantly with respect to position on the shore. Numbers of taxa tended to show little variation across the survey area although sites from the southern indirect impact area had slightly lower numbers of taxa on the upper shore where there was greater encroachment from saltmarsh. The mid shore sites tended to have the highest number of taxa in each area particularly in the northern control area. Numbers of individuals and biomass tended to show more distinct patterns in relation to shore position with higher numbers of individuals generally recorded on the mid shore particularly in the direct impact area. Biomass tended to show a trend of decreasing values down the shore on most transects aside from areas influenced by saltmarsh (transects 1.1, 1.2 and 2.1) with slightly higher biomass values on the upper shore in the direct impact area. Mid and low show biomass values tended to be fairly consistent across all areas.

Faunal biomass and numbers of individuals were relatively variable with sporadic high or low values occurring throughout the area but in general the direct impact area and the northern control area tended to have somewhat higher values of these parameters. For example, densities of invertebrates ranged from 3 to 528 per $0.01m^2$ (300 to 52800 per m^2) in the direct impact (development) area whilst AFDW biomass in the proposed development area ranged from 0.0004g to 0.1107g per $0.01m^2$ (0.04g to 11.07g per m^2). Slightly lower values were often recorded at the indirect impact sites to the south (transects 1.1 and 1.2) and north (transects 1.8 and 1.9) with the exception of the upper shore northern indirect impact area which had relatively high numbers of individuals whilst the mid shore at the southern indirect impact area exhibited relatively high biomass values.

Values for diversity indices such as Margalef's d and Shannon's H tended to be moderate to low (values ranging from 0.4 to 2.67 and 0.21 to 2.90 respectively) as is commonly the case in estuarine habitats with few clear spatial patterns in relation to the development area. Values of Pielou's evenness J were highly variable and ranged from 0.11 to 1 with slightly higher values recorded on the low shore indirect impact areas which reflect the reduction in faunal density (and dominance) in these dynamic low shore areas.

The majority of sites had values of the ABC w statistic above zero indicating biomass curves elevated above the abundance curve (i.e. normal communities) although a number of sites had w statistics close to or below zero indicating plots in which the curves intersected or with elevated abundance curves. This can occur in naturally stressed estuarine habitats and in the current study is likely to be due to increased dominance by taxa such as *Corophium volutator* or *Tubificoides* spp. and no communities particularly indicative of severe organic enrichment or anthropogenic disturbance were observed.

Whilst examples of high and low values of the w statistic were recorded throughout the survey area, mid shore habitats within the northern control and direct impact area tended to have somewhat lower values whilst higher values were often recorded on the mid or low shore at the indirect impact areas and such patterns are likely to reflect variation in densities of smaller species such as *Corophium volutator* and/or *Tubificoides* spp.

3.2.2 Cherry Cobb Sands

The biological parameters derived from the Cherry Cobb Sands dataset are shown in Table 4 and graphs showing mean values per 0.01m^2 for each survey area and shore level are provided in Figures 15 to 21. The spatial distribution of numbers of taxa, numbers of individuals, AFDW biomass and Shannon's diversity H' are provided in Figures 23, 25, 27 and 29. The results of the Cherry Cobb Sands survey indicate that whilst numbers of taxa were broadly similar to those recorded at North Killingholme somewhat higher numbers of taxa were often recorded at Cherry Cobb Sands as reflected in the mean values per area shown in Figure 15.

The total number of taxa recorded at Cherry Cobb Sands was also higher than at North Killingholme (46 taxa as opposed to 39 taxa) despite the much higher number of samples taken at NKM which presumably reflects the wider range of habitats and sediment types in this area although many of the recorded taxa were present in relatively low numbers. Numbers of taxa ranged from 2 to 16 taxa per 0.01m^2 with lower numbers of taxa usually recorded at the lower shore sites and particularly in sandier habitats in the southern control area.

The numbers of individuals per sample at Cherry Cobb Sands were broadly similar to the North Killingholme sites although a number of sites on the upper and mid shore in the northern control area at Cherry Cobb Sands had extremely high numbers of oligochaetes (Enchytraeidae) with densities ranging from 2 to 2805 individuals per 0.01m^2 (200 to 280500 animals per m^2) so mean values at Cherry Cobb Sands in these areas tend to be higher than North Killingholme. The lowest numbers of individuals at Cherry Cobb Sands were recorded on the mid and low shore to the south and on the low shore to the north whilst highest densities tended to be present on the mid and upper shore in the northern area. AFDW biomass ranged from 0.0002 g to 0.227g per 0.01m^2 (0.02 g to 22.7 g per m^2) with lowest values typically recorded in lower shore habitats with higher biomass values recorded on mid or upper shore habitats (particularly in the southern control area).

As described for the 2013 surveys some of the mid and upper shore areas at Cherry Cobb Sands supported much a higher faunal biomass than comparable areas at North Killingholme. However, the total numbers of individuals and biomass recorded here generally correspond to other intertidal areas in the middle Humber and the lower values recorded in low shore areas presumably reflect a more dynamic sedimentary regime. Diversity parameters were quite variable with Margalef's d ranging from 0.62 to 2.57, Shannon's H' ranging from 0.4 to 2.9 and Pielou's evenness ranging from 0.17 to 1. Most sites exhibited moderate to low levels of diversity with relatively few clear spatial trends although sites along the southern transects tended to exhibit somewhat higher diversity values. In general the Cherry Cobb Sands survey areas tend to exhibit slightly higher levels of diversity and evenness in comparison to comparable habitats at North Killingholme.

The w statistics derived from ABC curves ranged from -0.19 to 0.824 although the majority of sites had w values greater than zero indicating elevated biomass curves and overall the Cherry Cobb Sands sites tended to have slightly higher w values than those recorded at North Killingholme. However, a number of sites on the low or mid shore along the northern transects (CN2 and CN4) had lower w values around or below zero particularly where high numbers of small oligochaetes (e.g. Enchytraeidae) dominate the community. Such variability is common in estuarine areas which are naturally stressed environments and the high densities of smaller invertebrates commonly recorded in such areas often results in elevated abundance curves (lower w statistics) which are not necessarily related to anthropogenic disturbance.

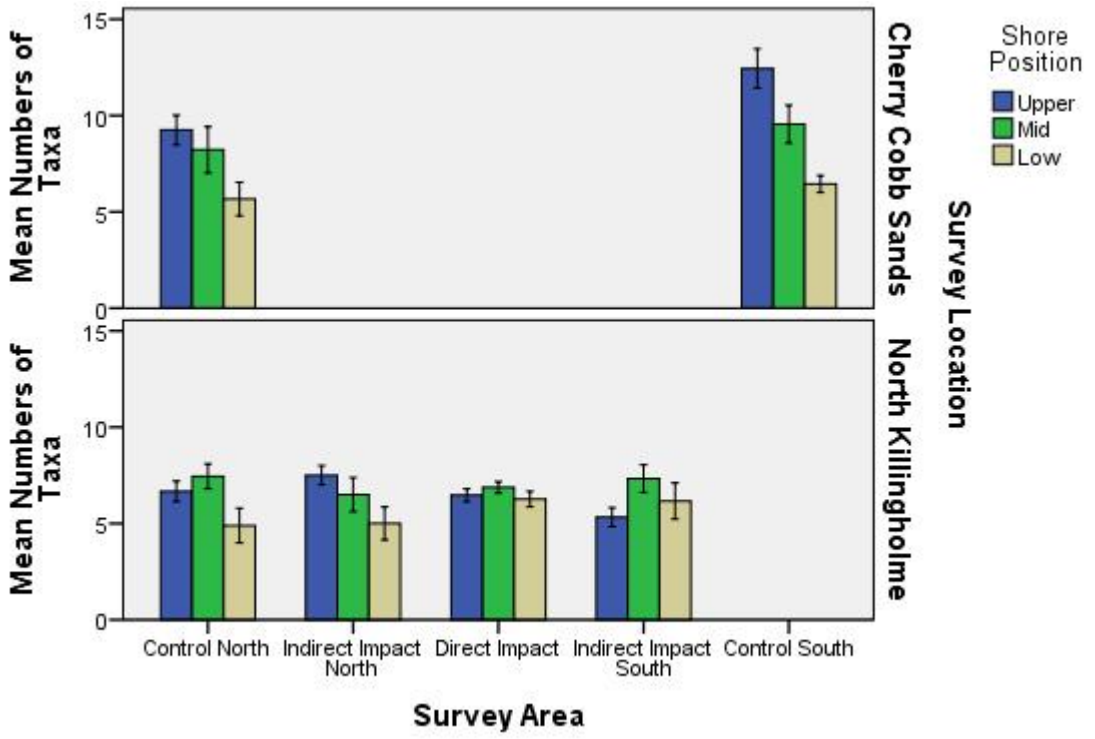

Figure 15. Mean numbers of taxa with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

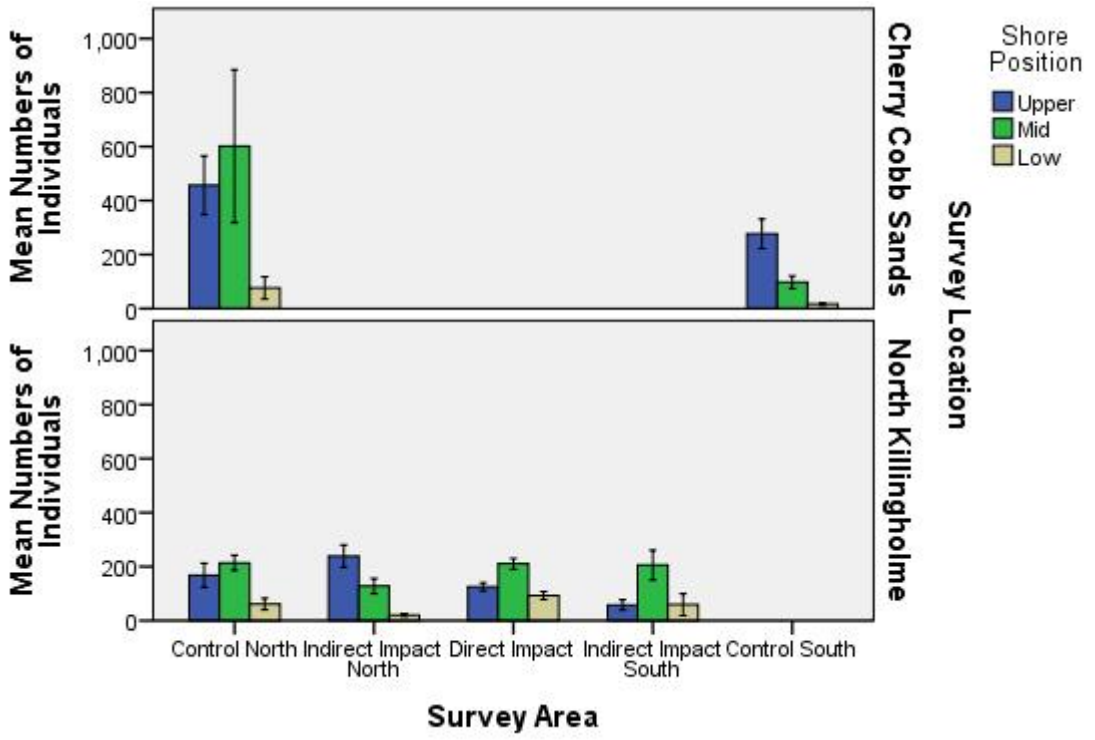

Figure 16. Mean numbers of individuals with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

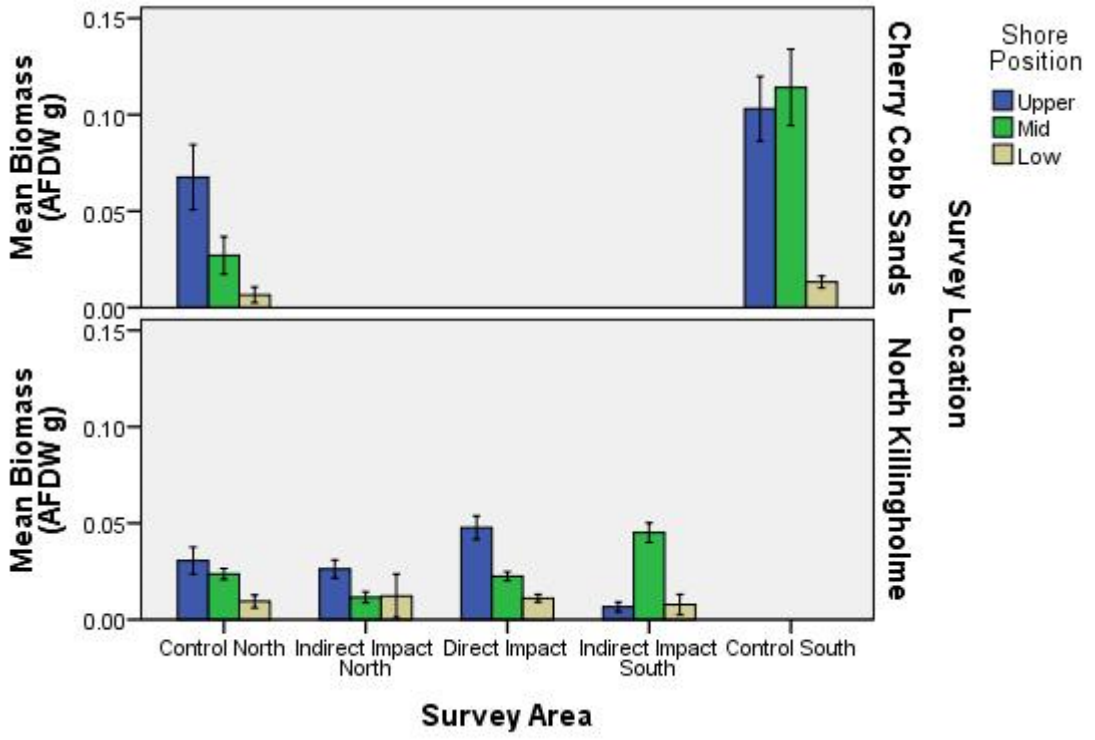

Figure 17. Mean AFDW biomass with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

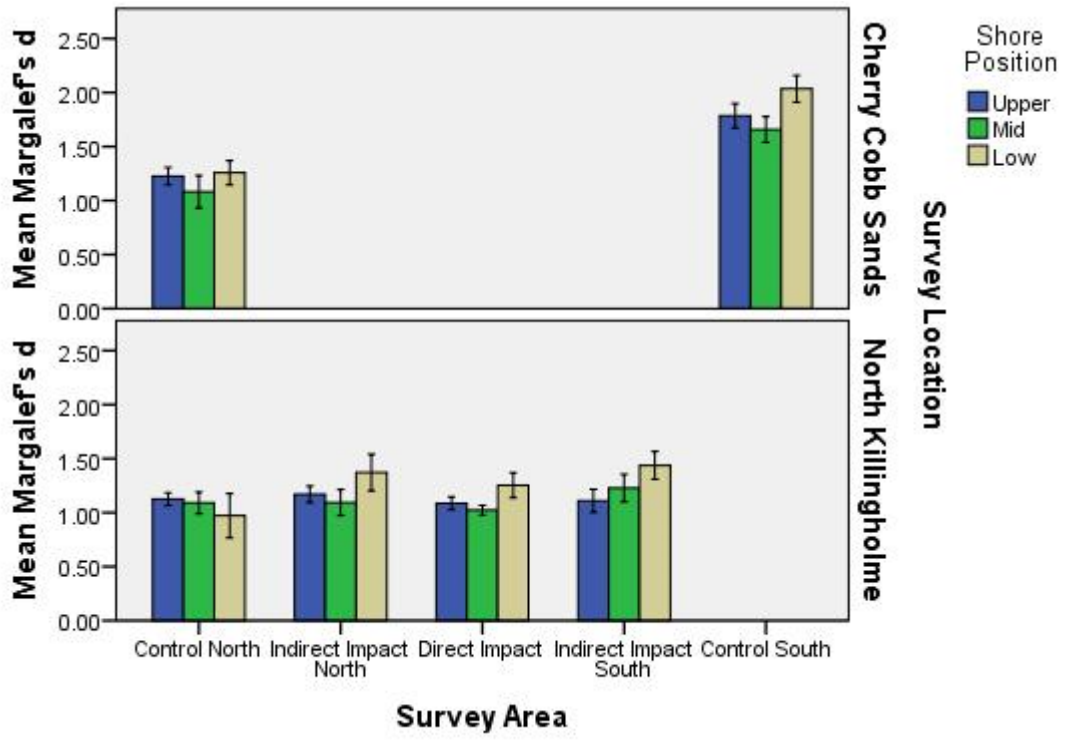

Figure 18. Mean Margalef's d with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

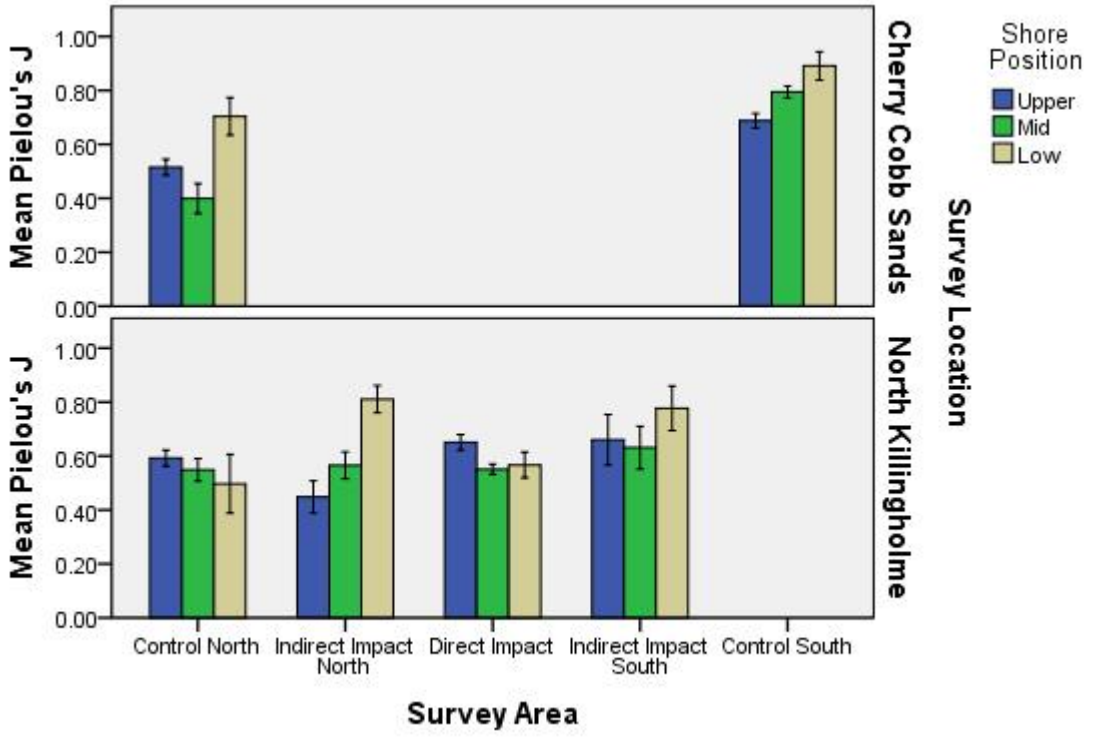

Figure 19. Mean Pielou's evenness with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

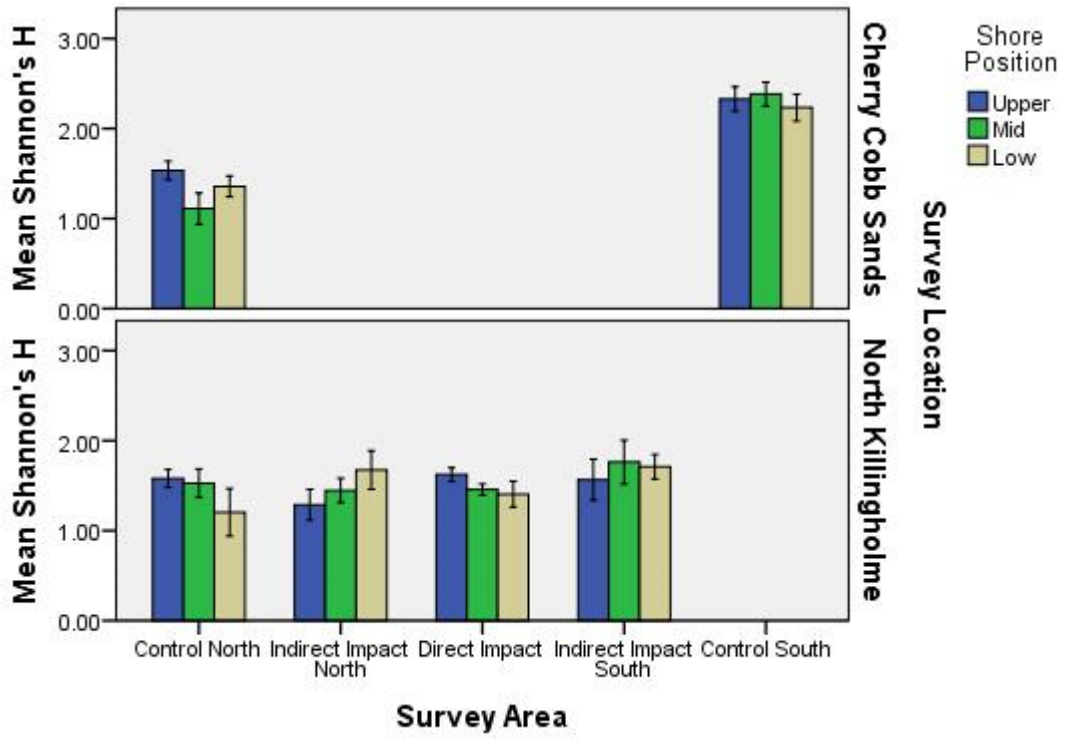

Figure 20. Mean Shannon's diversity with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

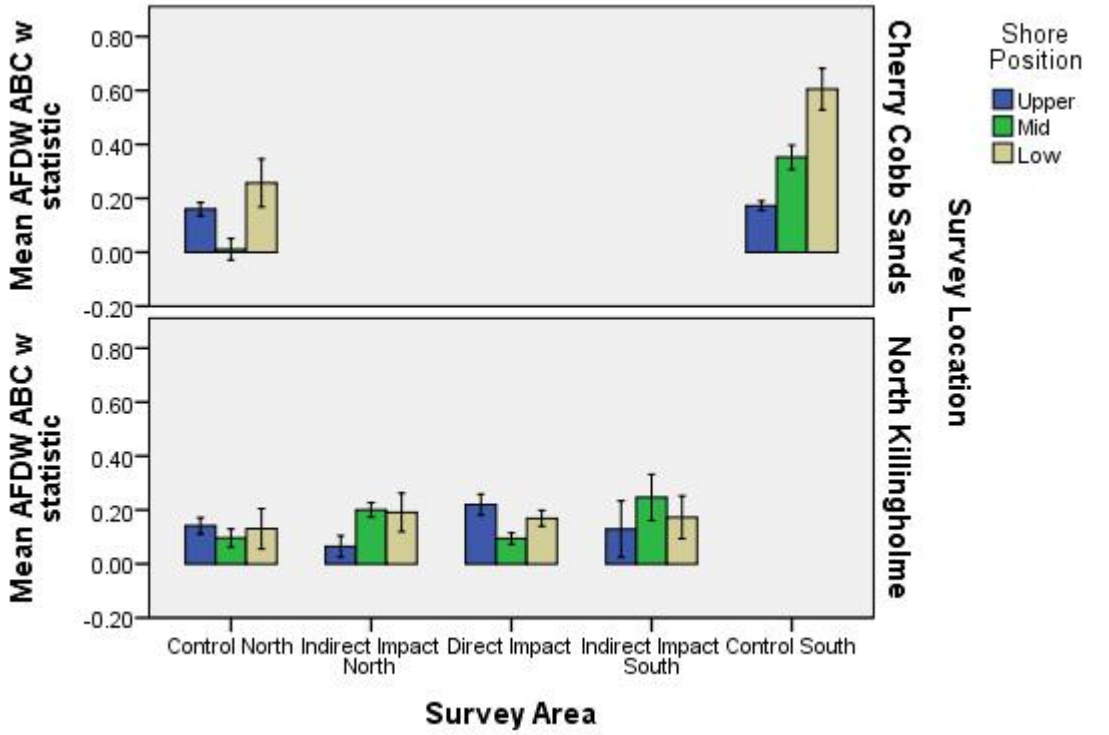

Figure 21. Mean AFDW ABC w statistic with standard error (per 0.01m^2) for each survey area at North Killingholme & Cherry Cobb Sands.

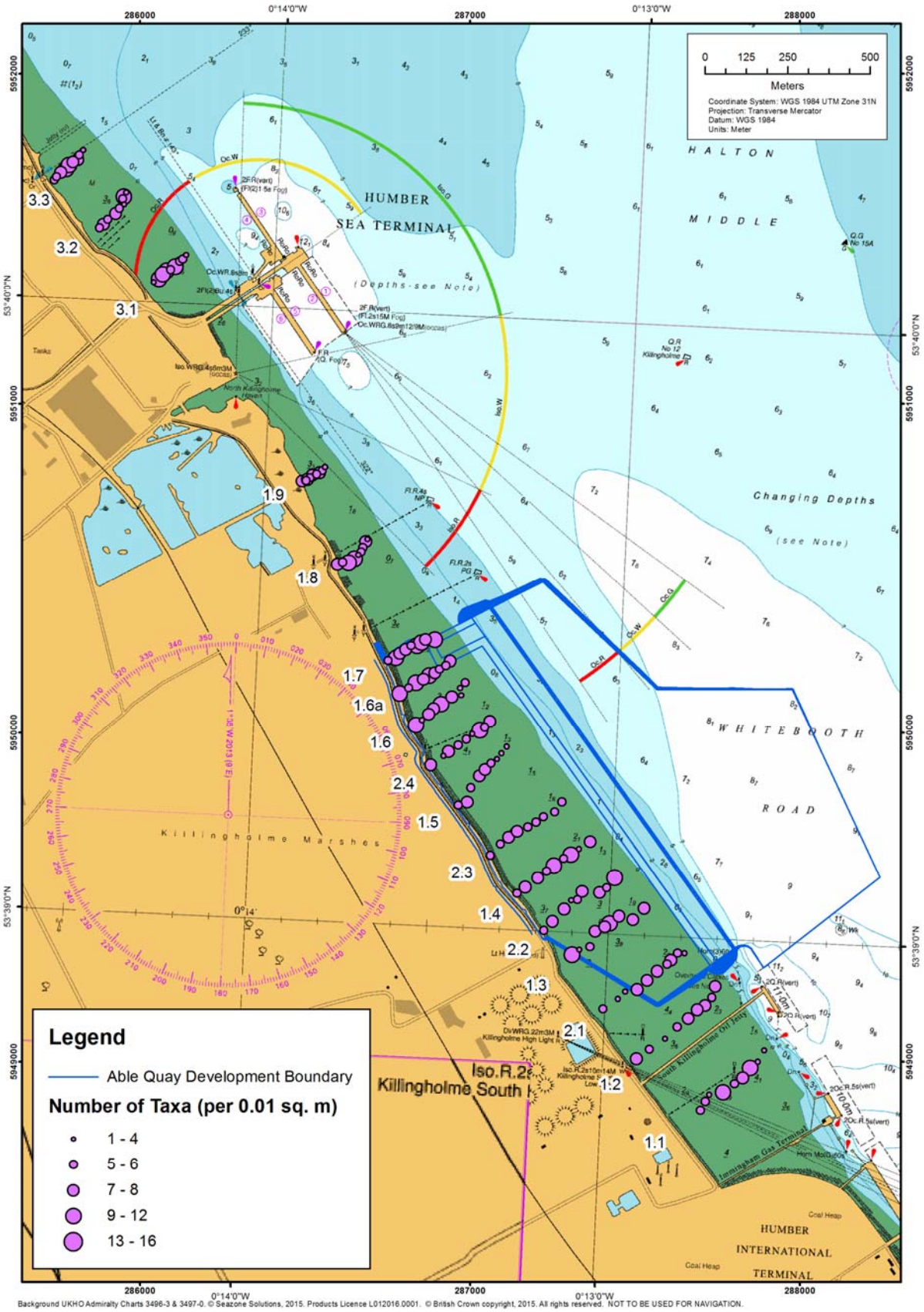

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Figure 22. Number of taxa per 0.01m^2 at North Killingholme.

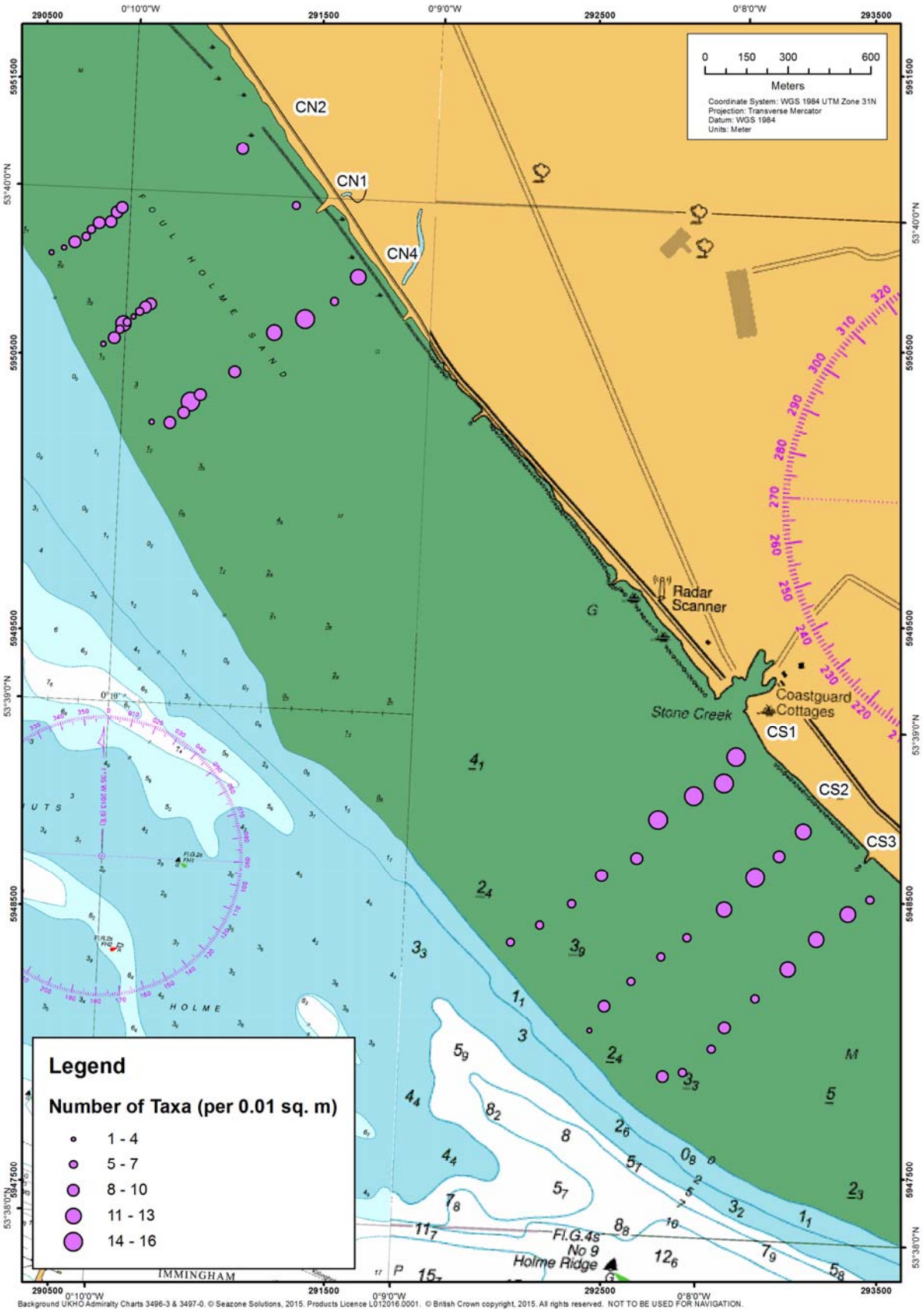

Figure 23. Number of taxa per 0.01m^2 at Cherry Cobb Sands.

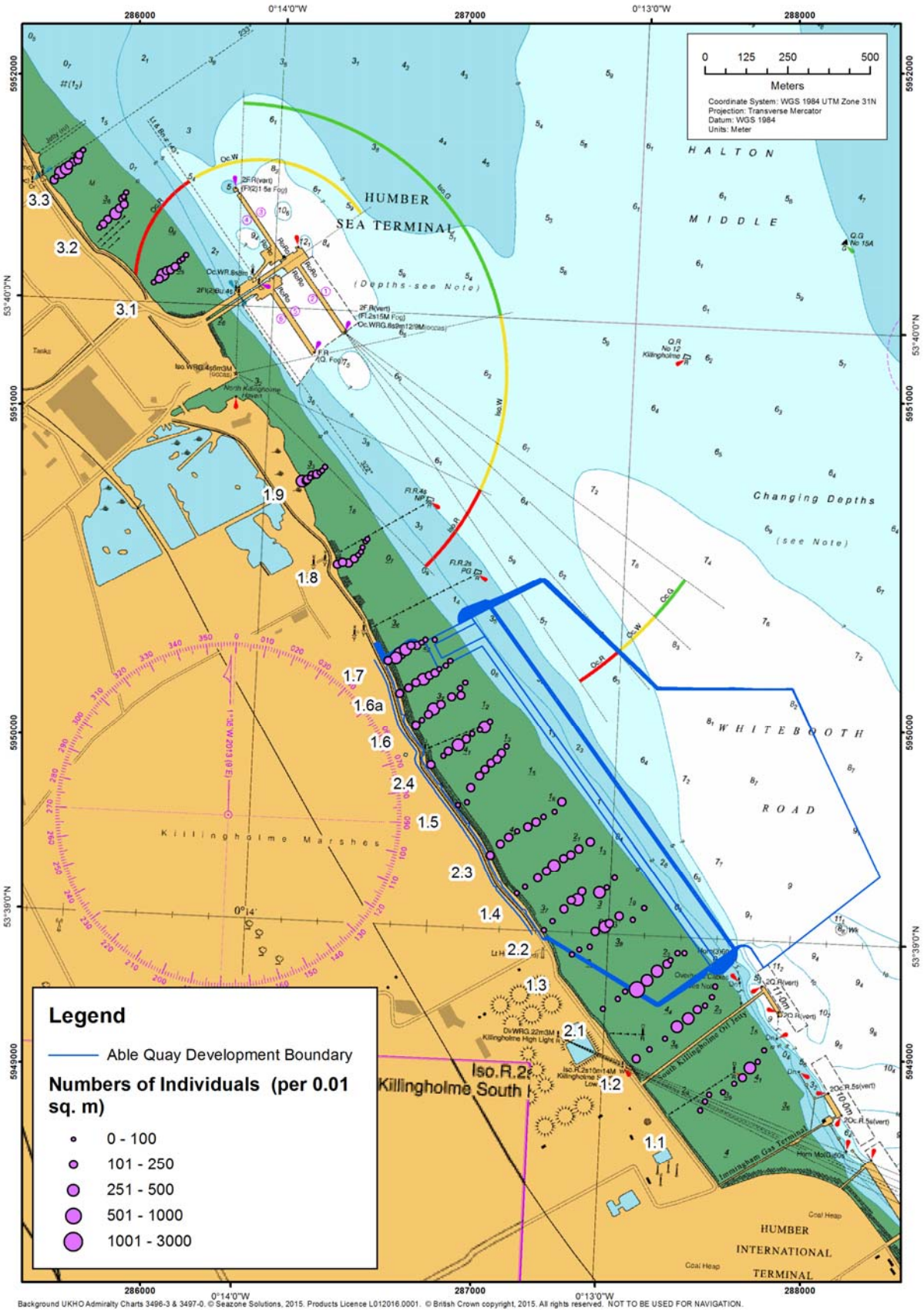

Figure 24. Numbers of individuals per 0.01m^2 at North Killingholme.

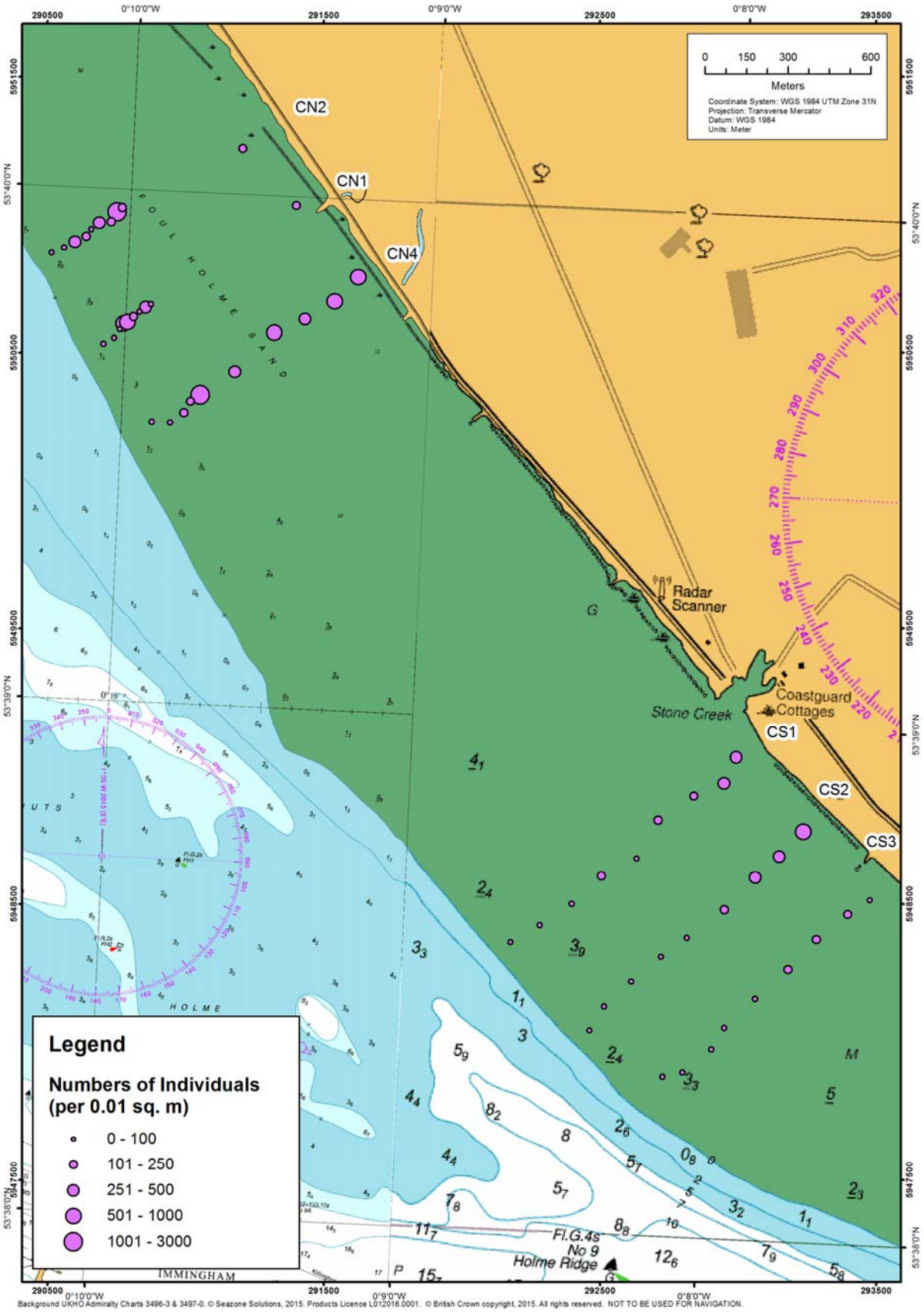

Figure 25. Numbers of individuals per 0.01m^2 at Cherry Cobb Sands.

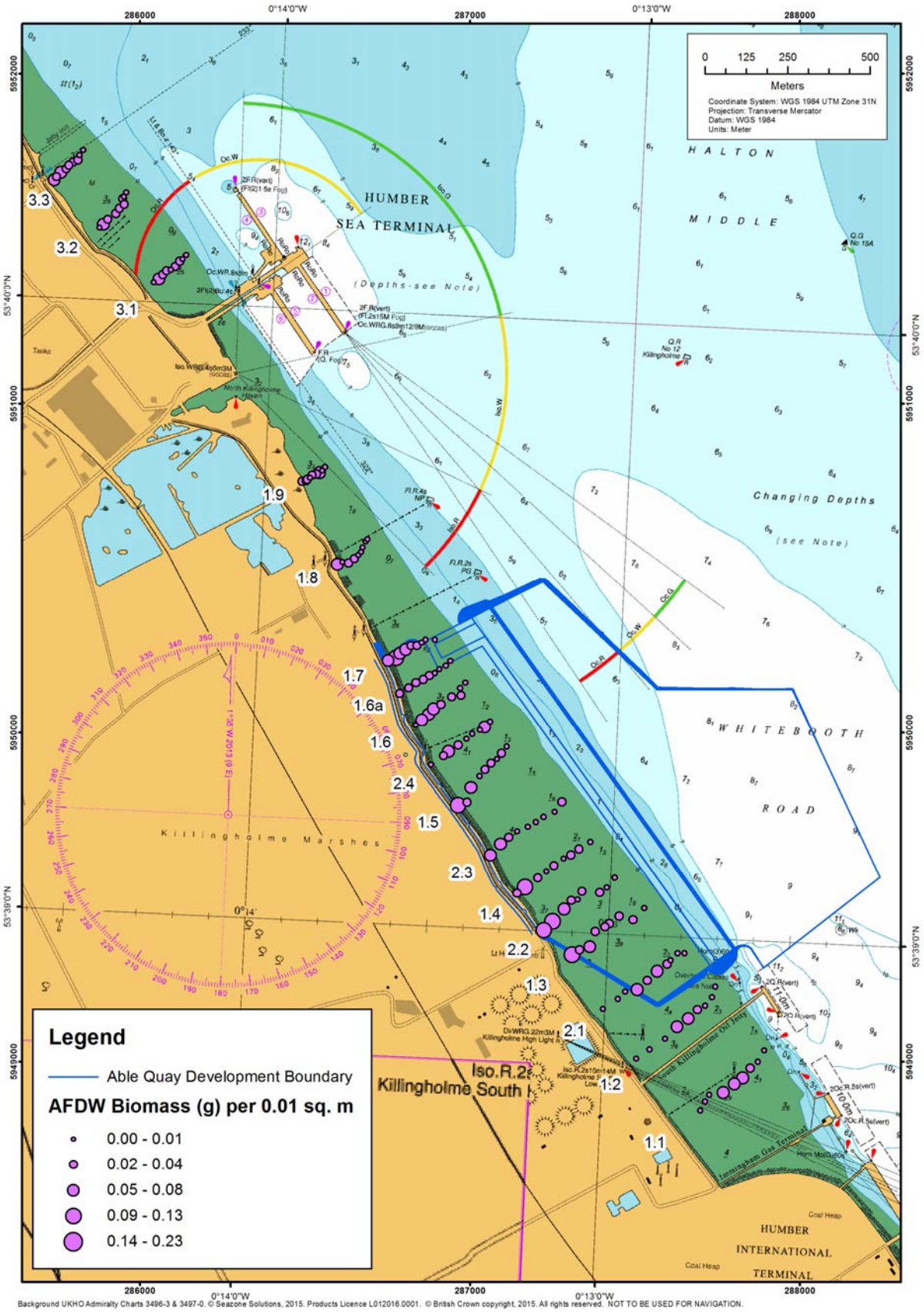

Figure 26. AFDW Biomass (g per 0.01m^2) at North Killingholme.

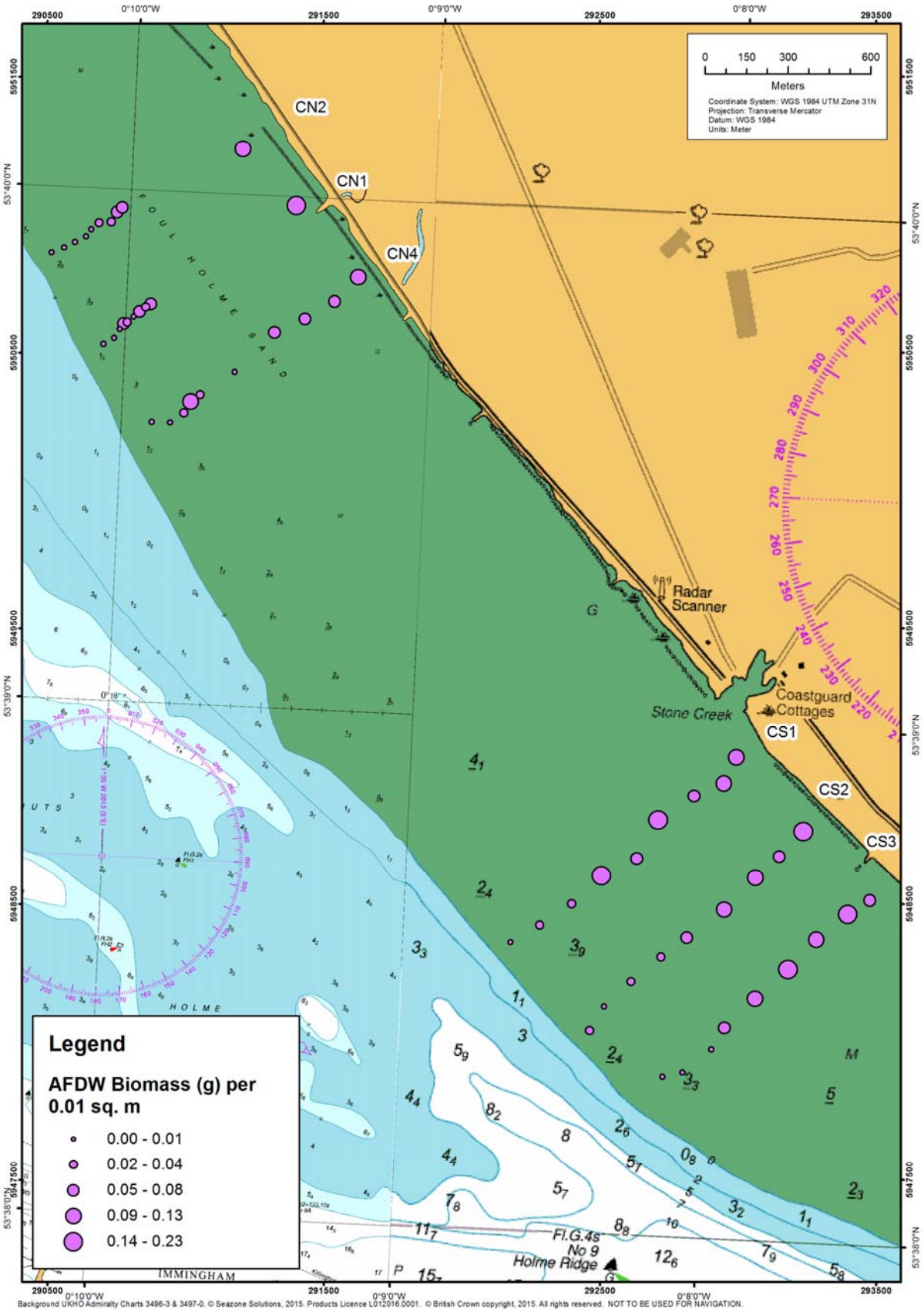

Figure 27. AFDW Biomass (g per 0.01m^2) at Cherry Cobb Sands.

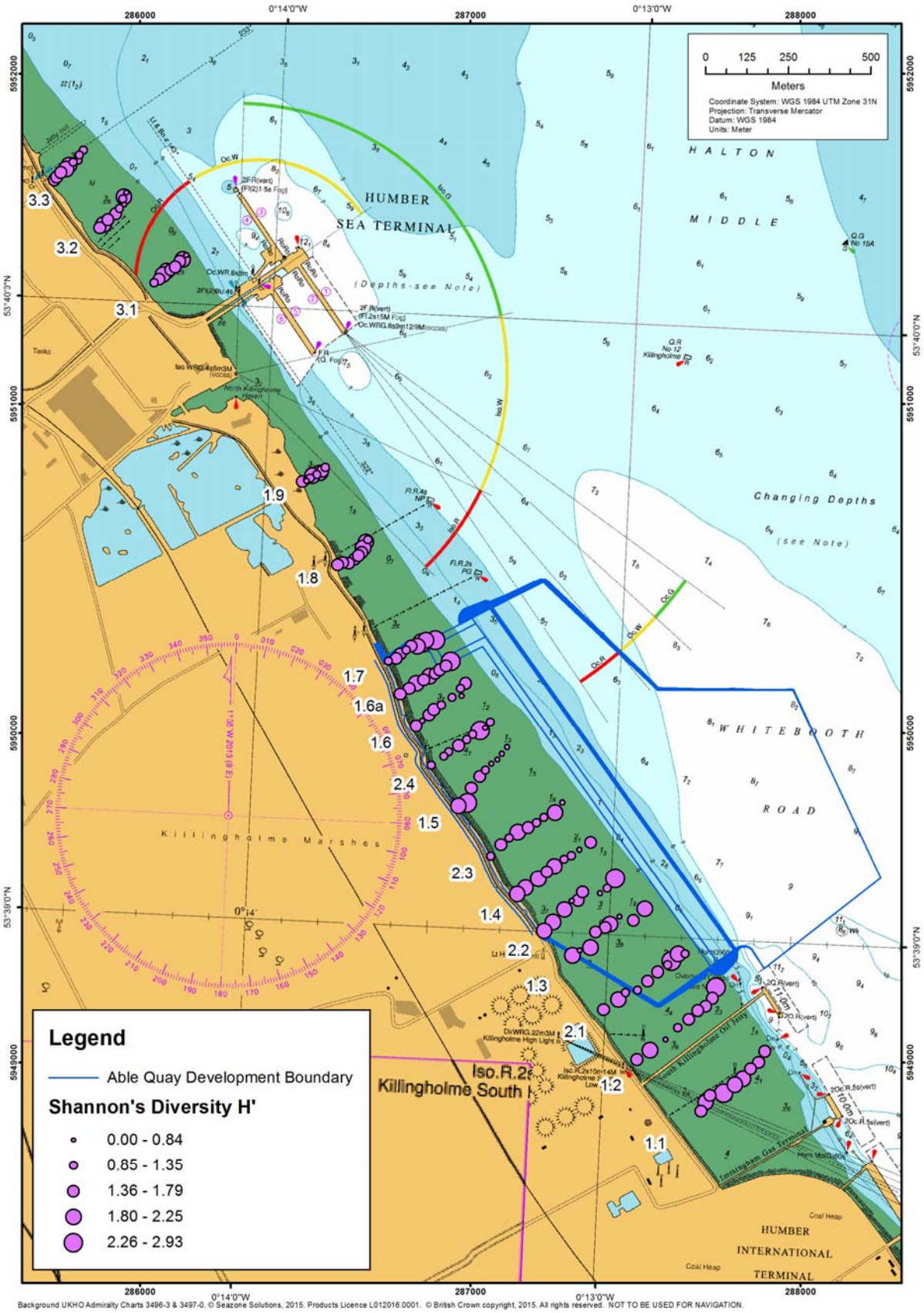

Figure 28. Shannon's diversity H' at North Killingholme (per 0.01m^2).

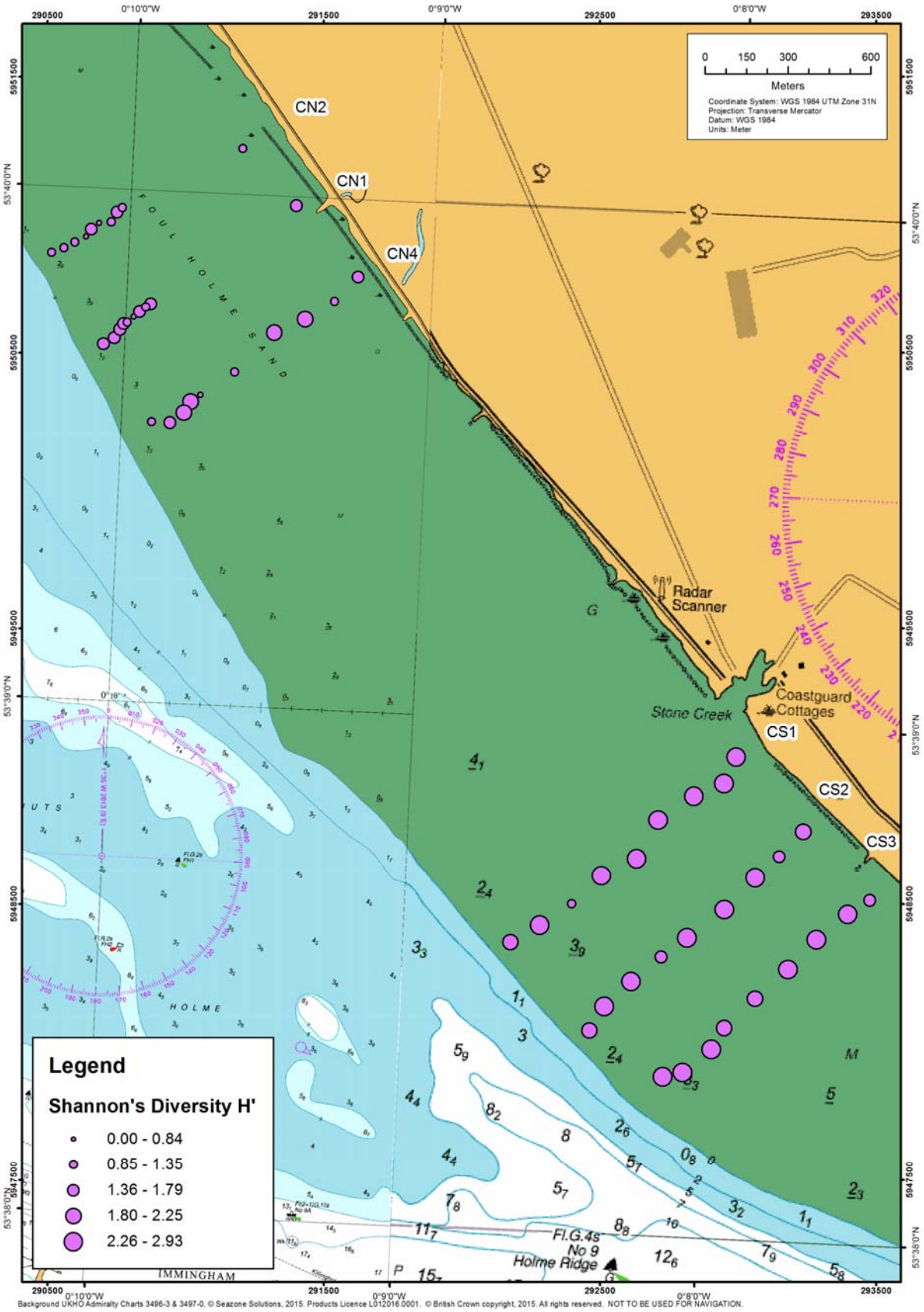

Figure 29. Shannon's diversity H' at Cherry Cobb Sands (per 0.01m^2).

Table 3. Values of biological parameters for each site (0.01m²) at North Killingholme.

Area	Sample	Number of Taxa	Numbers of Individuals		Biomass (AFDW g)		Margalef's d	Pielou's J	Shannon's H	AFDW ABC w stat
			per 0.01m²	per 1m²	per 0.01m²	per 1m²				
Control North	3.1 LA	5	13	1300	0.0037	0.371	1.56	0.93	2.16	0.62
Control North	3.1 LB	6	57	5700	0.0216	2.158	1.24	0.68	1.75	0.26
Control North	3.1 LC	1	0	0	0.00001	0.001	-	-	-	-
Control North	3.1 MA	10	244	24400	0.0204	2.041	1.46	0.62	1.97	0.13
Control North	3.1 MB	6	165	16500	0.0118	1.181	0.98	0.62	1.62	0.15
Control North	3.1 MC	9	121	12100	0.0296	2.957	1.46	0.51	1.53	0.05
Control North	3.1 UA	4	28	2800	0.0009	0.090	0.90	0.47	0.95	0.14
Control North	3.1 UB	9	132	13200	0.0464	4.641	1.43	0.47	1.41	0.09
Control North	3.1 UC	9	330	33000	0.0209	2.090	1.21	0.62	1.87	0.19
Control North	3.2 LA	6	137	13700	0.0189	1.891	1.02	0.37	0.96	-0.04
Control North	3.2 LB	9	49	4900	0.0034	0.336	1.80	0.70	2.11	0.27
Control North	3.2 LC	1	0	0	0.00001	0.001	-	-	-	-
Control North	3.2 MA	7	361	36100	0.0283	2.831	1.02	0.61	1.70	0.14
Control North	3.2 MB	6	235	23500	0.0161	1.609	0.73	0.48	1.11	0.13
Control North	3.2 MC	4	112	11200	0.0159	1.586	0.64	0.28	0.56	-0.11
Control North	3.2 UA	6	81	8100	0.0069	0.690	1.14	0.69	1.78	0.00
Control North	3.2 UB	7	102	10200	0.0591	5.905	1.30	0.69	1.92	0.29
Control North	3.2 UC	6	110	11000	0.0222	2.224	1.06	0.58	1.50	0.17
Control North	3.3 LA	7	169	16900	0.0237	2.371	0.97	0.52	1.34	-0.10
Control North	3.3 LB	6	121	12100	0.0137	1.370	1.04	0.48	1.24	0.05
Control North	3.3 LC	3	6	600	0.0002	0.017	1.12	0.79	1.25	0.12
Control North	3.3 MA	9	316	31600	0.0365	3.651	1.22	0.60	1.81	0.18
Control North	3.3 MB	9	165	16500	0.0218	2.176	1.37	0.71	2.13	0.21
Control North	3.3 MC	7	206	20600	0.0326	3.255	0.94	0.51	1.32	-0.01
Control North	3.3 UA	6	241	24100	0.0438	4.376	0.91	0.66	1.70	0.19
Control North	3.3 UB	6	69	6900	0.0211	2.113	1.18	0.65	1.68	0.17
Control North	3.3 UC	7	422	42200	0.0538	5.381	0.99	0.50	1.40	0.03
Direct Impact	1.3 LA	8	242	24200	0.0279	2.793	1.09	0.29	0.81	0.07
Direct Impact	1.3 LB	7	55	5500	0.0202	2.019	1.25	0.60	1.54	0.04
Direct Impact	1.3 LC	7	26	2600	0.0021	0.214	1.53	0.86	2.22	0.40
Direct Impact	1.3 MA	7	164	16400	0.0189	1.895	0.98	0.69	1.79	0.07
Direct Impact	1.3 MB	7	312	31200	0.0188	1.878	1.04	0.64	1.79	0.08
Direct Impact	1.3 MC	9	196	19600	0.0206	2.063	1.33	0.64	1.91	0.18
Direct Impact	1.3 UA	9	68	6800	0.1107	11.073	1.66	0.62	1.85	0.27
Direct Impact	1.3 UB	4	50	5000	0.0284	2.842	0.51	0.49	0.77	0.06
Direct Impact	1.3 UC	6	54	5400	0.0576	5.758	1.25	0.72	1.87	0.35
Direct Impact	1.4 LA	9	171	17100	0.0279	2.791	1.17	0.42	1.19	0.06
Direct Impact	1.4 LB	4	188	18800	0.0151	1.507	0.57	0.11	0.21	0.01
Direct Impact	1.4 LC	8	120	12000	0.0095	0.954	1.46	0.55	1.64	0.15
Direct Impact	1.4 MA	6	125	12500	0.0064	0.639	1.04	0.53	1.38	0.16
Direct Impact	1.4 MB	10	370	37000	0.0299	2.991	1.35	0.61	1.93	0.16
Direct Impact	1.4 MC	5	131	13100	0.0118	1.176	0.82	0.42	0.97	0.09
Direct Impact	1.4 UA	6	63	6300	0.0287	2.869	0.97	0.80	1.87	0.40
Direct Impact	1.4 UB	7	55	5500	0.1078	10.785	1.25	0.74	1.92	0.37
Direct Impact	1.4 UC	7	131	13100	0.0286	2.855	1.23	0.71	2.00	0.23
Direct Impact	1.5 LA	4	118	11800	0.0132	1.316	0.63	0.30	0.61	0.08
Direct Impact	1.5 LB	3	150	15000	0.0212	2.117	0.40	0.20	0.31	0.05

Area	Sample	Number of Taxa	Numbers of Individuals		Biomass (AFDW g)		Margalef's d	Pielou's J	Shannon's H	AFDW ABC w stat
			per 0.01m²	per 1m²	per 0.01m²	per 1m²				
Direct Impact	1.5 LC	4	99	9900	0.0129	1.288	0.65	0.35	0.69	0.11
Direct Impact	1.5 MA	7	105	10500	0.0080	0.798	1.07	0.67	1.72	0.22
Direct Impact	1.5 MB	7	135	13500	0.0265	2.646	1.22	0.47	1.32	-0.07
Direct Impact	1.5 MC	6	154	15400	0.0175	1.746	0.99	0.32	0.84	0.07
Direct Impact	1.5 UA	6	62	6200	0.0931	9.306	1.21	0.81	2.10	0.50
Direct Impact	1.5 UB	7	42	4200	0.0385	3.845	1.61	0.87	2.43	0.53
Direct Impact	1.5 UC	5	187	18700	0.0442	4.424	0.76	0.74	1.71	0.24
Direct Impact	1.6 LA	3	139	13900	0.0160	1.598	0.41	0.43	0.69	0.14
Direct Impact	1.6 LB	3	19	1900	0.0013	0.130	0.68	0.74	1.17	0.40
Direct Impact	1.6 LC	6	73	7300	0.0057	0.574	1.17	0.53	1.38	0.20
Direct Impact	1.6 MA	8	375	37500	0.0413	4.135	1.01	0.50	1.39	0.12
Direct Impact	1.6 MB	9	220	22000	0.0248	2.475	1.11	0.45	1.28	0.13
Direct Impact	1.6 MC	7	126	12600	0.0223	2.232	1.03	0.46	1.18	0.17
Direct Impact	1.6 UA	10	138	13800	0.0034	0.337	1.83	0.46	1.53	0.03
Direct Impact	1.6 UB	4	86	8600	0.0471	4.714	0.67	0.41	0.81	0.01
Direct Impact	1.6 UC	7	190	19000	0.0519	5.190	1.14	0.63	1.77	0.15
Direct Impact	1.6A LA	5	15	1500	0.0008	0.076	1.11	0.78	1.55	-0.20
Direct Impact	1.6A LB	5	34	3400	0.0018	0.182	1.13	0.62	1.44	0.23
Direct Impact	1.6A LC	8	24	2400	0.0097	0.967	1.89	0.85	2.39	0.34
Direct Impact	1.6A MA	7	269	26900	0.0180	1.801	0.89	0.53	1.37	0.15
Direct Impact	1.6A MB	9	134	13400	0.0302	3.024	1.43	0.62	1.86	0.02
Direct Impact	1.6A MC	8	126	12600	0.0139	1.389	1.24	0.62	1.74	0.22
Direct Impact	1.6A UA	9	171	17100	0.0283	2.829	1.56	0.55	1.74	0.08
Direct Impact	1.6A UB	5	149	14900	0.0181	1.807	0.80	0.76	1.77	0.26
Direct Impact	1.6A UC	9	218	21800	0.0335	3.353	1.30	0.60	1.80	0.00
Direct Impact	1.7 LA	9	50	5000	0.0059	0.587	2.04	0.74	2.34	0.16
Direct Impact	1.7 LB	8	70	7000	0.0049	0.486	1.41	0.68	1.90	0.19
Direct Impact	1.7 LC	9	23	2300	0.0006	0.059	2.23	0.83	2.49	0.09
Direct Impact	1.7 MA	7	303	30300	0.0461	4.607	0.88	0.40	1.04	0.10
Direct Impact	1.7 MB	5	188	18800	0.0194	1.941	0.76	0.67	1.56	0.24
Direct Impact	1.7 MC	11	213	21300	0.0179	1.787	1.68	0.57	1.88	-0.04
Direct Impact	1.7 UA	5	133	13300	0.0624	6.237	0.82	0.41	0.95	0.10
Direct Impact	1.7 UB	9	277	27700	0.1041	10.413	1.24	0.46	1.39	0.04
Direct Impact	1.7 UC	8	339	33900	0.0504	5.036	1.03	0.58	1.64	0.05
Direct Impact	2.1 LA	8	11	1100	0.0118	1.177	2.50	0.95	2.66	0.56
Direct Impact	2.1 LB	6	11	1100	0.0009	0.094	2.09	0.86	2.22	0.37
Direct Impact	2.1 LC	3	3	300	0.0004	0.039	0.91	0.92	0.92	0.49
Direct Impact	2.1 MA	8	313	31300	0.0219	2.193	1.22	0.59	1.78	0.12
Direct Impact	2.1 MA2	7	528	52800	0.0605	6.046	0.96	0.46	1.30	0.02
Direct Impact	2.1 MB	8	300	30000	0.0489	4.893	1.05	0.53	1.49	0.15
Direct Impact	2.1 MC	6	144	14400	0.0350	3.500	1.01	0.37	0.96	-0.19
Direct Impact	2.1 UA	6	52	5200	0.0055	0.548	1.01	0.69	1.61	0.23
Direct Impact	2.1 UB	4	33	3300	0.0031	0.307	0.86	0.94	1.88	0.26
Direct Impact	2.1 UC	3	10	1000	0.0008	0.075	0.43	1.00	1.00	0.96
Direct Impact	2.2 LA	8	260	26000	0.0287	2.867	1.08	0.23	0.65	0.05
Direct Impact	2.2 LB	5	99	9900	0.0034	0.343	0.65	0.47	0.93	0.09
Direct Impact	2.2 LC	11	29	2900	0.0012	0.118	2.67	0.87	2.90	0.22
Direct Impact	2.2 MA	4	165	16500	0.0194	1.935	0.59	0.42	0.84	-0.20
Direct Impact	2.2 MB	6	268	26800	0.0143	1.431	0.89	0.60	1.55	0.02

Area	Sample	Number of Taxa	Numbers of Individuals		Biomass (AFDW g)		Margalef's d	Pielou's J	Shannon's H	AFDW ABC w stat
			per 0.01m²	per 1m²	per 0.01m²	per 1m²				
Direct Impact	2.2 MC	7	188	18800	0.0298	2.984	0.95	0.58	1.49	0.17
Direct Impact	2.2 UA	6	75	7500	0.0860	8.595	1.16	0.73	1.89	0.35
Direct Impact	2.2 UB	7	57	5700	0.1083	10.832	1.48	0.79	2.22	0.42
Direct Impact	2.2 UC	8	195	19500	0.0705	7.048	1.14	0.78	2.19	0.36
Direct Impact	2.3 LA	5	96	9600	0.0059	0.586	0.66	0.52	1.04	0.15
Direct Impact	2.3 LB	5	72	7200	0.0030	0.303	0.94	0.85	1.97	0.14
Direct Impact	2.3 LC	6	148	14800	0.0215	2.149	1.00	0.18	0.46	0.04
Direct Impact	2.3 MA	7	93	9300	0.0064	0.640	1.32	0.74	2.08	0.03
Direct Impact	2.3 MB	6	152	15200	0.0136	1.362	0.80	0.62	1.44	0.23
Direct Impact	2.3 MC	5	107	10700	0.0075	0.749	0.86	0.55	1.28	0.16
Direct Impact	2.3 UA	5	202	20200	0.0487	4.872	0.75	0.56	1.30	0.03
Direct Impact	2.3 UB	6	142	14200	0.0638	6.377	1.01	0.62	1.61	0.19
Direct Impact	2.3 UC	8	194	19400	0.0234	2.335	1.14	0.48	1.35	0.08
Direct Impact	2.4 LA	9	39	3900	0.0042	0.420	2.18	0.77	2.45	0.28
Direct Impact	2.4 LB	5	322	32200	0.0473	4.725	0.69	0.18	0.43	0.04
Direct Impact	2.4 LC	7	76	7600	0.0084	0.840	1.39	0.33	0.93	0.10
Direct Impact	2.4 MA	5	420	42000	0.0264	2.641	0.66	0.72	1.68	0.23
Direct Impact	2.4 MB	5	126	12600	0.0134	1.343	0.83	0.47	1.09	-0.08
Direct Impact	2.4 MC	4	73	7300	0.0087	0.871	0.70	0.61	1.22	0.20
Direct Impact	2.4 UA	7	239	23900	0.0095	0.946	0.91	0.49	1.26	-0.10
Direct Impact	2.4 UB	4	46	4600	0.0303	3.033	0.78	0.57	1.14	0.09
Direct Impact	2.4 UC	7	113	11300	0.0447	4.474	1.06	0.50	1.30	0.01
Indirect Impact Nth	1.8 LA	6	13	1300	0.0008	0.082	1.56	0.88	2.04	0.13
Indirect Impact Nth	1.8 LB	7	21	2100	0.0006	0.058	1.64	0.87	2.24	0.10
Indirect Impact Nth	1.8 LC	2	2	200	0.0000	0.002	1.44	1.00	1.00	0.50
Indirect Impact Nth	1.8 MA	10	196	19600	0.0178	1.780	1.52	0.53	1.69	0.17
Indirect Impact Nth	1.8 MB	4	54	5400	0.0045	0.446	0.75	0.72	1.44	0.32
Indirect Impact Nth	1.8 MC	6	49	4900	0.0042	0.416	1.28	0.63	1.62	0.18
Indirect Impact Nth	1.8 UA	8	230	23000	0.0419	4.188	1.29	0.48	1.43	0.02
Indirect Impact Nth	1.8 UB	6	165	16500	0.0121	1.207	0.98	0.62	1.61	0.24
Indirect Impact Nth	1.8 UC	9	223	22300	0.0338	3.378	1.29	0.54	1.62	0.11
Indirect Impact Nth	1.9 LA	7	34	3400	0.0689	6.889	1.70	0.72	2.02	0.30
Indirect Impact Nth	1.9 LB	5	21	2100	0.0007	0.066	1.31	0.71	1.64	0.05
Indirect Impact Nth	1.9 LC	3	33	3300	0.0027	0.273	0.57	0.69	1.10	0.07
Indirect Impact Nth	1.9 MA	6	95	9500	0.0070	0.703	1.10	0.39	1.00	0.13
Indirect Impact Nth	1.9 MB	8	192	19200	0.0169	1.686	1.14	0.65	1.82	0.24
Indirect Impact Nth	1.9 MC	5	181	18100	0.0188	1.879	0.77	0.48	1.11	0.17
Indirect Impact Nth	1.9 UA	8	433	43300	0.0327	3.272	1.15	0.48	1.45	-0.04
Indirect Impact Nth	1.9 UB	6	228	22800	0.0191	1.913	0.92	0.20	0.53	0.04
Indirect Impact Nth	1.9 UC	8	155	15500	0.0179	1.788	1.39	0.36	1.08	0.02
Indirect Impact Sth	1.1 LA	10	258	25800	0.0326	3.258	1.26	0.46	1.38	0.07
Indirect Impact Sth	1.1 LB	4	8	800	0.0001	0.005	1.44	0.88	1.75	-0.12
Indirect Impact Sth	1.1 LC	4	3	300	0.0000	0.005	1.82	1.00	1.58	0.33
Indirect Impact Sth	1.1 MA	10	96	9600	0.0554	5.539	1.75	0.84	2.66	0.47
Indirect Impact Sth	1.1 MB	5	22	2200	0.0430	4.296	1.29	0.85	1.97	0.51
Indirect Impact Sth	1.1 MC	8	196	19600	0.0449	4.494	1.33	0.68	2.04	0.27
Indirect Impact Sth	1.1 UA	6	25	2500	0.0007	0.066	1.55	0.65	1.68	0.05
Indirect Impact Sth	1.1 UB	5	26	2600	0.0138	1.384	1.23	0.82	1.90	0.40
Indirect Impact Sth	1.1 UC	4	21	2100	0.0029	0.294	0.99	0.85	1.71	0.41

Area	Sample	Number of Taxa	Numbers of Individuals		Biomass (AFDW g)		Margalef's d	Pielou's J	Shannon's H	AFDW ABC w stat
			per 0.01m²	per 1m²	per 0.01m²	per 1m²				
Indirect Impact Sth	1.2 LA	7	53	5300	0.0125	1.245	1.26	0.61	1.58	0.16
Indirect Impact Sth	1.2 LB	5	18	1800	0.0017	0.175	1.04	0.81	1.62	0.43
Indirect Impact Sth	1.2 LC	7	16	1600	0.0003	0.026	1.80	0.91	2.35	0.18
Indirect Impact Sth	1.2 MA	6	336	33600	0.0473	4.725	0.86	0.36	0.93	0.00
Indirect Impact Sth	1.2 MB	8	374	37400	0.0576	5.764	1.01	0.55	1.54	0.17
Indirect Impact Sth	1.2 MC	7	210	21000	0.0226	2.256	1.12	0.51	1.44	0.06
Indirect Impact Sth	1.2 UA	7	131	13100	0.0146	1.460	1.03	0.65	1.69	-0.02
Indirect Impact Sth	1.2 UB	6	98	9800	0.0067	0.665	1.09	0.76	1.96	0.17
Indirect Impact Sth	1.2 UC	4	47	4700	0.0008	0.076	0.78	0.22	0.44	-0.25

Table 4. Values of biological parameters for each site (0.01m²) at Cherry Cobb Sands.

Area	Sample	Number of Taxa	Numbers of Individuals		Biomass (AFDW g)		Margalef's d	Pielou's J	Shannon's H	AFDW ABC w stat
			per 0.01m²	per 1m²	per 0.01m²	per 1m²				
Control North	CN1LA	5	22	2200	0.0054	0.536	1.29	0.64	1.49	0.12
Control North	CN1LB	8	13	1300	0.0005	0.048	1.56	0.73	1.70	0.13
Control North	CN1LC	4	5	500	0.0017	0.167	1.24	0.96	1.52	0.78
Control North	CN1MA	4	122	12200	0.0073	0.729	0.62	0.39	0.79	0.04
Control North	CN1MB	11	632	63200	0.0485	4.848	1.40	0.42	1.39	0.03
Control North	CN1MC	7	570	57000	0.0207	2.075	0.79	0.39	1.02	0.05
Control North	CN1U2	7	181	18100	0.2274	22.738	0.96	0.66	1.71	0.31
Control North	CN1UA	8	100	10000	0.0662	6.619	1.30	0.64	1.79	0.27
Control North	CN1UB	8	433	43300	0.0159	1.590	0.99	0.43	1.21	0.08
Control North	CN1UC	7	64	6400	0.0495	4.954	1.20	0.62	1.61	0.26
Control North	CN2LA	8	357	35700	0.0108	1.080	0.85	0.48	1.24	-0.02
Control North	CN2LB	4	32	3200	0.0012	0.123	0.87	0.47	0.93	0.07
Control North	CN2LC	2	2	200	0.0002	0.020	1.44	1.00	1.00	0.59
Control North	CN2MA	8	336	33600	0.0310	3.096	0.86	0.31	0.81	0.06
Control North	CN2MB	5	41	4100	0.0007	0.067	1.08	0.72	1.66	0.17
Control North	CN2MC	6	237	23700	0.0095	0.952	0.73	0.17	0.40	-0.11
Control North	CN2U2	8	247	24700	0.1317	13.166	1.09	0.46	1.30	0.17
Control North	CN2UA	9	249	24900	0.0410	4.099	1.27	0.40	1.19	0.13
Control North	CN2UB	10	1298	129800	0.0433	4.332	1.12	0.47	1.48	0.01
Control North	CN2UC	8	175	17500	0.0231	2.314	1.16	0.35	0.98	0.10
Control North	CN4LA	9	210	21000	0.0379	3.794	1.31	0.61	1.84	0.12
Control North	CN4LB	8	45	4500	0.0011	0.106	1.84	0.52	1.57	0.16
Control North	CN4LC	3	3	300	0.0002	0.024	0.91	0.92	0.92	0.37
Control North	CN4MA	8	490	49000	0.0032	0.319	1.13	0.39	1.17	-0.09
Control North	CN4MB	9	2805	280500	0.0297	2.966	1.01	0.22	0.69	-0.19
Control North	CN4MC	16	179	17900	0.0932	9.318	2.12	0.58	2.06	0.13
Control North	CN4U2	11	877	87700	0.0787	7.866	1.33	0.50	1.66	0.14
Control North	CN4UA	7	862	86200	0.0393	3.927	0.89	0.47	1.31	0.16
Control North	CN4UB	16	456	45600	0.0547	5.474	1.96	0.57	2.12	0.16
Control North	CN4UC	12	535	53500	0.0406	4.063	1.43	0.62	2.07	0.13

Area	Sample	Number of Taxa	Numbers of Individuals		Biomass (AFDW g)		Margalef's d	Pielou's J	Shannon's H	AFDW ABC w stat
			per 0.01m²	per 1m²	per 0.01m²	per 1m²				
Control South	CS1LA	7	46	4600	0.0181	1.806	1.31	0.50	1.30	0.16
Control South	CS1LB	7	18	1800	0.0257	2.567	2.08	0.96	2.71	0.73
Control South	CS1LC	5	5	500	0.0054	0.536	1.86	0.96	1.92	0.79
Control South	CS1MA	15	171	17100	0.1779	17.794	2.14	0.72	2.59	0.16
Control South	CS1MB	10	78	7800	0.0755	7.553	2.07	0.84	2.80	0.39
Control South	CS1MC	9	143	14300	0.1929	19.286	1.41	0.79	2.38	0.43
Control South	CS1UA	15	450	45000	0.0895	8.954	1.96	0.69	2.56	0.08
Control South	CS1UB	15	389	38900	0.0879	8.788	2.18	0.72	2.76	0.16
Control South	CS1UC	15	136	13600	0.0564	5.641	2.24	0.66	2.38	0.13
Control South	CS2LA	6	7	700	0.0253	2.530	2.57	0.98	2.52	0.78
Control South	CS2LB	8	35	3500	0.0064	0.638	1.97	0.80	2.39	0.36
Control South	CS2LC	4	5	500	0.0189	1.887	1.86	0.96	1.92	0.77
Control South	CS2MA	12	218	21800	0.1153	11.528	1.86	0.82	2.84	0.31
Control South	CS2MB	7	36	3600	0.0748	7.484	1.67	0.88	2.48	0.52
Control South	CS2MC	6	36	3600	0.0228	2.276	1.12	0.70	1.62	0.12
Control South	CS2UA	12	544	54400	0.1642	16.415	1.27	0.68	2.15	0.20
Control South	CS2UB	10	316	31600	0.0539	5.393	1.56	0.51	1.69	0.13
Control South	CS2UC	15	273	27300	0.1194	11.936	1.96	0.82	2.93	0.26
Control South	CS3LA	6	12	1200	0.0127	1.268	2.01	0.91	2.36	0.52
Control South	CS3LB	7	16	1600	0.0045	0.453	2.16	0.95	2.66	0.51
Control South	CS3LC	8	5	500	0.0021	0.209	2.49	1.00	2.32	0.82
Control South	CS3MA	12	117	11700	0.1790	17.905	1.89	0.77	2.57	0.35
Control South	CS3MB	7	28	2800	0.1235	12.348	1.50	0.74	1.92	0.41
Control South	CS3MC	8	51	5100	0.0657	6.574	1.27	0.87	2.25	0.47
Control South	CS3UA	6	37	3700	0.0708	7.079	1.38	0.68	1.77	0.19
Control South	CS3UB	12	196	19600	0.2023	20.227	1.71	0.73	2.41	0.21
Control South	CS3UC	12	148	14800	0.0833	8.331	1.80	0.70	2.31	0.20

3.3 Species Composition at the Survey Areas

3.3.1 North Killingholme

A summary of the dominant taxa by abundance and biomass has been provided based on 0.01m^2 core data collected at each site. The average abundances and AFDW biomass for the entire survey area have also been scaled up to numbers and weights per m^2 and these are provided in Table 5. In total 39 taxa were recorded during the survey including a number of terrestrial (insect) taxa which have been included as they were particularly indicative of upper shore areas adjacent to saltmarsh.

As in 2013 the most dominant taxa in terms of numbers of individuals (abundance) were the amphipod *Corophium volutator* and the oligochaete *Tubificoides benedii* which accounted for 72.7% of the total abundance with very high mean abundances (7922 per m^2 and 2147 per m^2 respectively). These taxa were recorded at the majority of sites (97% and 81% of sites respectively) which indicates an increase in distribution for *Corophium* (88% of sites in 2013) and a slight decrease in distribution of *Tubificoides* (84% of sites in 2013). Enchytraeidae oligochaetes were also common but recorded at only 32% of sites whilst Nematodes were

also widespread and numerous. *Streblospio shrubsolii*, *Hediste diversicolor* and *Limicola* (*Macoma) balthica* were also common relatively widespread with mean abundances over 300 m^2 with *Limicola* (*Macoma) balthica* recorded at 59% of sites and *Hediste diversicolor* recorded at 46% of sites. In comparison to 2013 the mean abundance (and the % of sites recorded) of the amphipod *Corophium* have increased whilst numbers of *Tubificoides benedii* have decreased slightly. The mean densities and distribution of *Limicola* (*Macoma) balthica* have also increased in 2015 whilst mean abundances of *Hediste diversicolor* have decreased somewhat.

Table 5. Ranked average abundance and biomass for the full survey area at North Killingholme (per m^2).

Taxa	Mean Abundance per m^2	% of sites	Cum. % of Total	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Cum. % of Total
Corophium volutator	7922.73	97	57.2	Hediste diversicolor	1.01940	46	42.5
Tubificoides benedii	2147.40	81	72.7	Corophium volutator	0.95760	97	82.4
Enchytraeidae spp.	1231.82	32	81.6	Tubificoides benedii	0.08617	81	86.0
Nematoda	932.47	82	88.3	Limecola balthica	0.08413	59	89.5
Streblospio shrubsolii	374.03	53	91.0	Tubificoides spp.	0.06897	36	92.4
Limecola balthica	313.64	59	93.3	Nephtys hombergii	0.05985	8	94.9
Hediste diversicolor	307.14	46	95.5	Abra alba	0.03704	1	96.5
Tubificoides pseudogaster agg.	242.86	15	97.3	Diptera	0.02028	21	97.3
Eteone longa/flava agg.	92.21	45	97.9	Nereididae spp.	0.01912	3	98.1
Diptera larvae	91.56	21	98.6	Scrobicularia plana	0.01192	1	98.6
Collembola	79.87	9	99.2	Eteone longa/flava agg.	0.00919	45	99.0
Pygospio elegans	35.71	20	99.4	Tubificoides pseudogaster agg.	0.00769	15	99.3
Baltidrilus costatus	20.78	3	99.6	Streblospio shrubsolii	0.00571	53	99.5
Acari spp.	11.69	5	99.7	Nematoda	0.00435	82	99.7
Nephtys hombergii	11.04	8	99.7	Enchytraeidae spp.	0.00199	32	99.8
Manayunkia aestuarina	10.39	3	99.8	Pygospio elegans	0.00082	20	99.8
Tharyx killariensis	8.44	7	99.9	Collembola	0.00078	9	99.9
Tubificoides swirencoides	3.25	2	99.9	Baltidrilus costatus	0.00077	3	99.9
Aphelochaeta marioni	1.95	1	99.9	Tharyx killariensis	0.00050	7	99.9
Nemertea	1.30	1	99.9	Nemertea	0.00046	1	99.9
Tubificoides galiciensis	1.30	1	99.9	Acari spp.	0.00021	5	99.9
Sphaerodoropsis baltica	1.30	1	99.9	Phyllodocidae spp.	0.00020	1	100.0
Arachnida	1.30	1	99.9	Gastropoda spp.	0.00017	1	100.0
Limnodrilus hoffmeisteri	0.65	1	100.0	Arachnida	0.00017	1	100.0
Mysta picta	0.65	1	100.0	Manayunkia aestuarina	0.00014	3	100.0
Phyllodoce maculata	0.65	1	100.0	Coleoptera	0.00011	1	100.0
Sphaerodoridium minutum	0.65	1	100.0	Aphelochaeta marioni	0.00010	1	100.0
Aphelochaeta	0.65	1	100.0	Sphaerodoridium minutum	0.00009	1	100.0
Coleoptera	0.65	1	100.0	Eteone spp.	0.00005	1	100.0
Abra alba	0.65	1	100.0	Sphaerodoropsis baltica	0.00004	1	100.0
Scrobicularia plana	0.65	1	100.0	Mysta picta	0.00003	1	100.0
Bivalvia sp.	0.65	1	100.0	Bivalvia sp.	0.00003	1	100.0
Peringia ulvae	0.65	1	100.0	Aphelochaeta	0.00002	1	100.0
Gastropoda spp.	0.65	1	100.0	Tubificoides swirencoides	0.00002	2	100.0
Tubificoides spp.	P	36		Phyllodoce maculata	0.00001	1	100.0
Nereididae spp.	P	3		Spionidae spp.	0.00001	1	100.0
Eteone spp.	P	1		Peringia ulvae	0.00001	1	100.0
Phyllodocidae spp.	P	1		Limnodrilus hoffmeisteri	0.000004	1	100.0
Spionidae spp.	P	1		Tubificoides galiciensis	0.000004	1	100.0

Other important taxa include moderate numbers of other oligochaetes (*Tubificoides* pseudogaster agg.), polychaete worms such as *Eteone longa/flava* and *Pygospio elegans* along with a variety of insect taxa (e.g. Diptera larvae and Collembola) which were recorded at a lower number of sites in relatively low abundances. A variety of other taxa were also occasionally recorded in low numbers and a wider range of taxa were recorded in 2015 compared with 2013 (39 taxa as opposed to 25 taxa) although many of these additional taxa were recorded in very low numbers. Such fluctuations in densities and distribution are common in estuarine habitats and may reflect natural variability, variations in recruitment and subtle changes to the hydrodynamic and sediment regime. The observed changes in 2015 may also (in part) reflect the deeper cores taken in 2015 (30cm as opposed to 15-20cm).

In terms of biomass larger species such as *Hediste diversicolor* dominated the biomass with an average AFDW biomass of 1.02 g per m^2 which represents 42.5% of the total biomass and this represents a slight reduction in biomass from 2013. *Corophium volutator* also accounts for a significant component of biomass (39.9%) along with *Tubificoides benedii* and *Macoma balthica* and collectively these four taxa accounted for the majority of the biomass (89% of total) as was the case in 2013.

3.3.2 Cherry Cobb Sands

The species recorded from the 2015 Cherry Cobb Sands survey are given in Table 6 which highlights the dominant taxa across the survey area as a whole (mean abundance and AFDW biomass per m^2). The invertebrate taxa were recorded at Cherry Cobb Sands were broadly similar to those collected at North Killingholme with the exception of *Corophium volutator* which is largely absent at Cherry Cobb Sands. However, the total number of taxa recorded at Cherry Cobb Sands (46 taxa) is greater which reflects wider range of habitats present. The dominant taxa at Cherry Cobb Sands (in terms of numbers of individuals) are Enchytraeidae oligochaetes, Nematoda spp., *Tubificoides benedii, Pygospio elegans*, *Manayunkia aestuarina*, Collembola spp. and *Limicola* (*Macoma) balthica* which collectively account for 91% of the total abundance.

Mean densities of Enchytraeidae have increased markedly in 2015 although this taxa was only present at 56% of the sites and mean densities are influenced by extremely high abundances at a few sites in the northern control area. Densities of *Limicola* (*Macoma) balthica* and *Hediste diversicolor* have reduced somewhat in 2015 both in terms of mean abundance and the % of sites recorded. In terms of biomass *Limicola* (*Macoma) balthica* and *Hediste diversicolor* account for 68% of the total biomass (compared with 90% in 2013) with mean biomass of both of these taxa exhibiting reductions from 2013. Other taxa contributing to biomass at Cherry Cobb Sands includes *Abra alba*, Nereididae spp. (predominantly partial worm fragments which may include *Hediste diversicolor),* juvenile bivalve taxa *and Nephtys hombergii* which collectively account for 90% of the total biomass.

Table 6. Ranked average abundance and biomass for the full survey area at Cherry Cobb Sands (per m²).

Taxa	Mean Abundance per m²	% of sites	Cum. % of Total	Taxa	Mean AFDW Biomass (g) per m²	% of sites	Cum. % of Total
Enchytraeidae spp.	12254.39	56	46.3	Limecola balthica	1.97990	67	35.4
Nematoda	7329.82	84	74.0	Hediste diversicolor	1.82852	56	68.1
Tubificoides benedii	1557.89	54	79.8	Abra alba	0.45113	12	76.2
Pygospio elegans	1091.23	67	84.0	Nereididae spp.	0.40559	37	83.4
Manayunkia aestuarina	705.26	35	86.6	Bivalvia spp. Juv.	0.20095	25	87.0
Collembola	661.40	25	89.1	Nephtys hombergii	0.19302	26	90.5
Limecola balthica	568.42	67	91.3	Abra tenuis	0.12171	30	92.6
Peringia ulvae	568.42	46	93.4	Peringia ulvae	0.08135	46	94.1
Abra tenuis	471.93	30	95.2	Tubificoides benedii	0.06729	54	95.3
Hediste diversicolor	319.30	56	96.4	Pygospio elegans	0.05478	67	96.3
Bivalvia spp. Juv.	284.21	25	97.5	Nephtyidae spp.	0.05397	21	97.2
Tellinoidea spp. Juv.	170.18	9	98.1	Nematoda	0.03473	84	97.8
Eteone longa/flava	163.16	44	98.7	Enchytraeidae spp.	0.02552	56	98.3
Diptera larvae	80.70	30	99.0	Eteone longa/flava	0.02345	44	98.7
Nephtys hombergii	52.63	26	99.2	Cyathura carinata	0.01702	18	99.0
Cyathura carinata	50.88	18	99.4	Diptera larvae	0.01684	30	99.3
Streblospio shrubsolii	26.32	11	99.5	Tubificoides spp.	0.01261	9	99.6
Acari spp.	21.05	7	99.6	Spionidae spp.	0.00651	16	99.7
Abra alba	15.79	12	99.7	Phyllodocidae spp.	0.00477	11	99.8
Hydrobia spp.	12.28	5	99.7	Manayunkia aestuarina	0.00326	35	99.8
Tubificoides pseudogaster agg.	10.53	5	99.8	Hydrobia spp.	0.00251	5	99.9
Bodotria arenosa	10.53	7	99.8	Collembola	0.00146	25	99.9
Nephtyidae spp.	7.02	21	99.8	Retusa spp.	0.00133	4	99.9
Dalyelliidae spp.	7.02	4	99.8	Tellinoidea spp. Juv.	0.00113	9	99.9
Scoloplos (Scoloplos) armiger	5.26	4	99.9	Gammaridae sp.	0.00109	2	99.9
Gastropoda spp.	5.26	14	99.9	Streblospio shrubsolii	0.00062	11	100.0
Mytilidae spp. Juv.	3.51	2	99.9	Scoloplos (Scoloplos) armiger	0.00059	4	100.0
Retusa spp.	3.51	4	99.9	Eteoninae spp.	0.00042	4	100.0
Nemertea	3.51	2	99.9	Gastropoda spp.	0.00029	14	100.0
Sphaerodoropsis baltica	1.75	2	99.9	Bodotria arenosa	0.00015	7	100.0
Sphaerodoridium minutum	1.75	2	99.9	Tubificoides pseudogaster agg.	0.00012	5	100.0
Insecta	1.75	2	99.9	Acari spp.	0.00010	7	100.0
Bathyporeia spp.	1.75	2	100.0	Dalyelliidae spp.	0.00009	4	100.0
Corophium volutator	1.75	2	100.0	Ascidiacea spp.	0.00009	4	100.0
Gammaridae sp.	1.75	2	100.0	Bathyporeia spp.	0.00008	2	100.0
Harpinia antennaria	1.75	2	100.0	Nemertea	0.00004	2	100.0
Cumacea spp.	1.75	2	100.0	Decapoda spp. Juv.	0.00003	2	100.0
Decapoda spp. Juv.	1.75	2	100.0	Copepoda spp.	0.00003	2	100.0
Copepoda spp.	1.75	2	100.0	Sphaerodoropsis baltica	0.00003	2	100.0
Ascidiacea spp.	1.75	4	100.0	Sphaerodoridium minutum	0.00003	2	100.0
Tubificoides spp.	p	9		Corophium volutator	0.00003	2	100.0
Nereididae spp.	p	37		Harpinia antennaria	0.00003	2	100.0
Eteoninae spp.	p	4		Insecta	0.00002	2	100.0
Phyllodocidae spp.	p	11		Cumacea spp.	0.00001	2	100.0
Spionidae spp.	p	16		Mytilidae spp. Juv.	0.00001	2	100.0

3.3.3 Spatial Trends

A summary of dominant taxa (mean abundance and AFDW biomass per m²) within the different shore levels in each survey area are provided in Tables 7 to 9 for North Killingholme and Tables 10 to 12 for Cherry Cobb Sands and the spatial distribution of key taxa (*Hediste diversicolor*, *Macoma balthica*, *Corophium volutator, Streblospio shrubsolii, Pygospio elegans* and oligochaete taxa) in terms of mean numbers per m² at each site are provided in a series of charts in Figures 30 to 41. These results highlight the strong influence of shore level on the

distribution of infaunal communities and also indicate that the differences between specific survey areas are less pronounced for North Killingholme but more obvious at Cherry Cobb Sands where differences in species composition to some extent reflect the greater variation in sediment types. At North Killingholme taxa such as *Corophium volutator*, *Tubificoides benedii* and to a lesser extent S*treblospio shrubsolii* are relatively abundant in all areas. Other taxa such as *Hediste diversicolor* and *Macoma balthica* show greater zonation with *Hediste diversicolor* more common in upper to mid shore sites and *Macoma balthica* more restricted to mid shore areas whilst species such as *Streblospio shrubsolii* were generally more prevalent on the mid and low shore.

The maps shown in Figures 30 to 41 also highlight the widespread coverage by *Corophium volutator* although numbers of *Corophium* are slightly lower at the southern indirect impact area (transects 1.1 and 1.2). *Macoma balthica* is widely distributed in varying densities throughout the survey area at North Killingholme with but is generally restricted to the mid shore in the direct impact zone with a more even distribution along the transects further north and in the northern control area. Highest densities of *Hediste diversicolor* are generally confined to more upper shore areas and particularly in the direct impact area whilst in the southern direct impact area *Hediste* is more prevalent lower down the shore which probably reflects the encroachment of saltmarsh in this area. In the northern control sites *Hediste* is more evenly distributed along the transects as was the case for *Limicola balthica*. Upper shore sites with greater elevation at North Killingholme adjacent to saltmarsh (e.g. at the southern indirect impact area) tended to have relatively impoverished communities with higher numbers of *Tubificoides pseudogaster* agg. and terrestrial insect taxa.

At Cherry Cobb Sands more pronounced spatial differences were evident which reflects the variation in sedimentary regime and as outlined in Section 3.3.2 some differences in key taxa were also noted between Cherry Cobb Sands and North Killingholme. Variable numbers of taxa were present on the low shore with lower densities/biomass in the sandy low shore habitats within the southern control area. *Pygospio elegans*, *Tubificoides benedii*, *Limecola balthica*, Nematoda, *Eteone longa/flava* and *Nephtys hombergii* were characteristic on the low shore at the southern control area whilst Nematoda, Enchytraeidae spp., *Tubificoides benedii*, Collembola, *Limecola balthica* and juvenile Bivalvia spp. were characteristic on the low shore at the northern control area. On the mid shore very high densities of Enchytraeidae spp. and Nematoda along with moderate numbers of *Tubificoides benedii*, Collembola, *Hediste diversicolor*, *Manayunkia aestuarina*, juvenile Bivalvia spp., *Pygospio elegans* and *Limecola balthica* were characteristic of the northern control area whilst the southern control mid-shore area was dominated by *Tubificoides benedii, Limecola balthica, Pygospio elegans,* Nematoda*, Abra tenuis,* juvenile Tellinoidea spp., *Peringia ulvae,* juvenile Bivalvia spp. *and Nephtys hombergii* along with occasional *Hediste diversicolor*.

Upper shore habitats at Cherry Cobb Sands tended to be characterised by oligochaetes and *Hediste diversicolor* with the northern control area dominated by highs numbers of Enchytraeidae oligochaetes and Nematoda along with *Manayunkia aestuarina,* Collembola, *Hediste diversicolor,* Diptera larvae, *Peringia ulvae,* juvenile Bivalvia spp., *Tubificoides benedii* and occasional *Limicola balthica*. The southern control upper shore areas were dominated by high numbers of *Nematoda, Tubificoides benedii, Pygospio elegans, Peringia ulvae, Abra tenuis, Limecola balthica,* Enchytraeidae spp., juvenile Bivalvia spp*., Eteone longa/flava,*

juvenile Tellinoidea spp. *and Hediste diversicolor.* Species such as *Pygospio elegans* were more prevalent and widespread in the southern control area whilst *Hediste diversicolor* is generally restricted to upper/mid shore areas at the southern control sites whilst it has a wider distribution down the shore in the northern control area. Conversely *Limicola (Macoma) balthica* is more widespread in the southern transects but more patchily distributed to the north.

Whilst a similar range of taxa were recorded at both Cherry Cobb Sands and North Killingholme some differences are apparent and Figures 34 and 35 highlight the absence of *Corophium volutator* at Cherry Cobb Sands whilst it is extremely abundant at North Killingholme. This may reflect sedimentological differences although the distribution of *Corophium volutator* in the Humber is known to exhibit high levels of temporal and spatial variability. *Hediste diversicolor* and *Limicola (Macoma) balthica* generally exhibited a broadly similar range of densities (and biomass) per sample at Cherry Cobb Sands compared with North Killingholme although the highest densities/biomass were often recorded at Cherry Cobb Sands. At Cherry Cobb Sands *Limicola* and *Hediste* tended to be less restricted in distribution (although numbers declined in the sandier lower shore sites) whilst at North Killingholme these species tended show clearer zonation down the shore. For example *Hediste* tended to favour upper shore habitats at North Killingholme whilst *Limicola* was generally more abundant on the mid shore and this zonation was most evident within the impact area at North Killinghome. Such trends are reflected in their lower overall mean abundances and biomass at North Killingholme in Tables 5 and 6.

Table 7. Average ranked abundance and biomass (per 1m^2) for the low shore sites at North Killingholme.

Control North Low Shore			Direct Impact Low Shore			Indirect Impact North Low Shore			Indirect Impact South Low Shore		
Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites
Corophium volutator	4311	78	Corophium volutator	7133	100	Tubificoides benedii	967	100	Corophium volutator	1000	75
Tubificoides benedii	700	78	Tubificoides benedii	1083	100	Streblospio shrubsolii	450	67	Nematoda	325	50
Limecola balthica	356	67	Streblospio shrubsolii	510	87	Corophium volutator	233	83	Limecola balthica	300	100
Streblospio shrubsolii	322	67	Nematoda	190	63	Eteone longa/flava agg.	133	33	Tubificoides benedii	275	75
Nematoda	233	56	Limecola balthica	83	47	Limecola balthica	83	50	Streblospio shrubsolii	125	50
Eteone longa/flava agg.	144	44	Pygospio elegans	50	37	Nematoda	67	33	Enchytraeidae spp.	100	25
Hediste diversicolor	22	22	Eteone longa/flava agg.	50	33	Nephtys hombergii	67	33	Eteone longa/flava agg.	50	50
Enchytraeidae spp.	22	11	Enchytraeidae spp.	37	13	Limnodrilus hoffmeisteri	17	17	Nephtys hombergii	50	25
Nephtys hombergii	11	11	Nephtys hombergii	23	17	Hediste diversicolor	17	17	Tubificoides swirencoides	25	25
Pygospio elegans	11	11	Tharyx killariensis	23	17	Pygospio elegans	17	17	Tubificoides spp.	p	50
Tubificoides spp.	p	33	Tubificoides pseudogaster agg.	23	10	Abra alba	17	17	Spionidae spp.	p	25
			Hediste diversicolor	20	17	Tubificoides spp.	p	33			
			Tubificoides swirencoides	13	7						
			Sphaerodoropsis baltica	7	7						
			Tubificoides galiciensis	7	3						

Control North Low Shore			Direct Impact Low Shore			Indirect Impact North Low Shore			Indirect Impact South Low Shore		
Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites
Corophium volutator	0.4443	78	Corophium volutator	0.8730	100	Abra alba	0.9507	17	Nephtys hombergii	0.2205	25
Nephtys hombergii	0.1861	11	Limecola balthica	0.0855	47	Nephtys hombergii	0.1928	33	Corophium volutator	0.0836	75
Hediste diversicolor	0.1371	22	Nephtys hombergii	0.0807	20	Limecola balthica	0.0334	50	Limecola balthica	0.0456	100
Limecola balthica	0.1335	67	Hediste diversicolor	0.0219	17	Tubificoides benedii	0.0272	100	Tubificoides spp.	0.0049	50
Tubificoides benedii	0.0171	89	Tubificoides benedii	0.0182	100	Tubificoides spp.	0.0104	33	Tubificoides benedii	0.0024	100
Tubificoides spp.	0.0155	33	Tubificoides spp.	0.0158	40	Corophium volutator	0.0069	83	Streblospio shrubsolii	0.0020	50
Streblospio shrubsolii	0.0057	67	Streblospio shrubsolii	0.0072	87	Streblospio shrubsolii	0.0045	67	Nematoda	0.0014	50
Eteone longa/flava agg.	0.0053	44	Nereididae spp.	0.0020	7	Eteone longa/flava agg.	0.0007	33	Eteone longa/flava agg.	0.0014	50
Nematoda	0.0012	56	Eteone longa/flava agg.	0.0018	33	Nematoda	0.0006	33	Enchytraeidae spp.	0.0004	25
Pygospio elegans	0.0002	11	Nematoda	0.0013	63	Hediste diversicolor	0.0005	17	Spionidae spp.	0.0004	25
Enchytraeidae spp.	0.0001	11	Pygospio elegans	0.0011	37	Pygospio elegans	0.0004	17	Tubificoides swirencoides	0.0001	25
			Tharyx killariensis	0.0006	17	Limnodrilus hoffmeisteri	0.0001	17			
			Sphaerodoridium minutum	0.0005	3						
			Sphaerodoropsis baltica	0.0002	7						
			Mysta picta	0.0002	3						

Table 8. Average ranked abundance and biomass (per 1m^2) for the mid shore sites North Killingholme.

Control North Mid Shore			Direct Impact Mid Shore			Indirect Impact North Mid Shore			Indirect Impact South Mid Shore		
Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites
Corophium volutator	13722	100	Corophium volutator	11328	100	Corophium volutator	8933	100	Corophium volutator	13667	100
Enchytraeidae spp.	2522	78	Tubificoides benedii	6228	100	Tubificoides benedii	1183	100	Nematoda	2000	100
Tubificoides benedii	1789	100	Nematoda	2024	100	Nematoda	933	100	Tubificoides benedii	1283	83
Nematoda	1244	100	Limecola balthica	528	83	Enchytraeidae spp.	783	33	Limecola balthica	950	50
Limecola balthica	867	100	Streblospio shrubsolii	386	59	Limecola balthica	583	100	Hediste diversicolor	683	100
Streblospio shrubsolii	722	44	Eteone longa/flava agg.	134	72	Eteone longa/flava agg.	167	67	Enchytraeidae spp.	567	33
Hediste diversicolor	333	67	Pygospio elegans	93	38	Streblospio shrubsolii	117	50	Tubificoides pseudogaster agg.	550	17
Eteone longa/flava agg.	156	56	Hediste diversicolor	59	24	Hediste diversicolor	50	33	Diptera larvae	267	67
Pygospio elegans	11	11	Tharyx killariensis	21	21	Tubificoides pseudogaster agg.	17	17	Manayunkia aestuarina	167	17
Diptera larvae	11	11	Nephtys hombergii	10	10	Pygospio elegans	17	17	Eteone longa/flava agg.	133	50
Scrobicularia plana	11	11	Diptera larvae	10	3	Tubificoides spp.	p	33	Streblospio shrubsolii	117	33
Tubificoides spp.	p	67	Nemertea	7	7				Collembola	117	17
			Aphelochaeta marioni	7	3				Pygospio elegans	50	17
			Collembola	7	3				Acari spp.	17	17
			Manayunkia aestuarina	3	3				Tubificoides spp.	p	33

Control North Mid Shore			Direct Impact Mid Shore			Indirect Impact North Mid Shore			Indirect Impact South Mid Shore		
Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites
Corophium volutator	1.4174	100	Corophium volutator	1.4479	100	Corophium volutator	0.9925	100	Hediste diversicolor	2.4424	100
Hediste diversicolor	0.3117	67	Tubificoides benedii	0.2891	100	Limecola balthica	0.0689	100	Corophium volutator	1.7148	100
Limecola balthica	0.2714	100	Tubificoides spp.	0.1595	45	Tubificoides benedii	0.0443	100	Limecola balthica	0.1256	50
Scrobicularia plana	0.2039	11	Hediste diversicolor	0.1294	28	Tubificoides spp.	0.0367	33	Tubificoides spp.	0.0775	33
Tubificoides benedii	0.0720	100	Nephtys hombergii	0.1063	10	Nematoda	0.0031	100	Tubificoides benedii	0.0673	83
Tubificoides spp.	0.0620	67	Limecola balthica	0.0949	83	Streblospio shrubsolii	0.0027	50	Diptera larvae	0.0448	67
Nematoda	0.0080	100	Eteone longa/flava agg.	0.0135	72	Eteone longa/flava agg.	0.0018	67	Eteone longa/flava agg.	0.0213	50
Eteone longa/flava agg.	0.0077	56	Nematoda	0.0085	100	Hediste diversicolor	0.0007	33	Nematoda	0.0074	100
Streblospio shrubsolii	0.0050	44	Nereididae spp.	0.0076	3	Pygospio elegans	0.0006	17	Tubificoides pseudogaster agg.	0.0046	17
Enchytraeidae spp.	0.0032	78	Diptera larvae	0.0060	3	Enchytraeidae spp.	0.0003	33	Manayunkia aestuarina	0.0027	17
Diptera larvae	0.0027	11	Streblospio shrubsolii	0.0058	59	Tubificoides pseudogaster agg.	0.0002	17	Streblospio shrubsolii	0.0013	33
Pygospio elegans	0.0001	11	Nemertea	0.0024	7				Enchytraeidae spp.	0.0013	33
			Pygospio elegans	0.00230	38				Pygospio elegans	0.0009	17
			Tharyx killariensis	0.00199	21				Collembola	0.0005	17
			Arachnida	0.00085	3				Acari spp.	0.0002	17

Table 9. Average ranked abundance and biomass (per 1m^2) for the upper shore sites North Killingholme.

Control North Upper Shore			Direct Impact Upper Shore			Indirect Impact North Upper Shore			Indirect Impact South Upper Shore		
Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites
Corophium volutator	7744	100	Corophium volutator	6329	96	Corophium volutator	13250	100	Tubificoides pseudogaster agg.	2017	50
Enchytraeidae spp.	5911	78	Enchytraeidae spp.	2082	64	Enchytraeidae spp.	7583	100	Corophium volutator	1367	100
Nematoda	856	78	Tubificoides benedii	1654	54	Nematoda	1800	100	Collembola	1300	50
Hediste diversicolor	556	89	Hediste diversicolor	1039	89	Hediste diversicolor	417	100	Diptera larvae	500	100
Tubificoides pseudogaster agg.	467	22	Nematoda	700	93	Tubificoides benedii	267	50	Nematoda	250	83
Diptera larvae	356	56	Tubificoides pseudogaster agg.	425	32	Eteone longa/flava agg.	150	83	Acari spp.	183	50
Tubificoides benedii	322	22	Streblospio shrubsolii	404	36	Limecola balthica	150	83	Baltidrilus costatus	100	17
Baltidrilus costatus	233	22	Diptera larvae	161	43	Streblospio shrubsolii	117	50	Tubificoides benedii	50	33
Limecola balthica	144	67	Collembola	107	18	Tubificoides pseudogaster agg.	100	33	Enchytraeidae spp.	17	17
Streblospio shrubsolii	89	22	Limecola balthica	54	25	Diptera larvae	50	17	Hediste diversicolor	17	17
Eteone longa/flava agg.	56	33	Eteone longa/flava agg.	43	29	Acari spp.	17	17	Nereididae spp.	p	17
Collembola	56	33	Baltidrilus costatus	18	4	Tubificoides spp.	p	17			
Acari spp.	44	22	Manayunkia aestuarina	11	4						
Tubificoides spp.	p	11	Pygospio elegans	7	7						
			Acari spp.	4	4						

Control North Upper Shore			Direct Impact Upper Shore			Indirect Impact North Upper Shore			Indirect Impact South Upper Shore		
Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites
Hediste diversicolor	2.0047	89	Hediste diversicolor	3.5199	89	Corophium volutator	1.4749	100	Hediste diversicolor	0.1992	17
Corophium volutator	0.8951	100	Corophium volutator	0.8216	100	Hediste diversicolor	0.8833	100	Corophium volutator	0.1619	100
Diptera larvae	0.0828	56	Tubificoides spp.	0.0970	32	Limecola balthica	0.1890	83	Nereididae spp.	0.1100	17
Tubificoides spp.	0.0168	11	Tubificoides benedii	0.0599	54	Eteone longa/flava agg.	0.0181	83	Tubificoides pseudogaster agg.	0.0937	50
Tubificoides pseudogaster agg.	0.0143	22	Diptera larvae	0.0344	43	Diptera larvae	0.0175	17	Diptera larvae	0.0719	100
Baltidrilus costatus	0.0099	22	Limecola balthica	0.0318	25	Enchytraeidae spp.	0.0129	100	Collembola	0.0102	50
Enchytraeidae spp.	0.0094	78	Eteone longa/flava agg.	0.0164	29	Tubificoides spp.	0.0123	17	Baltidrilus costatus	0.0045	17
Eteone longa/flava agg.	0.0066	33	Tubificoides pseudogaster agg.	0.0154	32	Nematoda	0.0098	100	Acari spp.	0.0043	50
Tubificoides benedii	0.0053	33	Streblospio shrubsolii	0.0078	36	Tubificoides benedii	0.0040	50	Nematoda	0.0015	83
Nematoda	0.0045	78	Enchytraeidae spp.	0.0036	64	Streblospio shrubsolii	0.0016	50	Tubificoides benedii	0.0003	33
Collembola	0.0044	33	Nematoda	0.0035	93	Tubificoides pseudogaster agg.	0.0004	33	Enchytraeidae spp.	0.0001	17
Streblospio shrubsolii	0.0014	22	Phyllodocidae spp.	0.0011	4	Acari spp.	0.0002	17			
Limecola balthica	0.0011	67	Gastropoda spp.	0.0009	4						
Acari spp.	0.0003	22	Collembola	0.0005	18						
			Bivalvia sp.	0.00015	4						

Table 10. Average ranked abundance and biomass (per 1m^2) for the low shore sites at Cherry Cobb Sands.

Control North Low Shore			Control South Low Shore		
Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites
Nematoda	3644	67	Pygospio elegans	467	56
Enchytraeidae spp.	2378	67	Tubificoides benedii	267	78
Tubificoides benedii	722	22	Limecola balthica	244	100
Collembola	200	11	Nematoda	233	56
Limecola balthica	156	56	Eteone longa/flava	78	44
Bivalvia spp. Juv.	156	11	Nephtys hombergii	67	44
Nephtys hombergii	100	56	Peringia ulvae	67	44
Pygospio elegans	89	44	Bodotria arenosa	44	22
Hediste diversicolor	67	22	Enchytraeidae spp.	33	22
Eteone longa/flava	44	22	Scoloplos (Scoloplos) armiger	33	22
Nephtyidae spp.	11	11	Abra tenuis	33	22
Manayunkia aestuarina	11	11	Mytilidae spp. Juv.	22	11
Streblospio shrubsolii	11	11	Nephtyidae spp.	11	11
Diptera larvae	11	11	Hediste diversicolor	11	11
Bodotria arenosa	11	11	Sphaerodoridium minutum	11	11
Ascidiacea spp.	11	11	Corophium volutator	11	11
Abra alba	11	11	Harpinia antennaria	11	11
Abra tenuis	11	11	Cumacea spp.	11	11

Control North Low Shore			Control South Low Shore		
Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites
Abra alba	0.2537	11	Limecola balthica	0.7909	100
Hediste diversicolor	0.1503	22	Nephtys hombergii	0.3292	44
Nephtys hombergii	0.0788	56	Hediste diversicolor	0.1010	11
Bivalvia spp. Juv.	0.0465	11	Nephtyidae spp.	0.0523	33
Tubificoides benedii	0.0411	22	Pygospio elegans	0.0164	56
Limecola balthica	0.0256	56	Tubificoides benedii	0.0096	89
Nematoda	0.0215	67	Abra tenuis	0.0063	22
Nereididae spp.	0.0134	11	Peringia ulvae	0.0052	44
Eteone longa/flava	0.0073	22	Eteone longa/flava	0.0039	44
Enchytraeidae spp.	0.0057	67	Scoloplos (Scoloplos) armiger	0.0037	22
Nephtyidae spp.	0.0056	33	Nematoda	0.0010	56
Diptera larvae	0.0020	11	Bodotria arenosa	0.0008	22
Pygospio elegans	0.0015	44	Sphaerodoridium minutum	0.0002	11
Ascidiacea spp.	0.0006	22	Spionidae spp.	0.0002	11
Abra tenuis	0.0004	11	Corophium volutator	0.0002	11
Tubificoides spp.	0.0003	22	Harpinia antennaria	0.0002	11
Manayunkia aestuarina	0.0002	11	Gastropoda spp.	0.0002	11
Streblospio shrubsolii	0.0002	11	Enchytraeidae spp.	0.0001	22

Table 11. Average ranked abundance and biomass (per 1m^2) for the mid shore sites at Cherry Cobb Sands.

Control North Mid Shore			Control South Mid Shore		
Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites
Enchytraeidae spp.	45500	89	Tubificoides benedii	2211	89
Nematoda	11867	100	Limecola balthica	1911	100
Tubificoides benedii	744	22	Pygospio elegans	1733	100
Collembola	378	22	Nematoda	1011	78
Hediste diversicolor	333	89	Abra tenuis	978	67
Manayunkia aestuarina	244	67	Tellinoidea spp. Juv.	533	22
Bivalvia spp. Juv.	222	33	Peringia ulvae	511	78
Pygospio elegans	211	44	Bivalvia spp. Juv.	256	11
Limecola balthica	167	44	Nephtys hombergii	167	67
Peringia ulvae	78	33	Cyathura carinata	133	56
Acari spp.	78	22	Eteone longa/flava	122	56
Eteone longa/flava	67	33	Streblospio shrubsolii	56	11
Cyathura carinata	67	11	Hediste diversicolor	33	22
Diptera larvae	56	33	Abra alba	33	22
Nephtyidae spp.	22	22	Tubificoides pseudogaster agg.	22	11
Abra alba	22	11	Insecta	11	11
Abra tenuis	22	11	Bathyporeia spp.	11	11
Tellinoidea spp. Juv.	22	11	Decapoda spp. Juv.	11	11

Control North Mid Shore			Control South Mid Shore		
Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites
Hediste diversicolor	1.1658	89	Limecola balthica	8.4574	100
Abra alba	0.5200	11	Abra alba	0.9938	22
Nereididae spp.	0.5145	56	Nephtys hombergii	0.8145	67
Limecola balthica	0.1770	44	Abra tenuis	0.3254	67
Bivalvia spp. Juv.	0.1193	44	Nephtyidae spp.	0.2777	44
Enchytraeidae spp.	0.0889	89	Peringia ulvae	0.1920	78
Nematoda	0.0513	100	Pygospio elegans	0.1040	100
Tubificoides benedii	0.0187	22	Tubificoides benedii	0.0795	89
Diptera larvae	0.0180	33	Cyathura carinata	0.0685	56
Eteone longa/flava	0.0079	33	Hediste diversicolor	0.0326	22
Pygospio elegans	0.0074	44	Spionidae spp.	0.0315	44
Nephtyidae spp.	0.0062	22	Eteone longa/flava	0.0133	56
Cyathura carinata	0.0035	11	Retusa spp.	0.0057	11
Collembola	0.003336667	22	Phyllodocidae spp.	0.0036	11
Peringia ulvae	0.002441778	33	Nematoda	0.0035	78
Manayunkia aestuarina	0.001422222	67	Tellinoidea spp. Juv.	0.0034	22
Gastropoda spp.	0.00092	22	Nereididae spp.	0.0030	11
Acari spp.	0.000303333	22	Tubificoides spp.	0.0029	11

Table 12. Average ranked abundance and biomass (per 1m^2) for the upper shore sites at Cherry Cobb Sands.

Control North Upper Shore			Control South Upper Shore		
Taxa	Mean Abundance per m^2	% of sites	Taxa	Mean Abundance per m^2	% of sites
Enchytraeidae spp.	21542	100	Nematoda	8233	100
Nematoda	16075	100	Tubificoides benedii	5667	100
Manayunkia aestuarina	3092	75	Pygospio elegans	4189	100
Collembola	2692	75	Peringia ulvae	2622	78
Hediste diversicolor	842	100	Abra tenuis	1944	78
Diptera larvae	275	75	Limecola balthica	1000	78
Peringia ulvae	233	33	Enchytraeidae spp.	978	44
Bivalvia spp. Juv.	200	50	Bivalvia spp. Juv.	900	11
Tubificoides benedii	192	17	Eteone longa/flava	567	78
Pygospio elegans	167	58	Tellinoidea spp. Juv.	522	22
Eteone longa/flava	117	33	Hediste diversicolor	456	78
Limecola balthica	92	33	Cyathura carinata	122	44
Acari spp.	42	17	Manayunkia aestuarina	89	44
Hydrobia spp.	25	8	Diptera larvae	78	44
Gastropoda spp.	25	8	Streblospio shrubsolii	78	33
Streblospio shrubsolii	17	8	Tubificoides pseudogaster agg.	44	22
Sphaerodoropsis baltica	8	8	Dalyelliidae spp.	44	22
Copepoda spp.	8	8	Hydrobia spp.	44	11

Control North Upper Shore			Control South Upper Shore		
Taxa	Mean AFDW Biomass (g) per m^2	% of sites	Taxa	Mean AFDW Biomass (g) per m^2	% of sites
Hediste diversicolor	5.5388	100	Limecola balthica	3.0219	78
Nereididae spp.	0.9008	83	Hediste diversicolor	2.7457	78
Nematoda	0.0687	100	Bivalvia spp. Juv.	1.0944	22
Limecola balthica	0.0499	33	Abra alba	1.0896	33
Enchytraeidae spp.	0.0493	100	Nereididae spp.	0.8367	44
Diptera larvae	0.0425	75	Abra tenuis	0.4386	78
Eteone longa/flava	0.0323	33	Peringia ulvae	0.2977	78
Tubificoides benedii	0.0171	17	Tubificoides benedii	0.2543	100
Phyllodocidae spp.	0.0143	25	Pygospio elegans	0.2077	100
Manayunkia aestuarina	0.0136	75	Tubificoides spp.	0.0767	22
Peringia ulvae	0.0133	33	Eteone longa/flava	0.0731	78
Bivalvia spp. Juv.	0.0085	50	Nematoda	0.0511	100
Pygospio elegans	0.0075	58	Cyathura carinata	0.0358	44
Collembola	0.0041	75	Diptera larvae	0.0299	44
Streblospio shrubsolii	0.0003	8	Hydrobia spp.	0.0157	22
Gastropoda spp.	0.0002	17	Spionidae spp.	0.0094	33
Acari spp.	0.0002	17	Phyllodocidae spp.	0.0075	11
Copepoda spp.	0.0001	8	Gammaridae sp.	0.0069	11

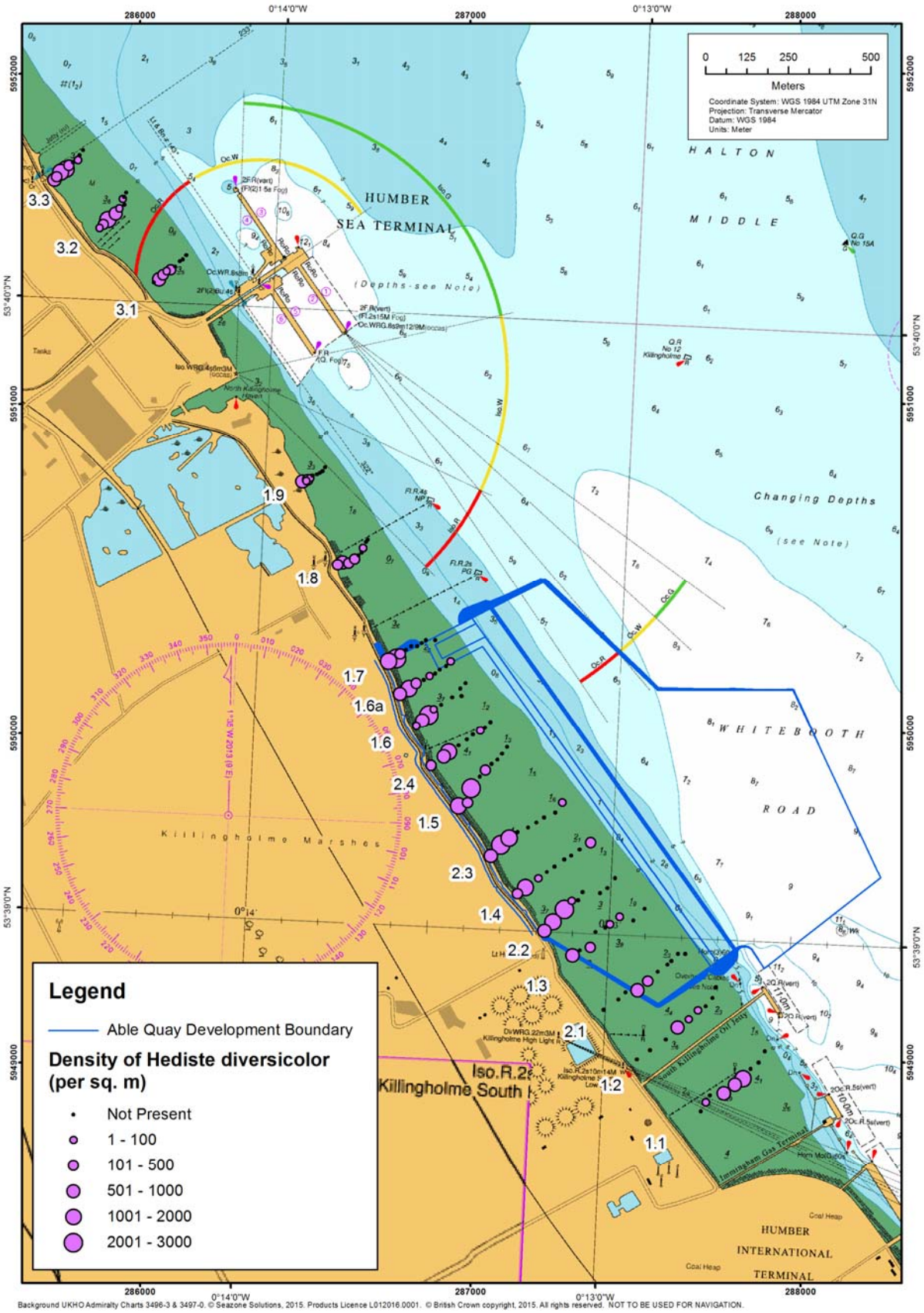

Figure 30. Spatial distribution in numbers of *Hediste diversicolor* at North Killingholme (per 1m^2).

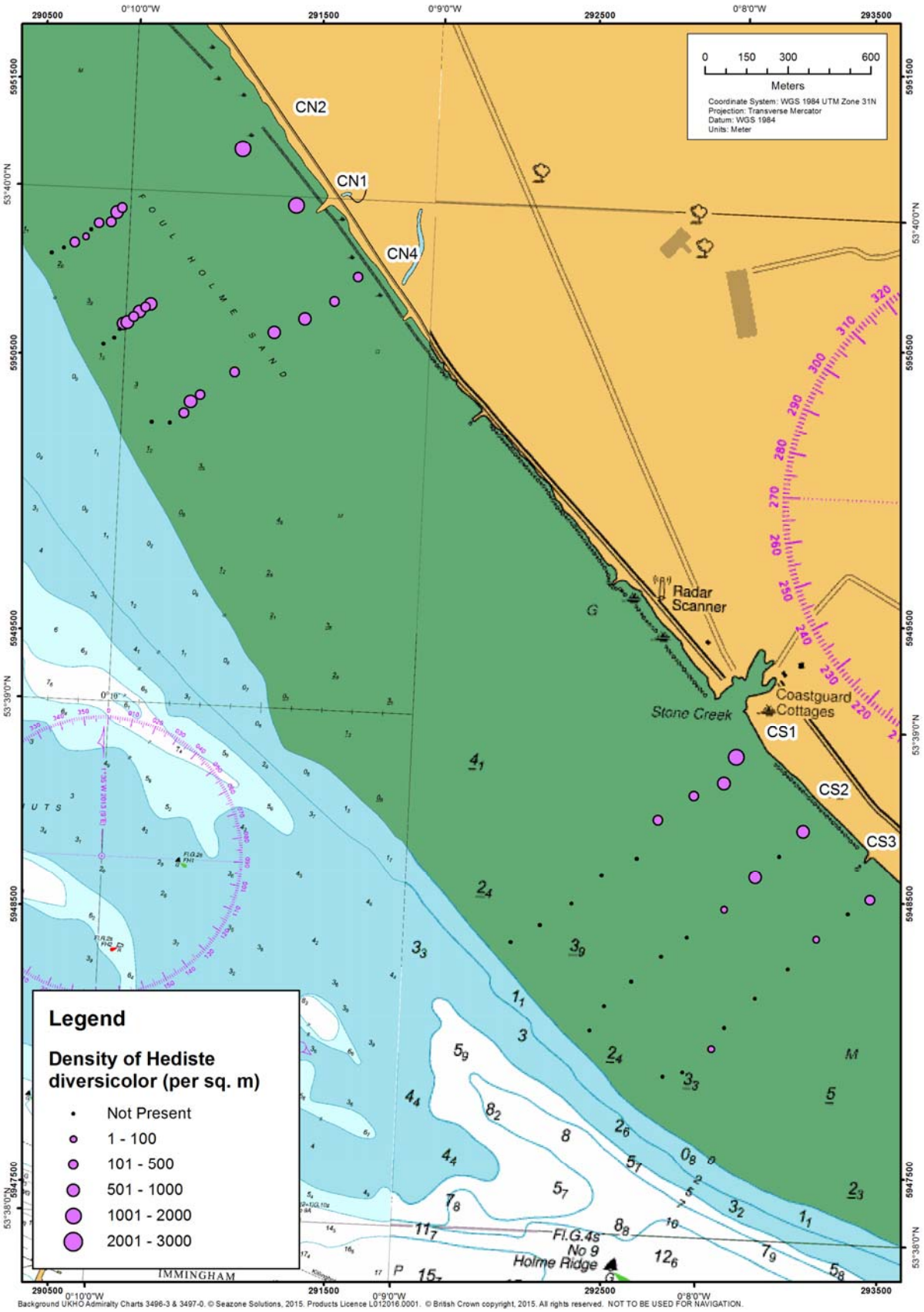

Figure 31. Spatial distribution in numbers of *Hediste diversicolor* at Cherry Cobb Sands (per 1m^2).

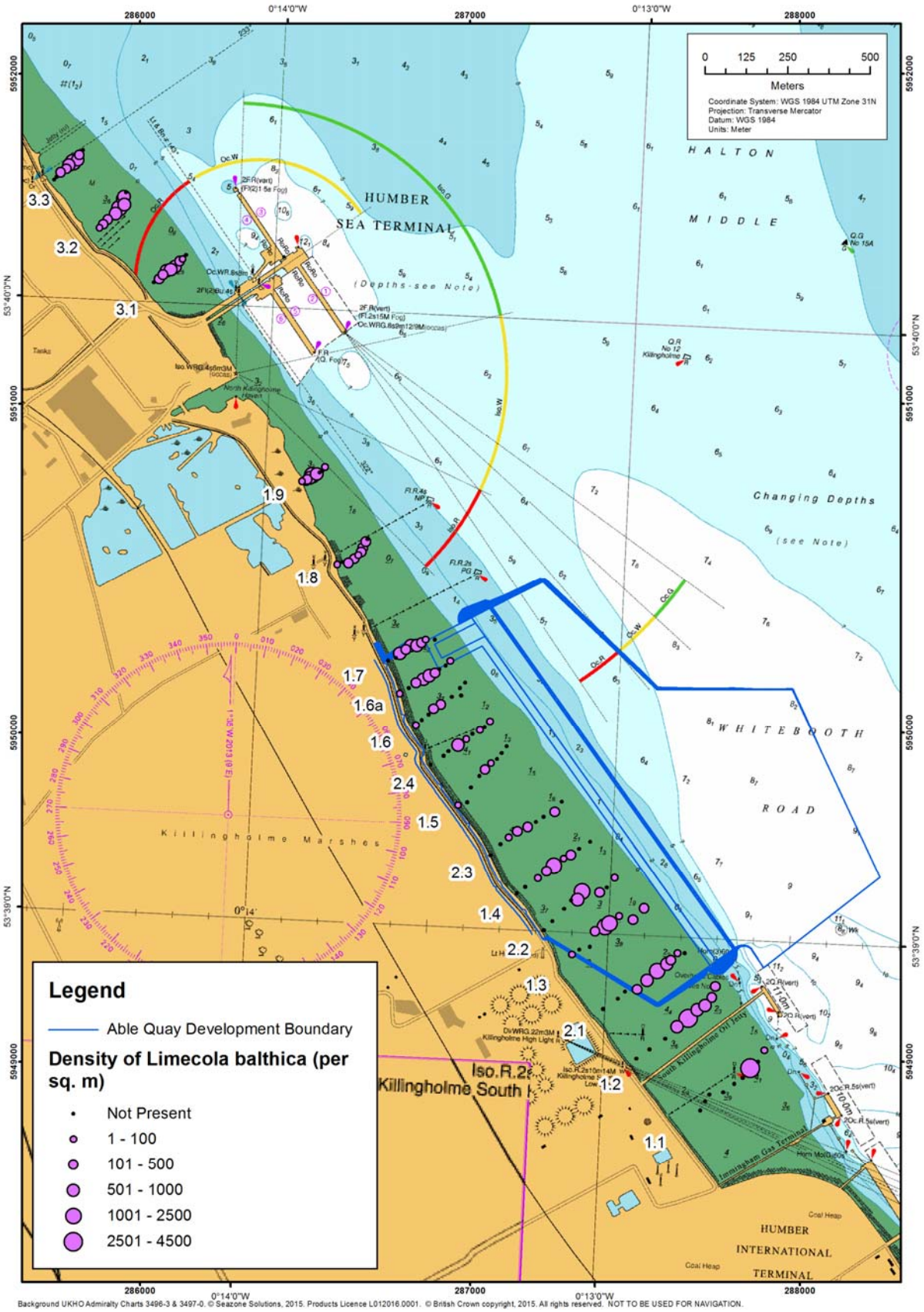

Figure 32. Spatial distribution in numbers of *Limicola* (*Macoma) balthica* at North Killingholme (per 1m^2).

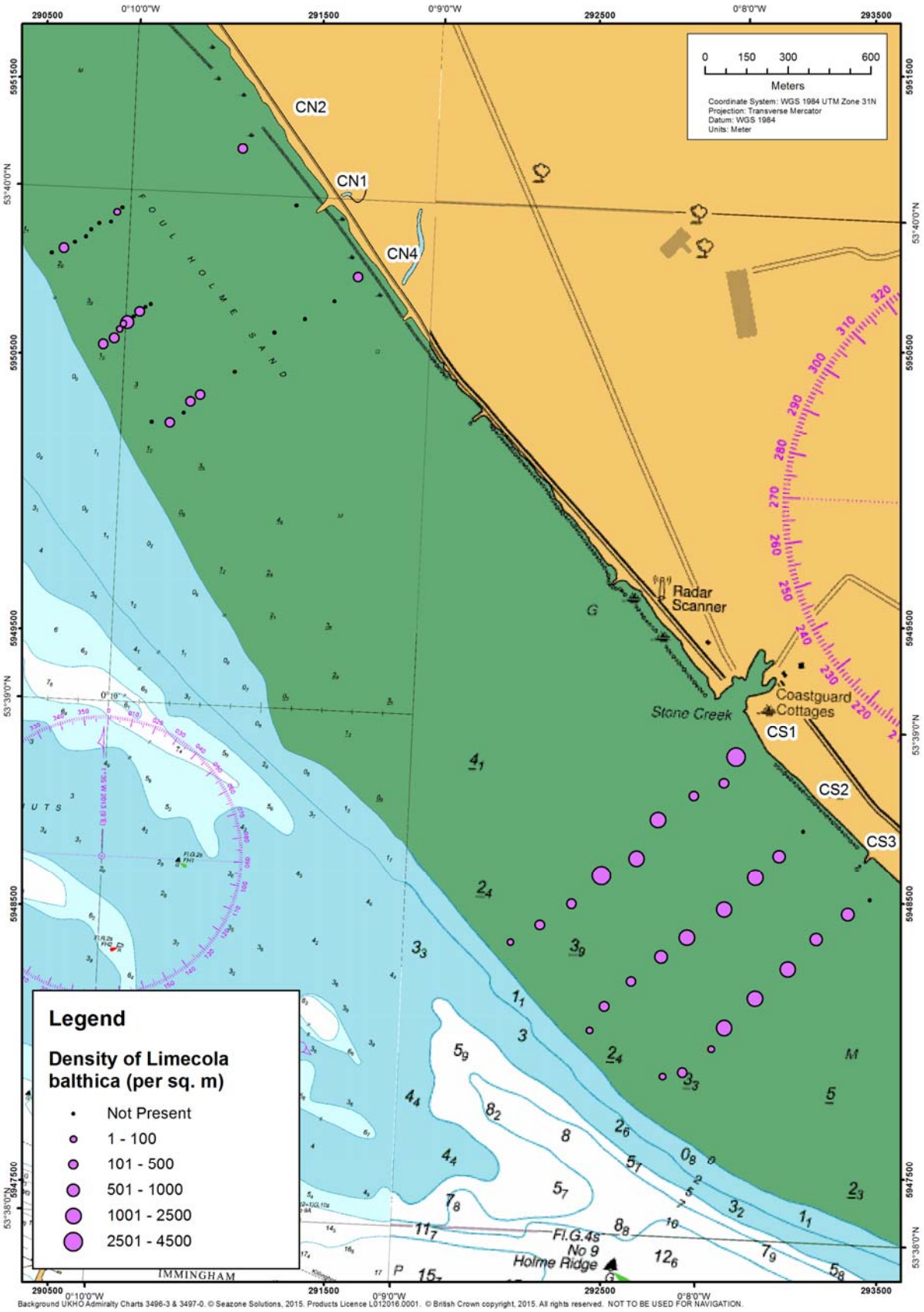

Figure 33. Spatial distribution in numbers of *Limicola* (*Macoma) balthica* at Cherry Cobb Sands (per 1m^2).

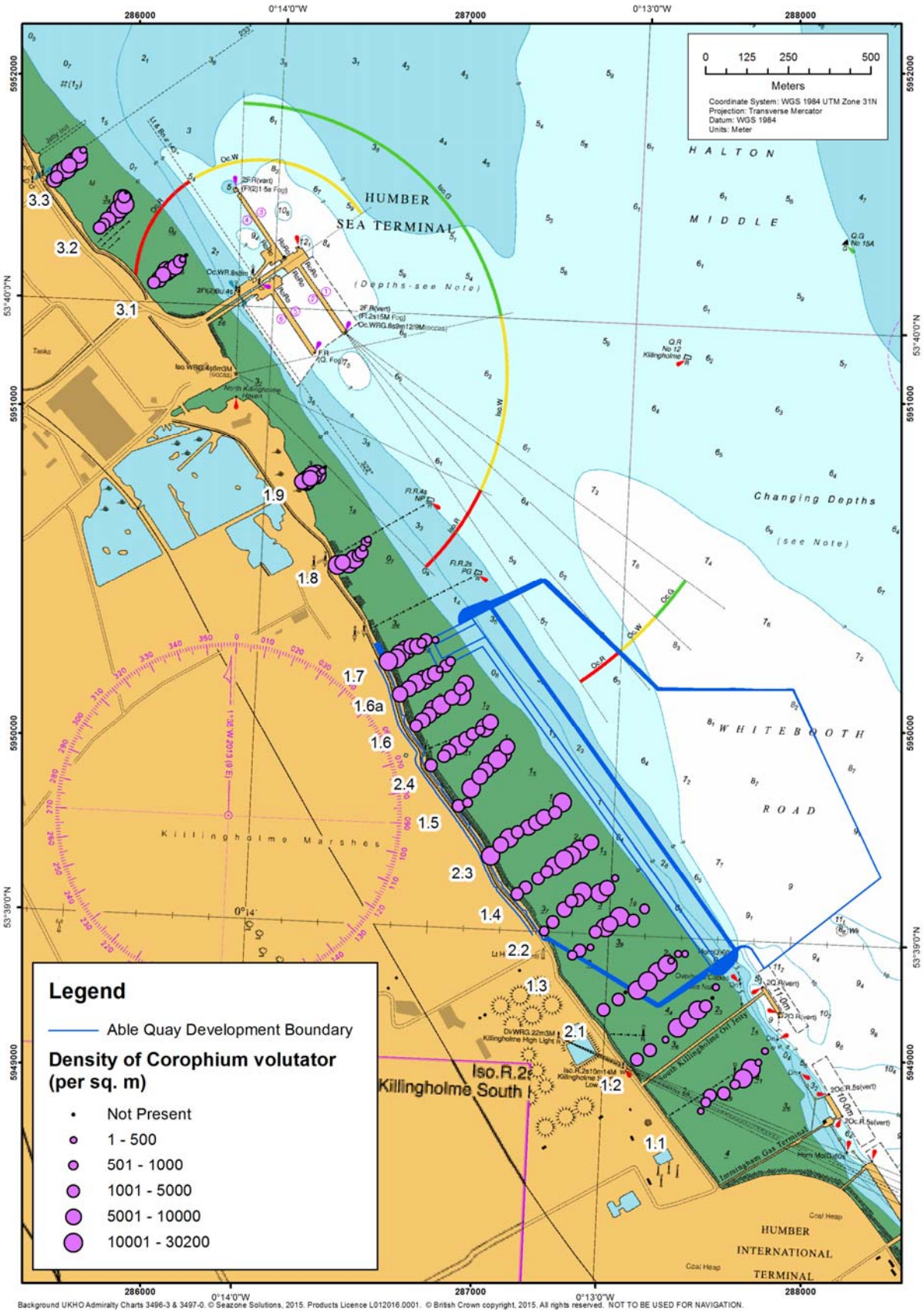

Figure 34. Spatial distribution in numbers of *Corophium volutator* at North Killingholme (per 1m^2).

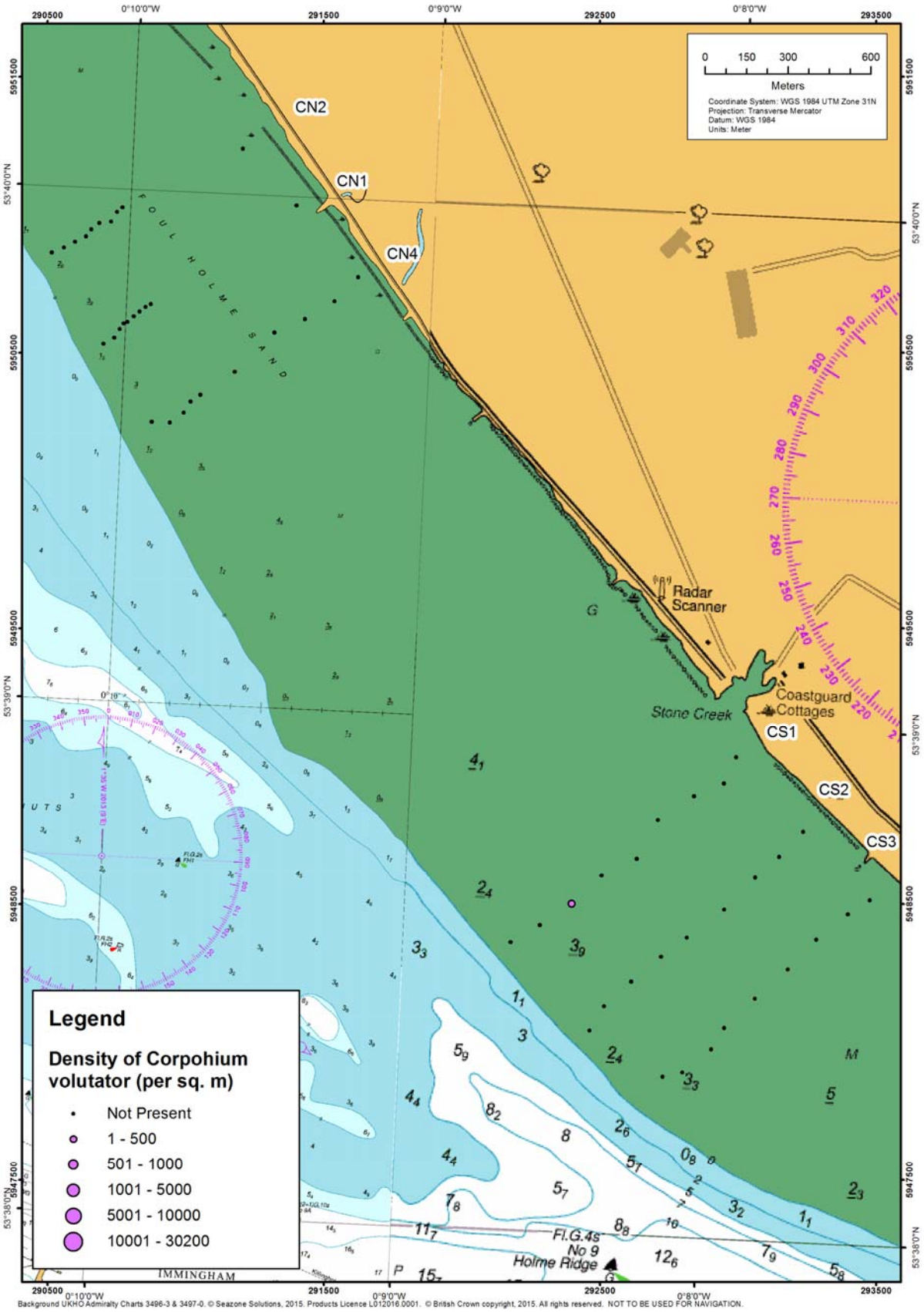

Figure 35. Spatial distribution in numbers of *Corophium volutator* at Cherry Cobb Sands (per 1m^2).

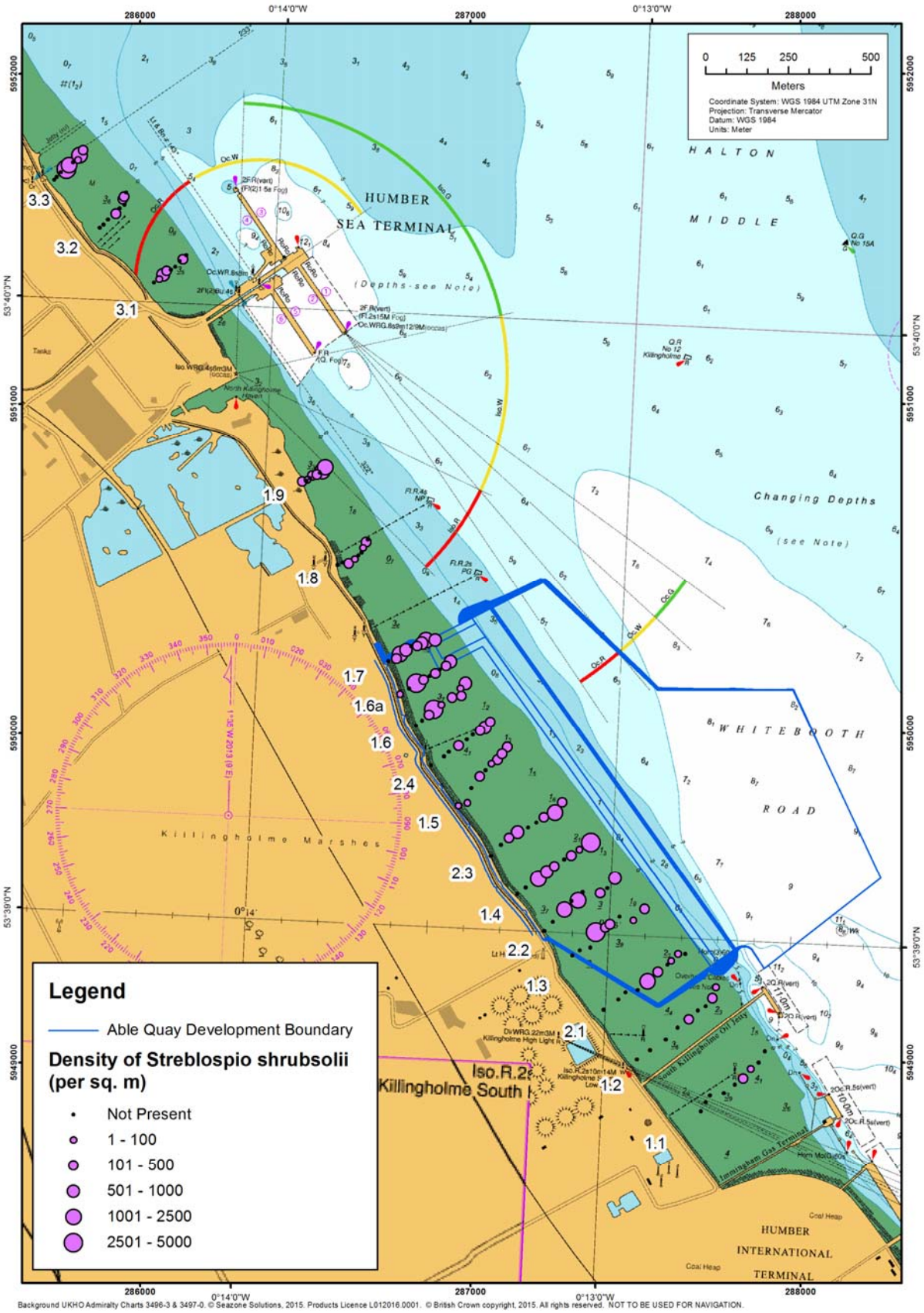

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Figure 36. Spatial distribution in numbers of *Streblospio shrubsolii* at North Killingholme (per 1m^2).

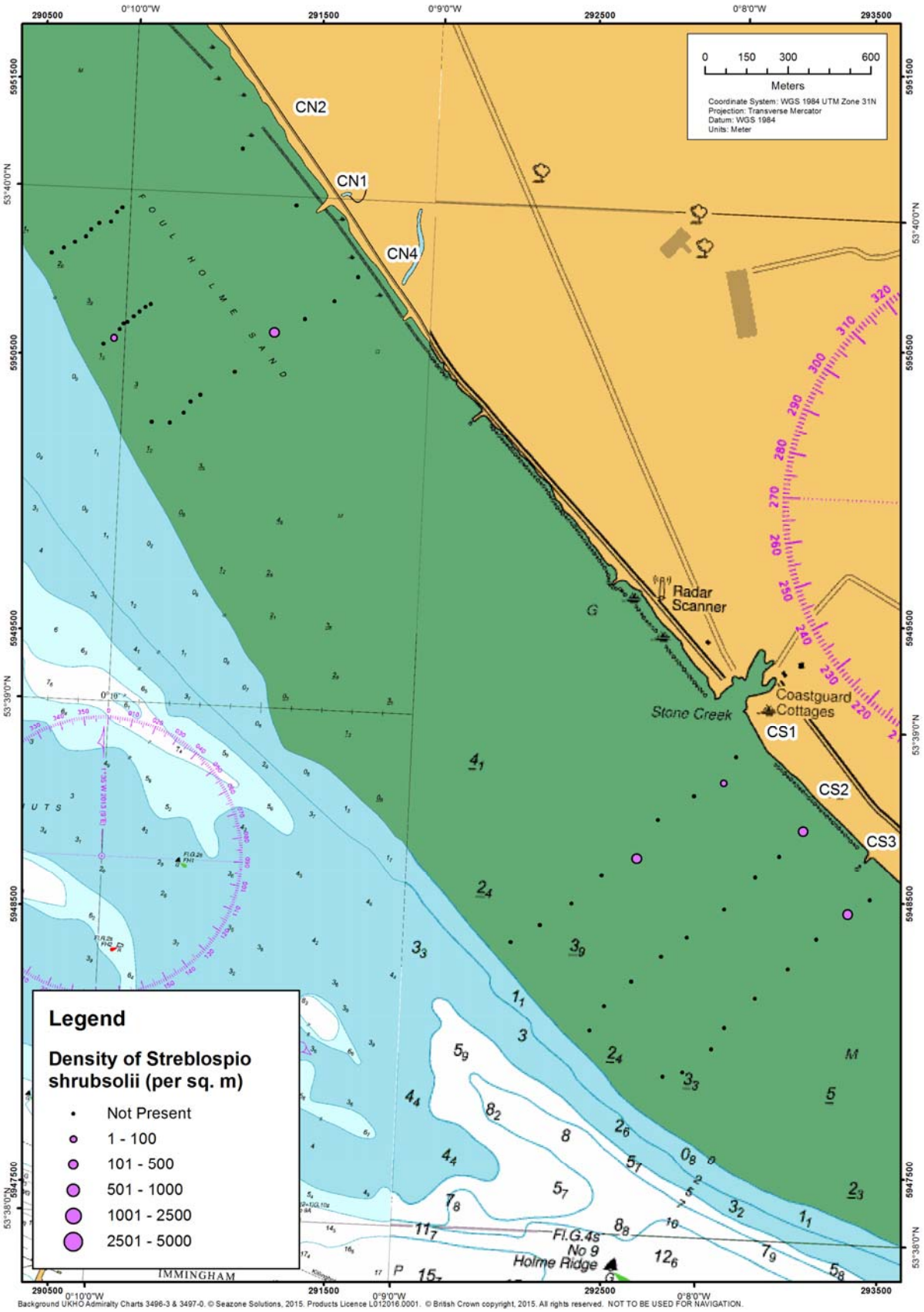

Figure 37. Spatial distribution in numbers of *Streblospio shrubsolii* at Cherry Cobb Sands (per 1m^2).

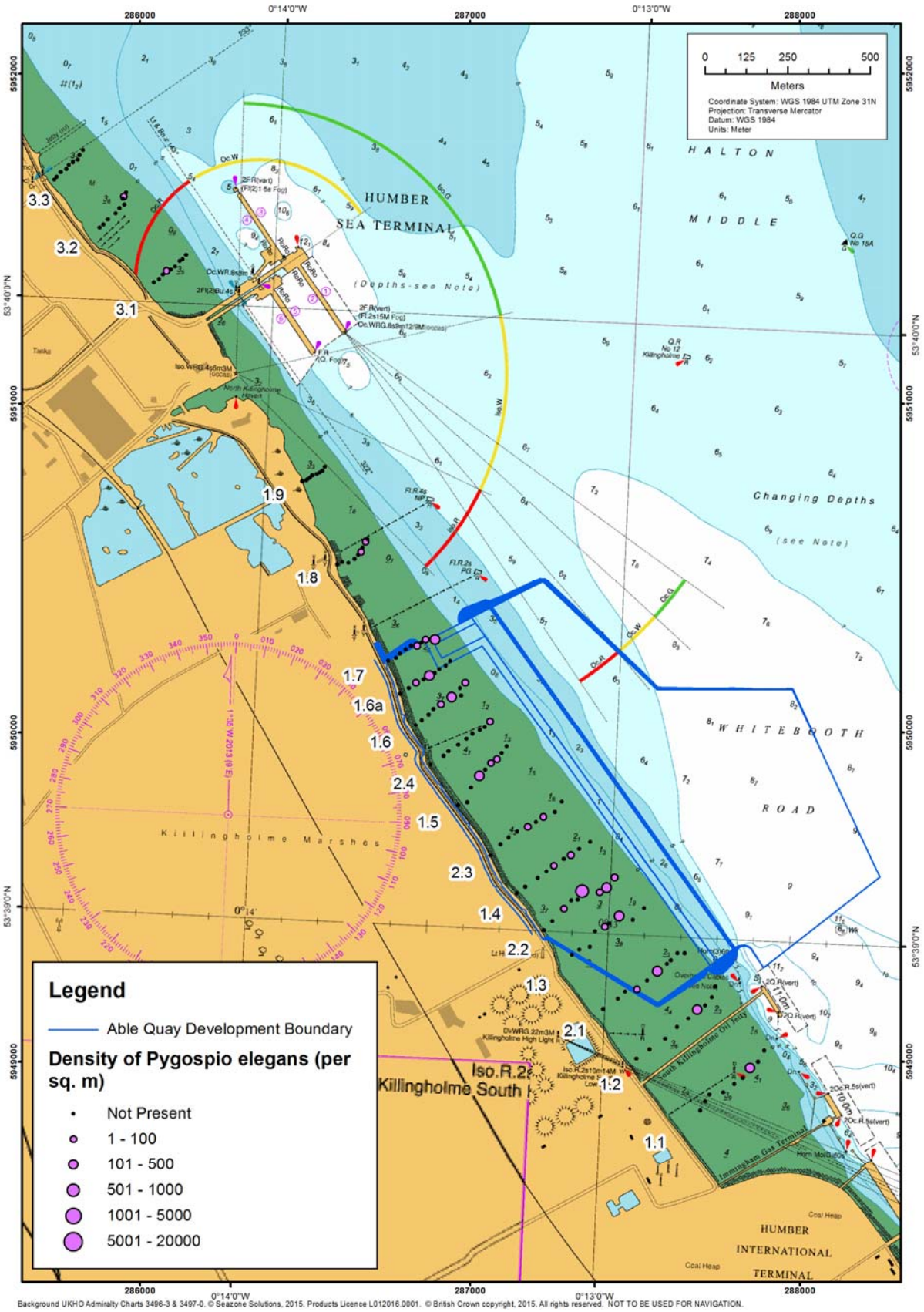

Figure 38. Spatial distribution in numbers of *Pygospio elegans* at North Killingholme (per 1m²).

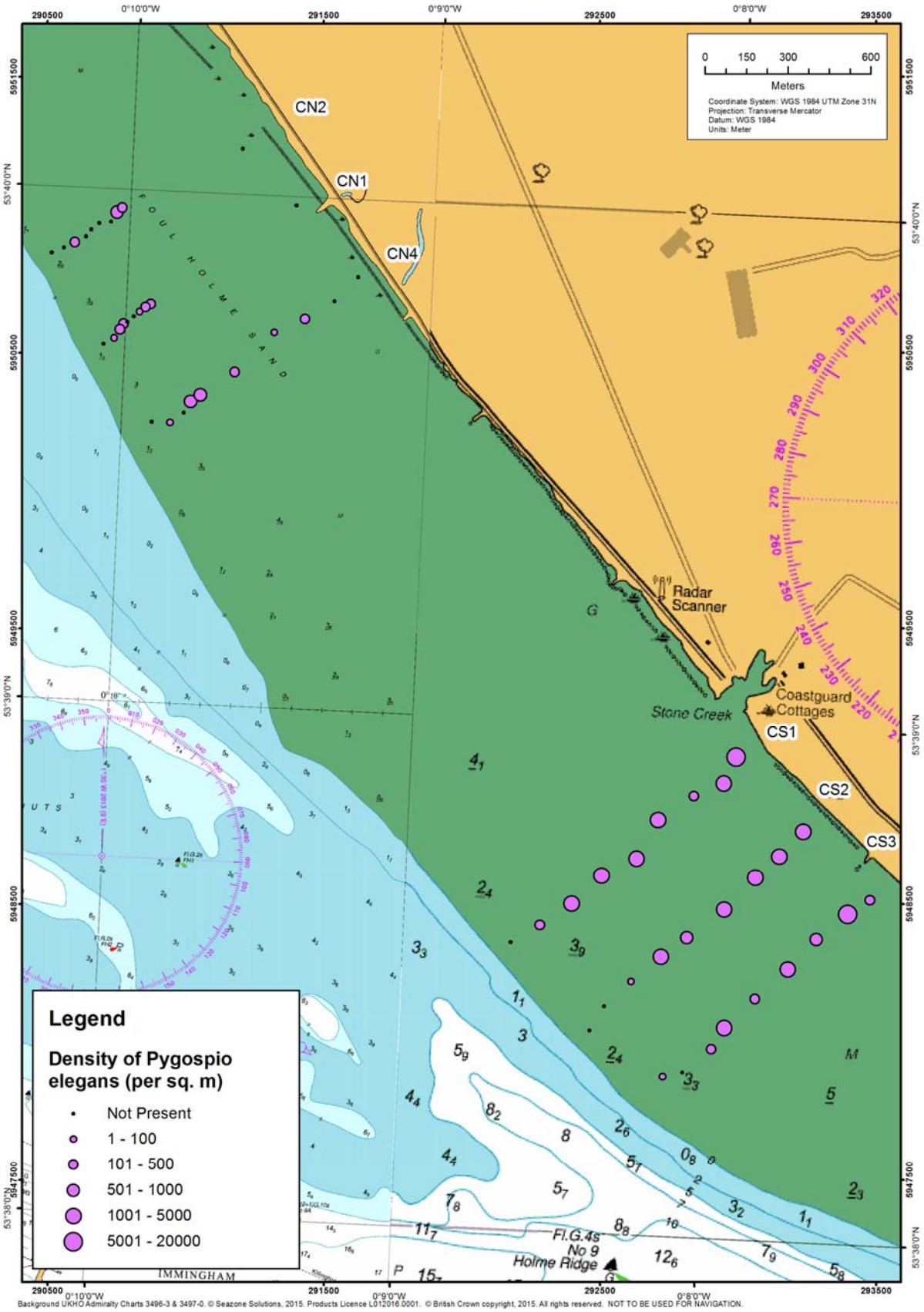

Figure 39. Spatial distribution in numbers of *Pygospio elegans* at Cherry Cobb Sands (per 1m^2).

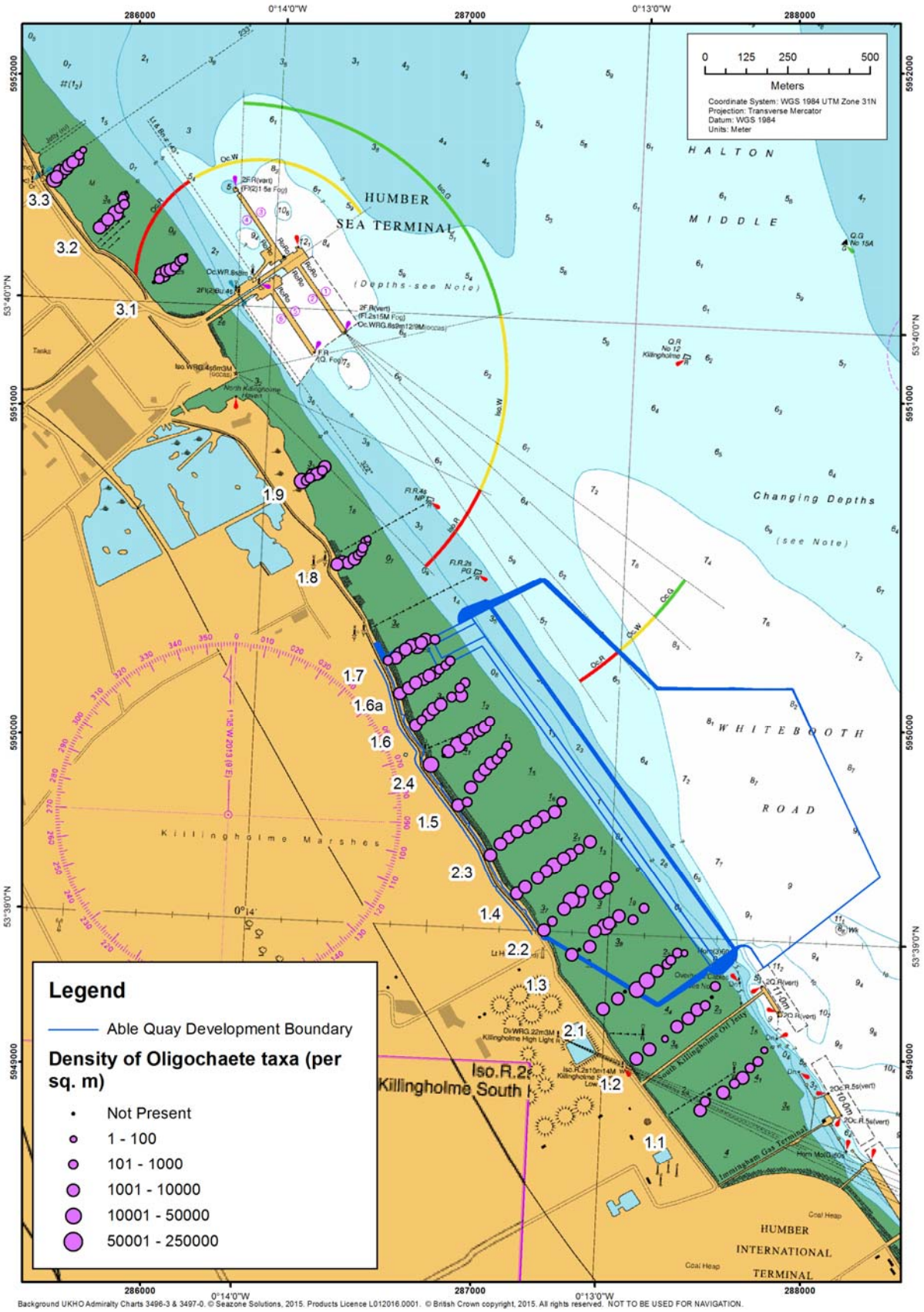

Figure 40. Spatial distribution in numbers of oligochaete taxa at North Killingholme (per 1m^2).

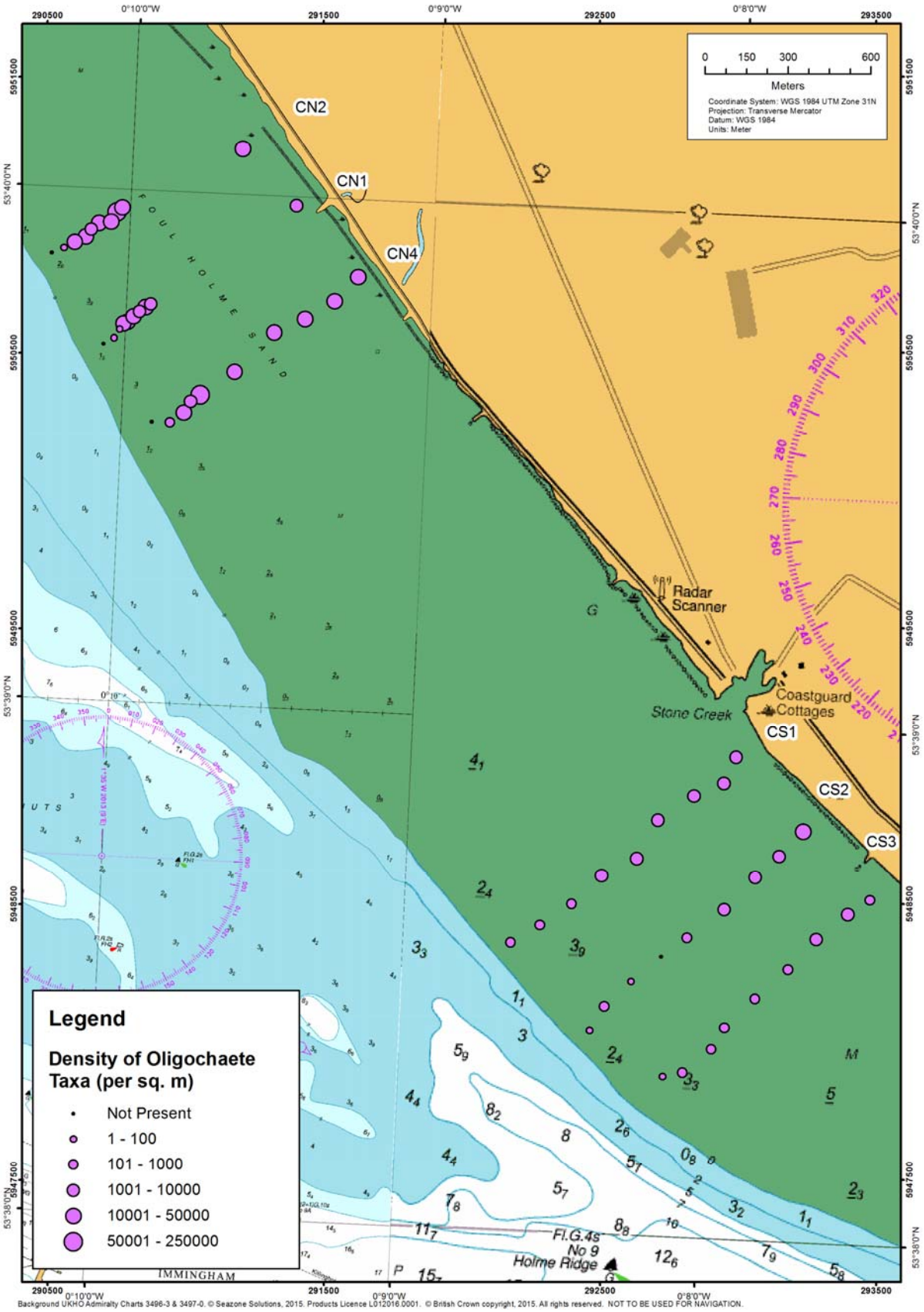

Figure 41. Spatial distribution in numbers of oligochaete taxa at Cherry Cobb Sands (per 1m^2).

3.4 Multivariate Analysis of Community Structure

Multivariate analysis of the abundance data (following square root transformation) was carried out in order to describe the main patterns and assemblages within the area. Classification (cluster analysis) of the data was undertaken using the Bray-Curtis similarity coefficient and grouped average (UPGMA) clustering technique followed by a non-metric MDS (multi-dimensional scaling) ordination both using the PRIMER package (Clarke & Warwick, 2001). Cluster analysis is used to display graphically the similarity between sites based upon their species composition whereby the similarity between sites is calculated (in this case using the Bray-Curtis similarity coefficient) to produce a similarity matrix showing the percent similarity of sites (0% indicating no species in common and 100% indicating an identical community).

These values were then used to plot a dendrogram or tree diagram in which sites are linked at their respective similarity to other sites and consequently it is possible to define groups of sites with similar species composition at a predefined level of similarity. Non metric MDS graphically displays the (rank) similarity between sites as a 2 dimensional plot in which the distances between sites indicates the level of similarity between them. The stress value associated with an MDS plot indicates the how faithful the plot is in representing the similarity between sites with low values (below 0.2) generally indicating a good fit. The site groupings derived from cluster analysis have subsequently been superimposed onto the MDS plots and input into GIS and the dominant species and mean environmental and biological parameters for each group calculated. Site groupings were derived using the similarity profile test (SIMPROF) within the PRIMER package. Characteristic taxa within each group were assessed using the SIMPER routine in PRIMER along with calculations of mean abundance and the % of sites at which the species occurred and the BEST routine was used to correlate patterns in community structure (site similarity) and environmental parameters.

The results of cluster analysis on the North Killingholme and Cherry Cobb Sand data are shown in Figures 42 to 44 which show the cluster dendrogram with symbols to highlight SIMPROF groups (Figure 42), survey location (Figure 43) and shore level (Figure 44). The spatial distribution of cluster groups and derived biotopes are shown in Figures 45 to 48 whilst the results of nMDS (with separate plots to highlight group, survey area and shore level) are provided in Figures 49 to 51. A high level of variability between sites is present with similarities between sites varying from 0% to over 90% and the SIMPROF routine derived 18 site groups including a number of single site groups (outliers) predominantly those with few or no taxa. The results of cluster analysis and ordination highlight a high level of separation between North Killingholme and Cherry Cobb Sand sites whilst differences based on shore level were also relatively well defined.

The characteristic taxa at the sites in each group are highlighted in Table 13 which includes contribution to group similarity (from SIMPER analysis) along with mean abundance (per $0.01m^2$ and $1m^2$) and the frequency of occurrence (% of sites) for each species. Also provided are the list of sites in each group and a summary of their sedimentary parameters.

Groups a to e are outlier groups which either contain a single sample low numbers of samples with similarities to the remaining groups ranging from 0% to 10% and include sites with few

or no taxa. Groups a and b include individual sites from the lower shore at North Killingholme (Transects 3.1 and 3.2) which contain no taxa whilst groups c and d contain a few low shore sites from Cherry Cobb Sands with impoverished communities including low numbers of *Nephtys hombergii* and *Abra tenuis* in sandy mud (group c) or Nephtyidae spp., Enchytraeidae spp. and *Limecola balthica* in muddy sand (group d). Group e includes two upper shore samples from transects to the southern end of North Killingholme in sandy mud characterised by insect taxa Collembola and Diptera larvae along with very low numbers of *Corophium volutator* and *Tubificoides benedii*.

Group f and g are associated at around 35% similarity and separated from the remaining groups at around 20% similarity. Group f includes three upper shore samples in sandy mud (one from North Killingholme and two from Cherry Cobb Sands) which were characterised by species such as *Tubificoides benedii*, Nematoda, *Hediste diversicolor*, Collembola, *Abra alba*, Diptera larvae and Enchytraeidae spp. Group g includes a number of upper and mid shore samples from Cherry Cobb Sands (and one from North Killingholme) characterised by sandy muds with high numbers of Enchytraeidae spp. along with Nematoda, *Hediste diversicolor*, *Manayunkia aestuarina*, Diptera larvae, Collembola, *Pygospio elegans*, Bivalvia sp. and *Limecola balthica*.

Group h includes a number of predominantly upper shore sandy mud samples from North Killingholme with similarities ranging from 40% to 80% and characteristic taxa included moderately high densities of *Corophium volutator* and *Tubificoides pseudogaster* agg. along with Diptera larvae, Nematoda, *Hediste diversicolor*, Collembola, Acari spp., *Tubificoides benedii* and Enchytraeidae spp.

Groups i to l comprise of a series of closely related groups of samples from North Killingholme separated at around 60 to 70% similarity dominated by *Corophium volutator* and *Tubificoides benedii*. Samples in group i were characterised by *Tubificoides benedii*, *Corophium volutator*, *Streblospio shrubsolii*, Nematoda and *Limecola balthica* with lower occurrences of *Hediste diversicolor* whilst group j was characterised by low or mid shore samples with *Corophium volutator*, *Tubificoides benedii*, Nematoda, *Limecola balthica*, *Eteone longa/flava* agg. and occasional *Nephtys hombergii* and *Pygospio elegans*. Group k included a large number of samples from North Killingholme, predominantly from the mid shore with high similarities and characterised by high numbers of *Corophium volutator* and *Tubificoides benedii* along with Nematoda, *Limecola balthica*, *Eteone longa/flava* agg, *Streblospio shrubsolii* and lower densities of *Pygospio elegans* and *Hediste diversicolor*. Group l included low or midshore samples from North Killingholme dominated by *Corophium volutator* with *Tubificoides benedii*, *Streblospio shrubsolii*, Nematoda and *Hediste* diversicolor with occasional Enchytraeidae spp., *Pygospio elegans* and *Eteone longa/flava* agg. but limited numbers of *Limecola balthica.*

Group m is associated with groups i to l at around 50% similarity and is also dominated by *Corophium volutator* but with lower densities of *Tubificoides benedii*. Group m includes a large number of mid and upper shore samples from North Killingholme characterised by *Corophium volutator* and Enchytraeidae spp. along with Nematoda, *Hediste diversicolor*, *Limecola balthica*, *Tubificoides benedii*, *Eteone longa/flava* agg. and *Streblospio shrubsolii*.

Groups n and o include most of the remaining low shore North Killingholme samples and are linked to groups i to m at around 35% similarity. Group n includes a few lower shore samples from North Killingholme with impoverished benthic communities characterised by rather low numbers of *Corophium volutator*, *Tubificoides benedii*, Nematoda, *Streblospio shrubsolii*, Enchytraeidae spp. and *Limecola balthica*. Group o includes a number of somewhat variable low shore NKM samples with relatively low densities of taxa such as *Tubificoides benedii*, *Corophium volutator*, *Streblospio shrubsolii*, *Limecola balthica*, Nematoda, *Eteone longa/flava* agg. and *Nephtys hombergii*.

Groups p, q and r predominantly include samples from Cherry Cobb Sands with rather variable communities and these groups are associated at around 30% similarity. Group p was divided into low shore sandy mud samples from the northern Cherry Cobb Sand transects (and one NKM sample) and low or mid shore muddy sand or sandier samples from the southern Cherry Cobb Sand transects and characterised by moderate numbers of *Limecola balthica* along with lower numbers of Nematoda, *Tubificoides benedii*, *Nephtys hombergii*, *Pygospio elegans*, *Peringia ulvae* and *Eteone longa/flava* agg. Group q included mid or upper shore sandy mud samples from Cherry Cobb Sands characterised by dense populations of invertebrates including *Tubificoides benedii*, Nematoda, *Pygospio elegans*, *Limecola balthica*, *Peringia ulvae*, *Abra tenuis*, *Eteone longa/flava* agg. and *Hediste diversicolor*. Group r includes three low or mid shore muddy sand samples from the southern Cherry Cobb Sand transects characterised by moderately high densities of *Pygospio elegans*, *Limecola balthica* and juvenile Tellinoidea spp. along with lower numbers of *Tubificoides benedii*, *Nephtys hombergii*, *Eteone longa/flava* agg., *Peringia ulvae*, *Abra tenuis*, *Tubificoides pseudogaster* agg., *Bathyporeia* spp. and *Corophium volutator*.

In general the observed patterns in species composition at North Killingholme and Cherry Cobb Sands are broadly similar to the communities recorded during the spring and autumn 2013 survey and whilst inherently variable many of the observed differences in invertebrate communities are rather subtle rather than distinct changes in assemblage. Aside from differences in relation to shore level multivariate analysis also highlighted differences between survey areas most notably between North Killingholme and Cherry Cobb Sands. However, such differences are likely to reflect differences in sediment type and particularly at Cherry Cobb Sands where there is much greater variation in key sedimentary parameters.

The BEST routine in Primer was used to identify correlations between sediment type and shore level (distance down the shore from high water) and the patterns in community structure. The results of the BEST routine indicated that all parameters had some correlation to the species data with the distance down the shore having the best correlation (0.459) followed by sediment skewness (0.263), median phi grain size (0.230), LOI (0.226) and sediment sorting (0.209). Somewhat lower correlations were exhibited by other parameters (mud content: 0.183; kurtosis: 0.178; mean phi grain size: 0.146; gravel content: 0.078). The best combination of parameters to correlate with the patterns in species data were distance down the shore, mud content and skewness which collectively exhibited a correlation of 0.488.

At a biotope level many of the observed communities appear to be variants of typical estuarine biotopes as classified under the current UK classification (Connor et al. 2004) and

largely follow those identified during the 2013 surveys (Figures 47 and 48). In general the majority of the infaunal communities at North Killingholme and Cherry Cobb Sands are rather variable and include a number of communities which are rather poorly defined in terms of the biotope classification and often exhibit transitional forms of typical mid (or upper) estuarine biotopes.

The majority of the sandy mud communities which make up the bulk of the habitats surveyed here and described above are generally considered to be rather transitional variants of *LS.LMu.MEst (Polychaete/bivalve-dominated mid estuarine mud shores)* biotopes such as *LS.LMu.MEst.HedMac (Hediste diversicolor and Macoma balthica in littoral sandy mud*). Areas of upper shore sandy mud at both North Killingholme and Cherry Cobb Sands which have greater elevation and often in closer proximity to saltmarsh are usually characterised by *Tubificoides* spp. (including *T. pseudogaster* in some areas) and/or *Corophium volutator* along with variable densities of *Hediste diversicolor* or other polychaetes and insect taxa. These appear to be either slightly impoverished *LS.LMu.MEst* biotopes or rather transitional mid estuarine, upper shore variants of biotopes more commonly found in upper estuarine areas namely *LS.LMu.Uest (Polychaete/oligochaete-dominated upper estuarine mud shores) or LS.LMu.UEst.Hed (Hediste diversicolor in littoral mud)* and its various sub-biotopes although they generally exhibit a wider range of taxa than typically found in upper estuarine examples of these biotopes.

In terms of the cluster groups described above groups a to d form a series of poorly defined outliers with low similarities to other sites and these impoverished low shore areas with few or no taxa have been classified as *LS.LMu (Littoral Mud), LS.LMu.MEst* or *LS.LSa.MuSa (Polychaete/bivalve-dominated muddy sand shores)* based on observed sediment type. The impoverished sandy muds with insect taxa and occasional *Corophium* and oligochaetes in group e have been classified as *LS.LMu.UEst* whilst the variable sandy mud sites with oligochaetes, *Hediste* and low numbers of other taxa in group f have been classified as *LS.LMu.MEst.*

Group g comprising of samples from the northern control area at Cherry Cobb Sands has high densities of Enchytraeidae oligochaetes along with *Hediste diversicolor* and other polychaetes with occasional *Limicola balthica*. These upper to mid shore sites tend to have reduced or patchy populations of *Limicola* but much higher numbers of oligochaetes along with *Hediste diversicolor*. As such this community is considered to be a poorly defined/transitional variant of LS.LMu.MEst.HedMac *(Hediste diversicolor and Macoma balthica in littoral sandy mud*) although it also exhibits some resemblance to *Hediste* and oligochaete dominated upper estuarine biotopes e.g. *LS.LMu.UEst.Hed (Hediste diversicolor in littoral mud).* Group h includes a number of rather upper shore samples from North Killingholme with abundant *Corophium* and *Tubificoides* along with occasional *Hediste* and other polychaetes/oligochaetes and is rather poorly defined and classified as *LS.LMu.MEst / LS.LMu.UEst*.

The sites from the main sandy mud site groups from North Killingholme (groups i to m) often tend to be densely populated intertidal communities with a variety of taxa including *Corophium volutator*, *Tubificoides benedii*, *Streblospio shrubsolii*, Nematoda, *Macoma balthica* and *Hediste diversicolor*. Many of these groups appear to be rather transitional forms

of *LS.LMu.MEst* biotopes and predominantly variants of the biotope *LS.LMu.MEst.HedMac (Hediste diversicolor and Macoma balthica in littoral sandy mud*). Sites in group i with very high numbers of *Tubificoides*, *Corophium* and *Streblospio* and lower numbers of *Hediste* and *Limicola* appears to be transitional between *LS.LMu.MEst.HedMac* and *LS.LMu.UEst.Hed* biotopes whilst low to mid shore sites in group j is tentatively classified as *LS.LMu.MEst.NhomMacStr* (*Nephtys hombergii*, *Macoma balthica* and *Streblospio shrubsolii* in littoral sandy mud).

The sites from North Killingholme in group's k to m are quite closely related with similar species composition but vary with regards to the relative abundance of key taxa. All these groups are dominated by *Corophium volutator* and oligochaetes along with *Hediste diversicolor*, *Limicola balthica* and a variety of other polychaetes. As such these groups form a series of communities which are considered to be transitional or intermediate variants of the *LS.LMu.MEst.HedMac* biotope with different site groups often partitioned based on shore position which exhibit broadly similar communities but with variation in densities or zonation of key species such as *Limicola balthica* and *Hediste diversicolor*.

For example the midshore sites in groups k from North Killingholme tend to have lower numbers of *Hediste* but higher numbers of *Limicola balthica* and considered a transitional *LS.LMu.MEst.HedMac* community but may also include variants of the closely related biotope *LS.LMu.MEst.HedMacScr* (*Hediste diversicolor*, *Macoma balthica* and *Scrobicularia plana* in littoral sandy mud) as occasional areas of *Scrobicularia* siphon holes were noted during survey but this taxa is rarely collected by core sampling. Group l is less well defined and classified as *LS.LMu.MEst / LS.LMu.UEst* whilst group m includes mid to upper shore NKM sites with very abundant *Corophium volutator* and Enchytraeidae oligochaetes along with *Hediste* and *Limicola* which generally comprise a *LS.LMu.MEst.HedMac* biotope albeit somewhat modified dependant on shore position with upper shore sites in this group tending to have a reduced *Limicola balthica* component and as such bear some resemblance to *LS.LMu.UEst.Hed* biotopes.

Group n contains a few rather impoverished low shore sites from North Killingholme classified as *LS.LMu.MEst* whilst the remaining low shore sites at NKM located at or around low water in group o form a poorly defined infaunal community which potentially indicates sediment instability in these areas of very soft mud or sandy mud. These habitats tend to be somewhat impoverished and characterised by low to moderate numbers of *Tubificoides benedii, Streblospio shrubsolii* and *Corophium volutator* with *Macoma balthica* and occasional *Nephtys hombergii*. Such habitats have been classified as *LS.LMu.MEst* biotopes but are potentially variants of *LS.LMu.MEst.NhomMacStr (Nephtys hombergii, Macoma balthica and Streblospio shrubsolii in littoral sandy mud)* or are perhaps a lower shore continuation of transitional *LS.LMu.MEst.HedMac* or *LS.LMu.UEst.Hed.Str* biotopes which are subject to sediment instability leading to the development of a reduced faunal assemblage.

Group p is a rather variable group with several sub-divisions and contains low shore sandy sandy mud sites from the northern control area at Cherry Cobb Sands which are tentatively classified as *LS.LMu.MEst.NhomMacStr.* Group p also contains a sub-group from the lower shore in the southern control area characterised by impoverished muddy sands or sands which have a variable but generally species poor assemblage with few taxa from which it is

difficult to derive biotopes with any certainty. These have been defined as *LS.LSa.MuSa (Polychaete/bivalve-dominated muddy sand shores)* although some sites have a higher sand contents which could be considered *LS.LSa (Littoral Sand)* and presumably reflect a relatively dynamic environment. Group p also includes samples from of mid to low shore muddy sand on transects CS2 and CS3 which have been classified as *LS.LSa.MuSa.MacAre (Macoma balthica and Arenicola marina in littoral muddy sand)*. Variable populations of *Arenicola marina* were noted in this area during both the 2015 and 2013 surveys with observations of surface Arenicola casts indicating densities of up to 5 to 10 per m^2. However, this taxa was not recorded during core sampling due to their patchy distribution.

The upper/mid shore habitats from Cherry Cobb Sands in group q tend to form a more typical example of the *LS.LMu.MEst.HedMac* biotope with higher abundances of *Limicola balthica* and *Hediste diversicolor* and a relatively diverse infaunal assemblage compared with similar communities at North Killingholme. Finally Group r includes a few sites from the low to mid shore in the southern control area at Cherry Cobb Sands with uncertain examples of *LS.LMu.MEst* and *LS.LSa.MuSa.MacAre*.

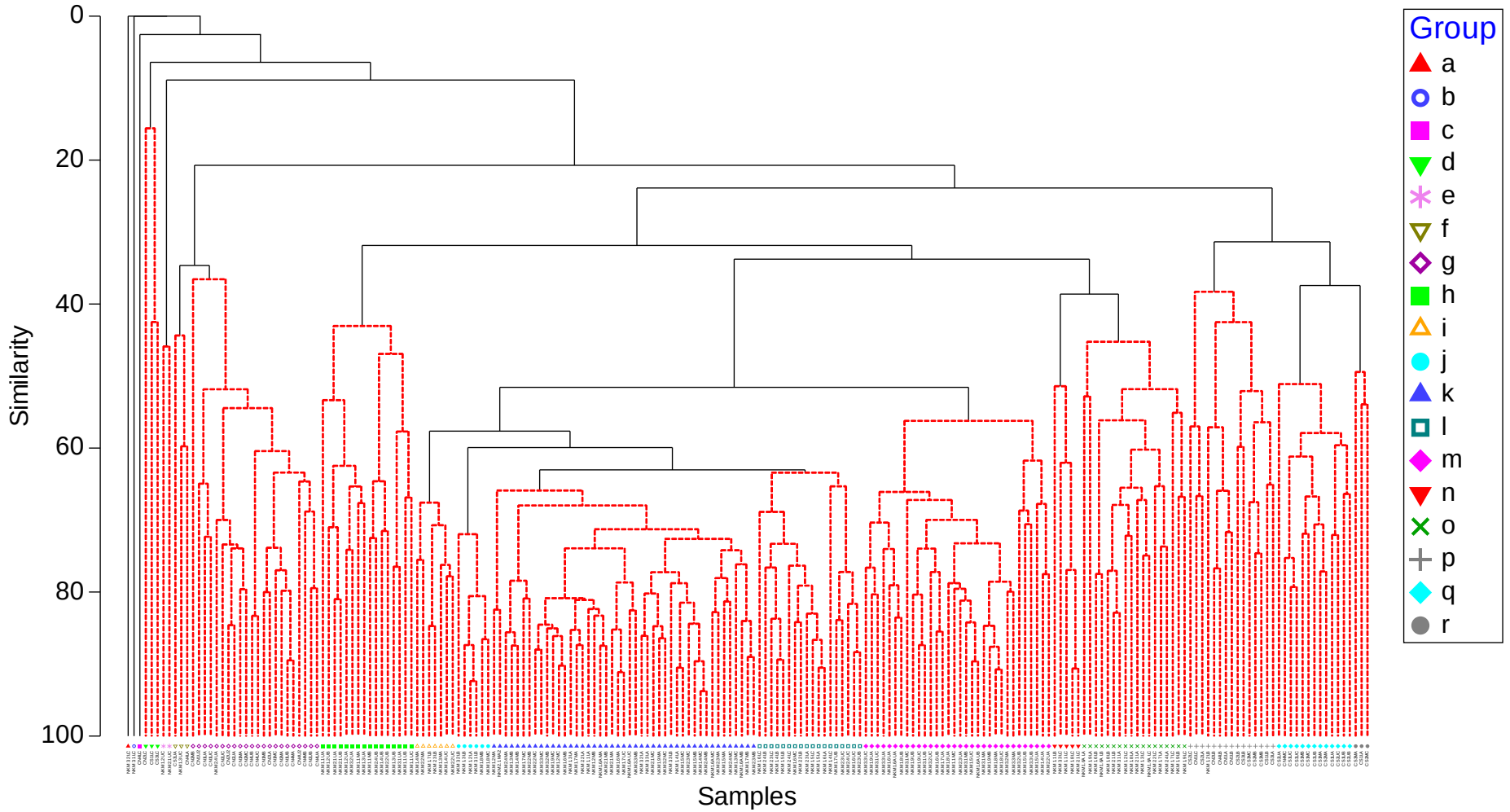

Figure 42. Results of cluster analysis on sites from North Killingholme & Cherry Cobb Sands (samples highlighted by group).

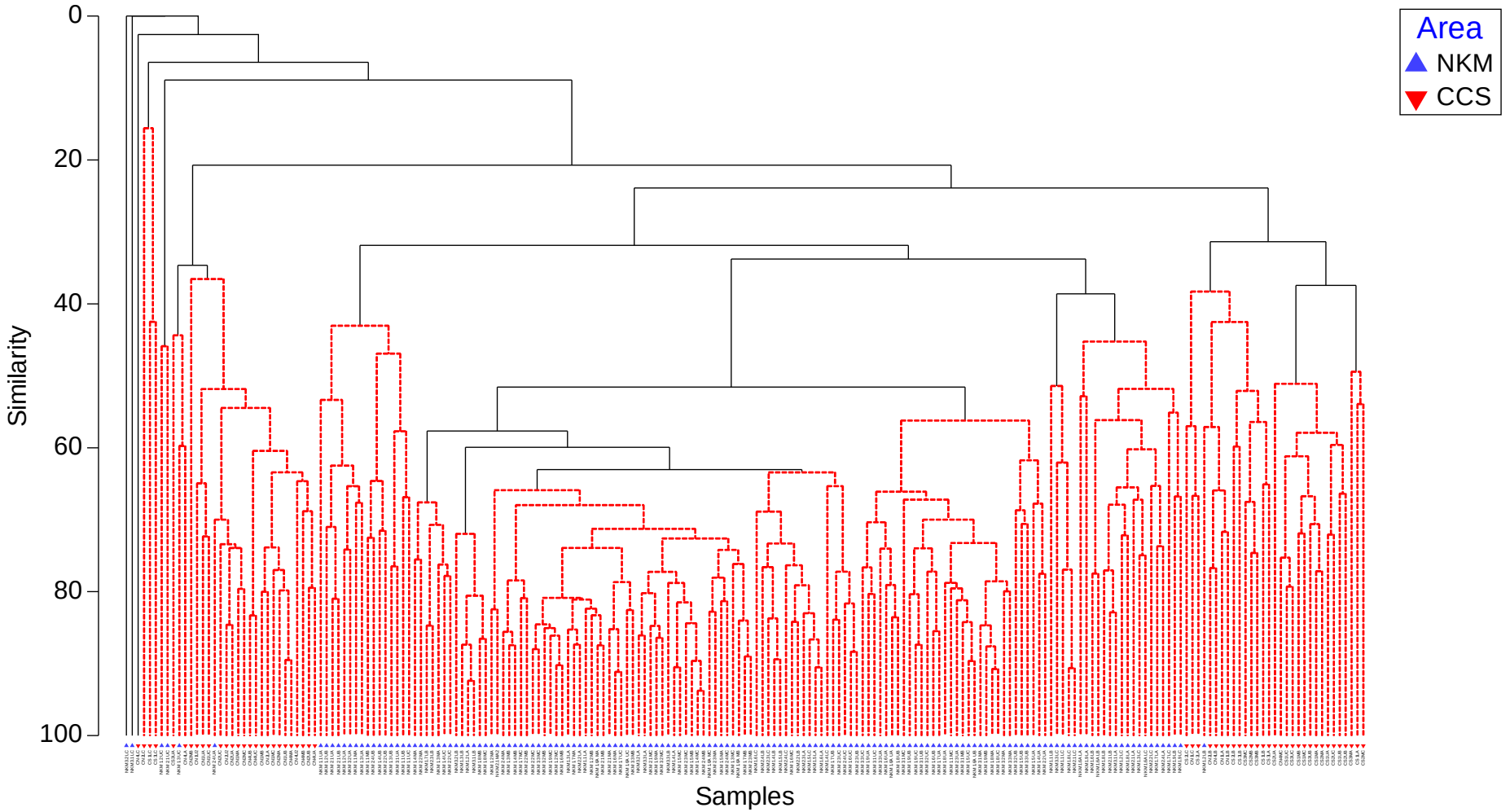

Figure 43. Results of cluster analysis on sites from North Killingholme & Cherry Cobb Sands (samples highlighted by area).

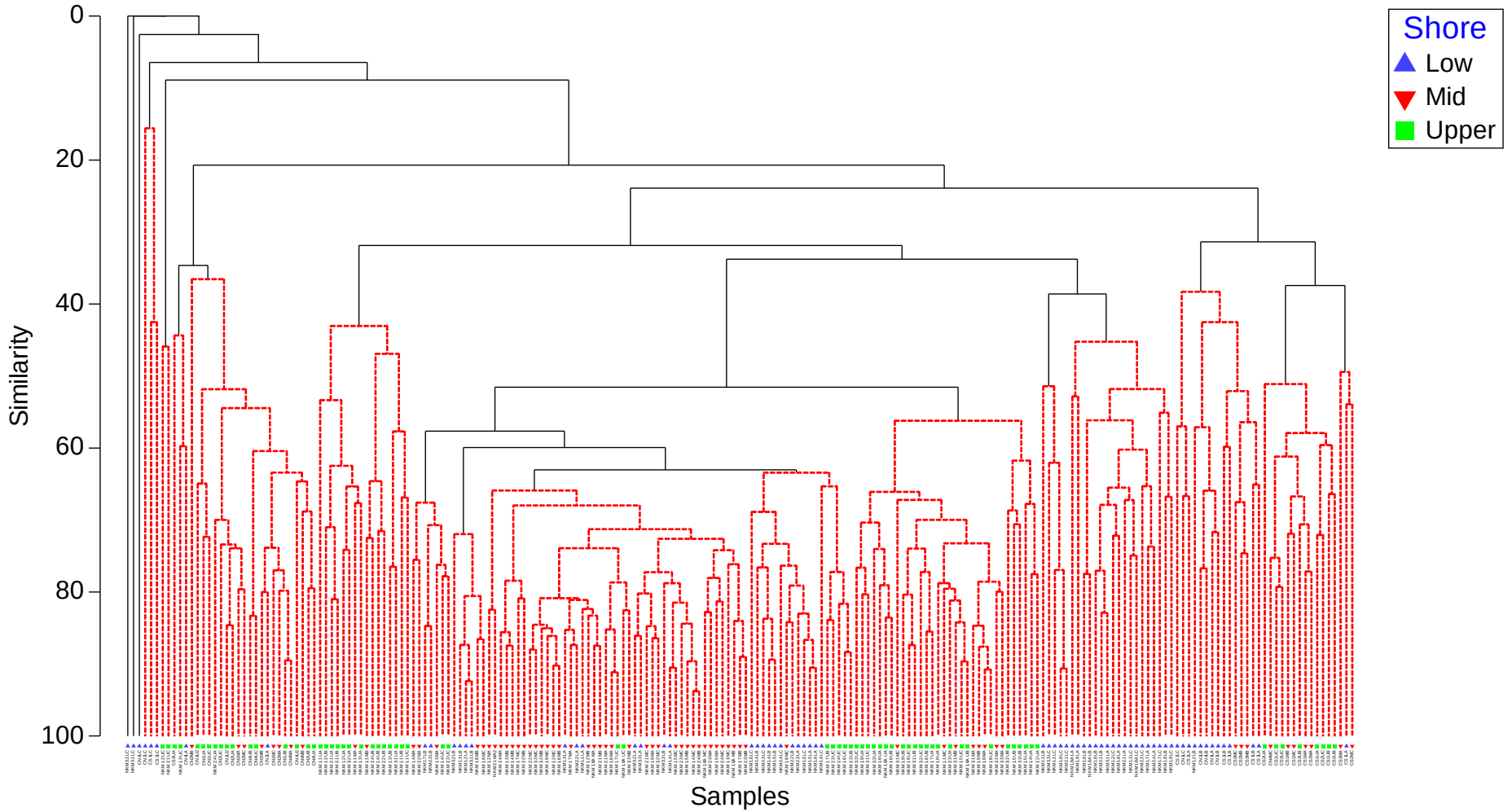

Figure 44. Results of cluster analysis on sites from North Killingholme & Cherry Cobb Sands (samples highlighted by shore).

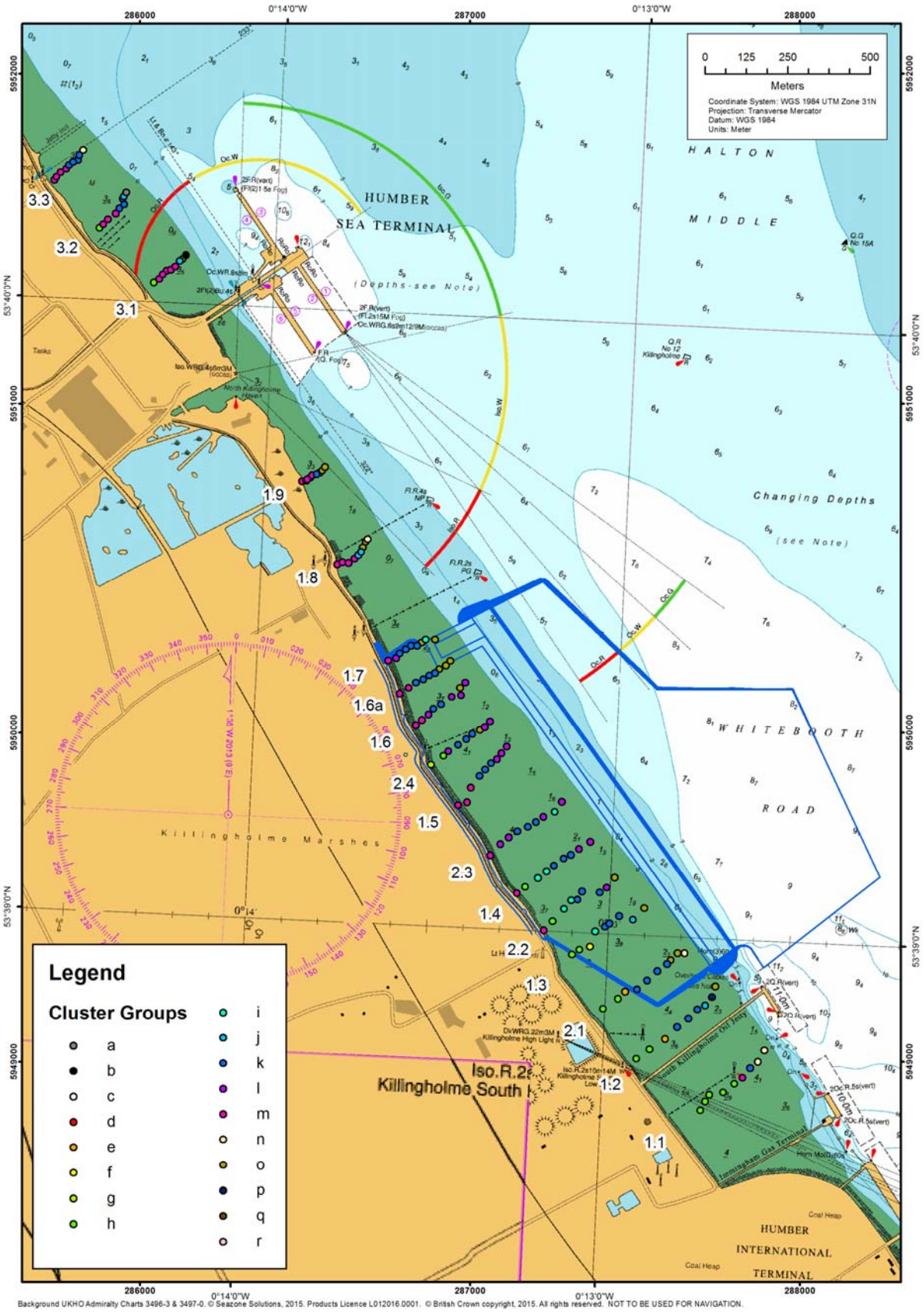

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Figure 45. Spatial distribution of site groups from cluster analysis (North Killingholme).

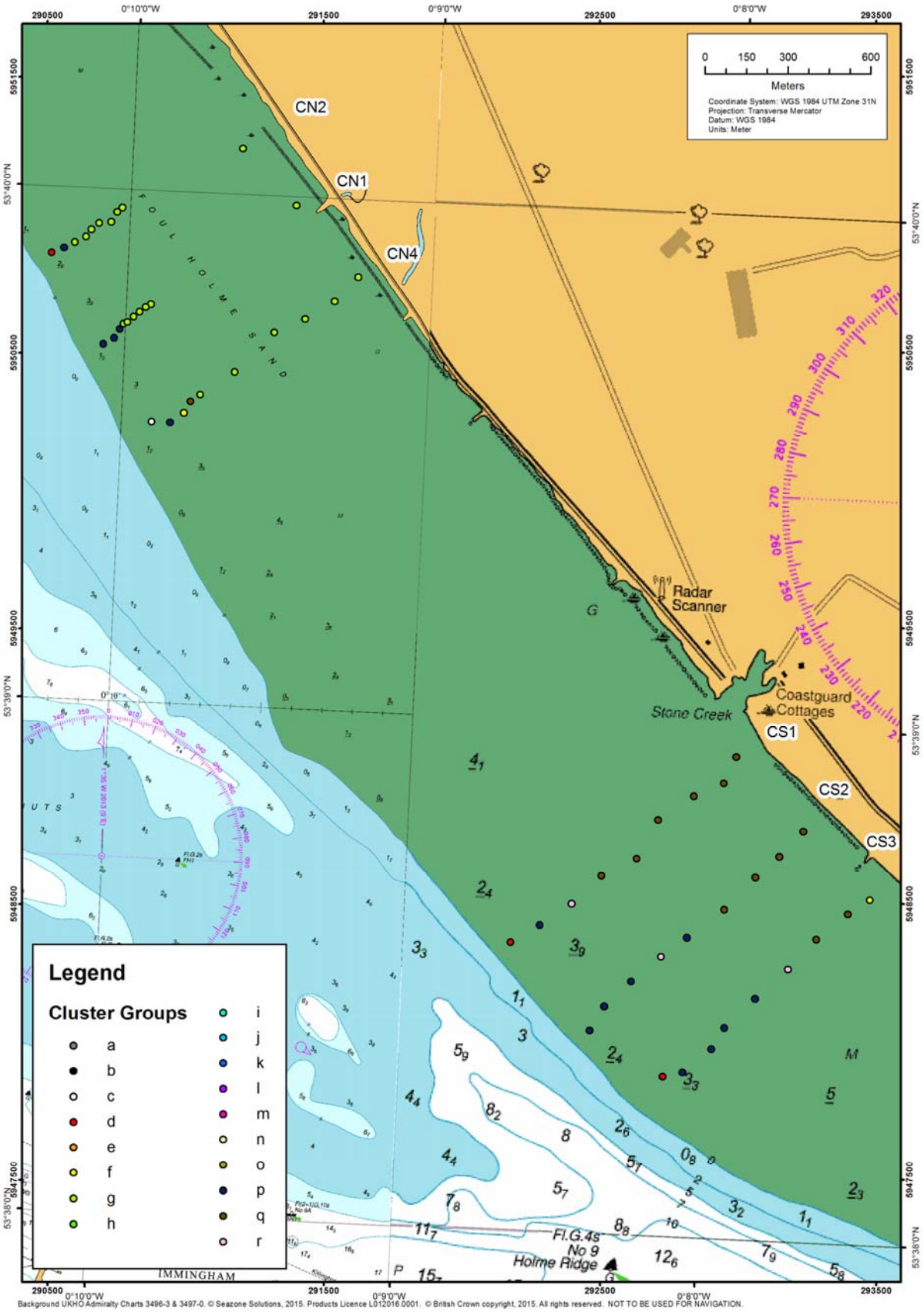

Figure 46. Spatial distribution of site groups from cluster analysis (Cherry Cobb Sands).

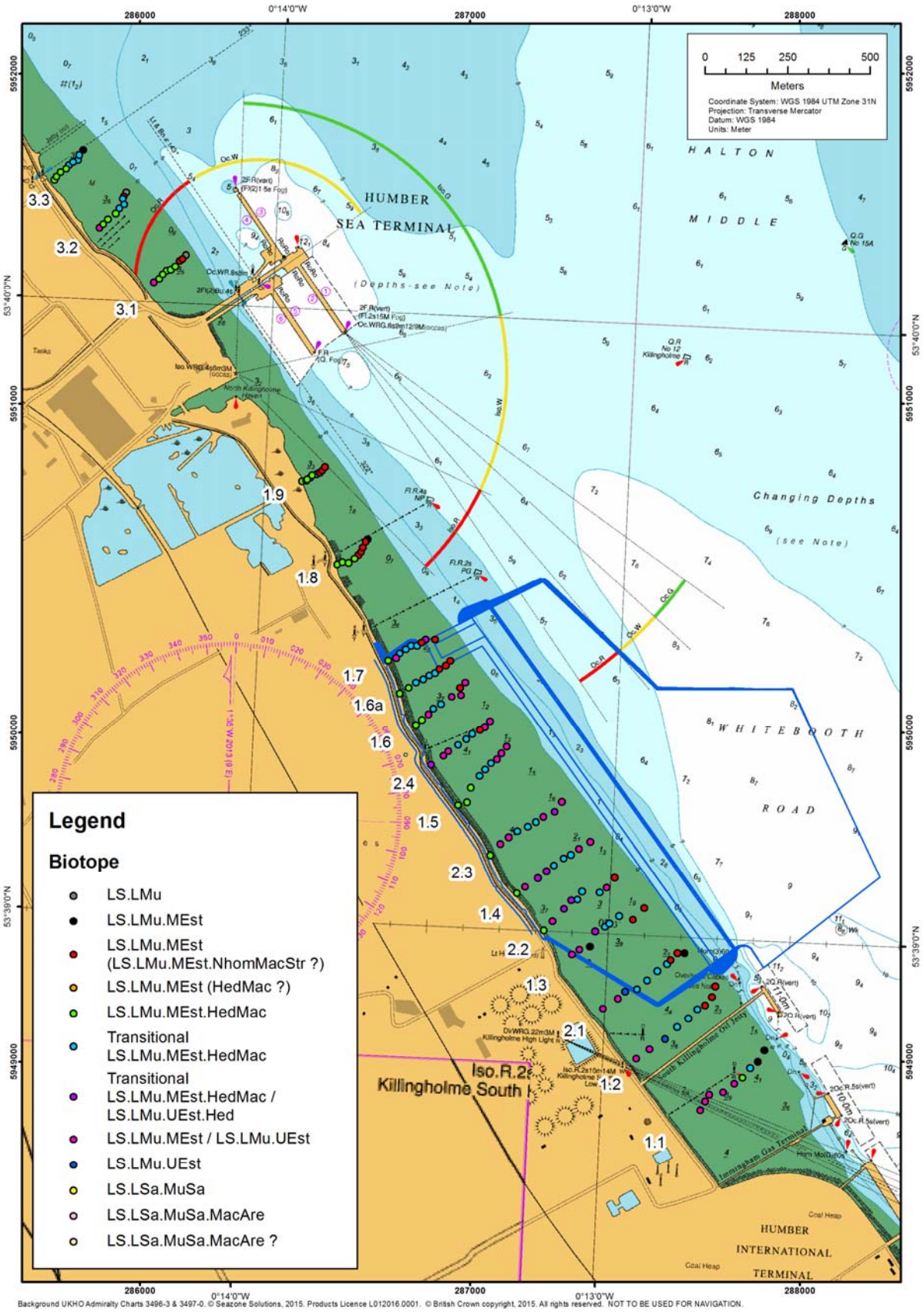

Figure 47. Distribution of biotopes at North Killingholme.

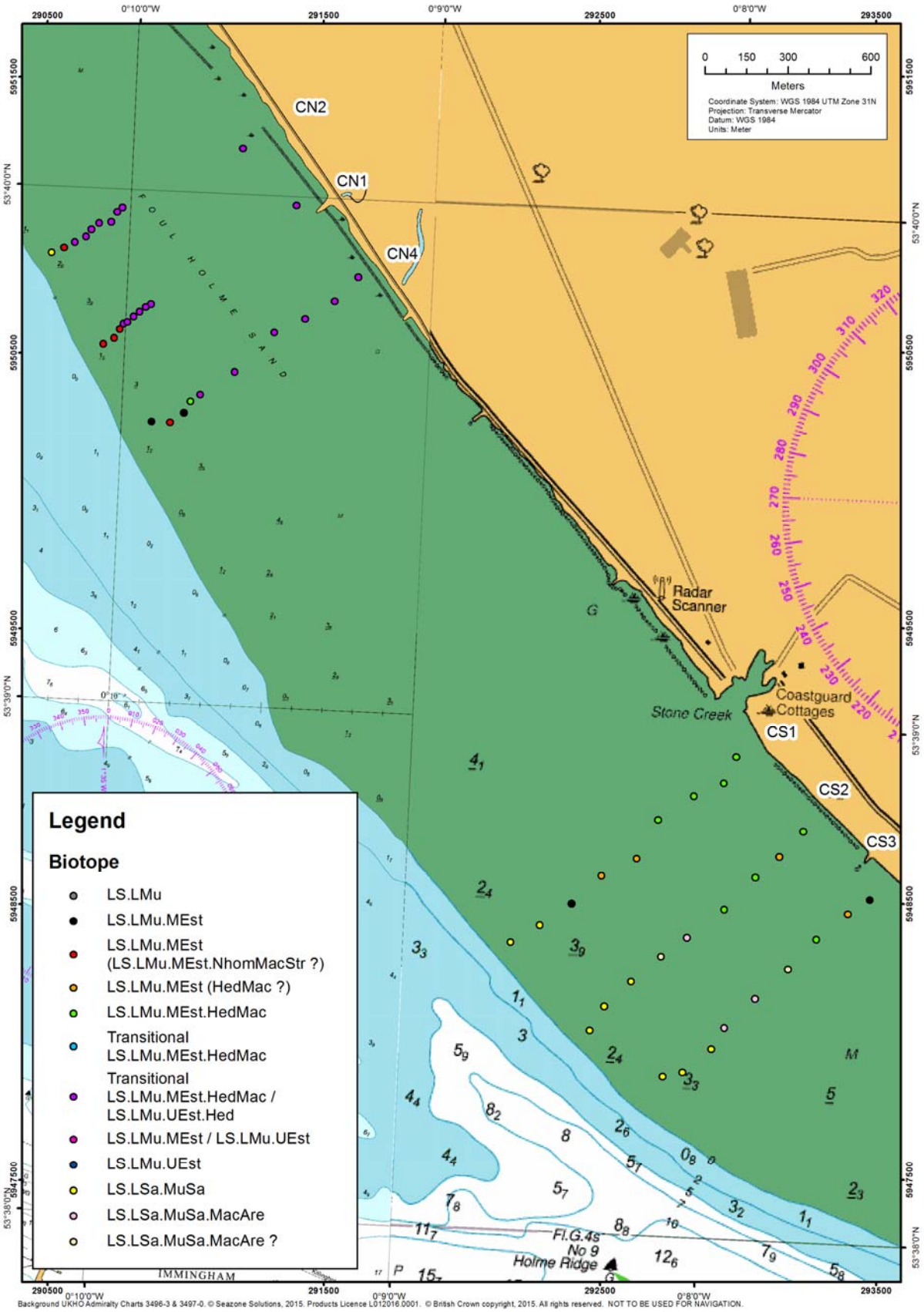

Figure 48. Distribution of biotopes at Cherry Cobb Sands.

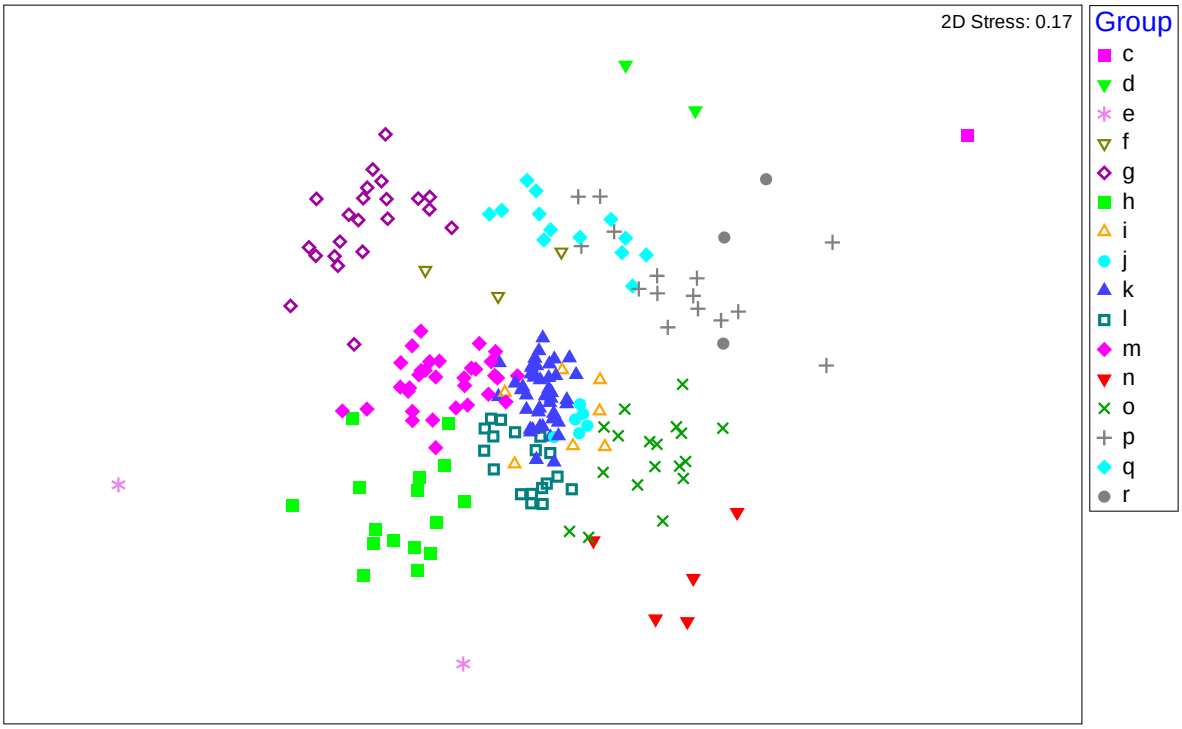

Figure 49. Results of nMDS on site data (North Killingholme & Cherry Cobb Sands) with samples highlighted by group. Samples with no taxa (groups a and b) excluded.

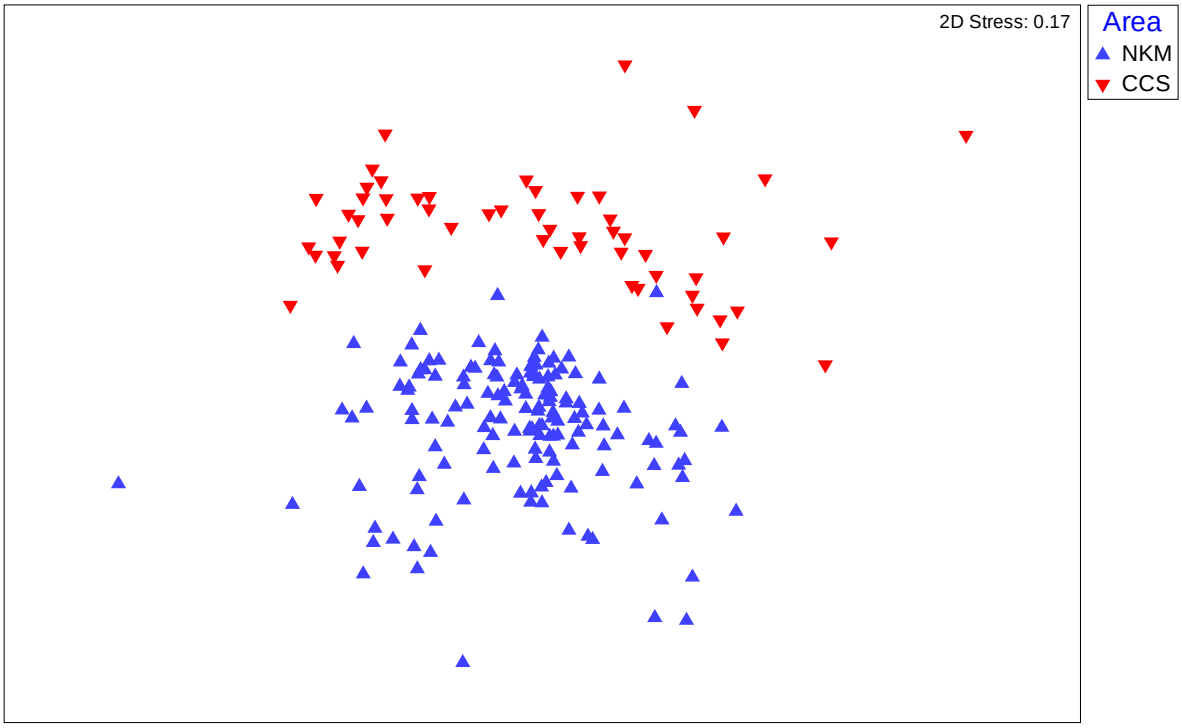

Figure 50. Results of nMDS on site data (North Killingholme & Cherry Cobb Sands) with samples highlighted by area. Samples with no taxa (groups a and b) excluded.

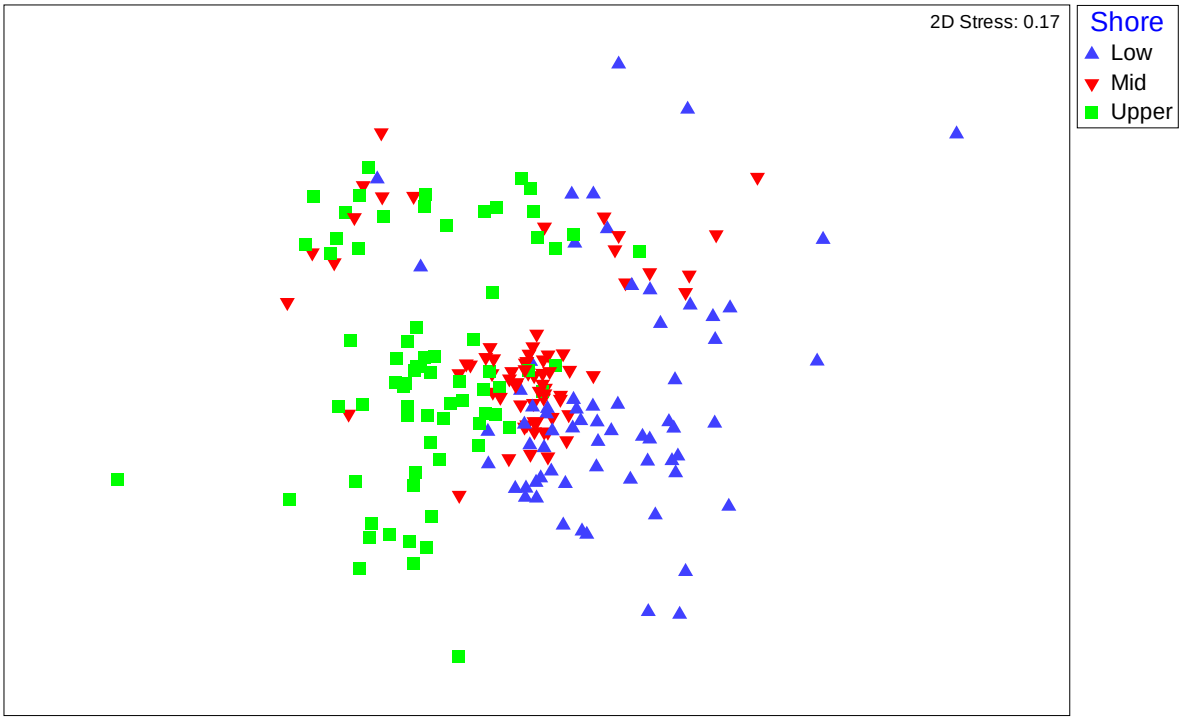

Figure 51. Results of nMDS on site data (North Killingholme & Cherry Cobb Sands) with samples highlighted by shore level. Samples with no taxa (groups a and b) excluded.

Table 13. Characteristic taxa from SIMPER analysis of groups derived from cluster analysis for North Killingholme & Cherry Cobb Sands.

Group a						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 3.2 LC	Sandy Mud	5.118	0.00	26.95	73.05	5.98
	Species	**Abundance (per 0.01m²)**	**Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	No Taxa	-	-	-	-	-

Group b						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 3.1 LC	Sandy Mud	4.487	0.00	40.17	59.83	6.61
	Species	**Abundance (per 0.01m²)**	**Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	No Taxa	-	-	-	-	-

Group c						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
CN4LC	Sandy Mud	4.485	0.00	41.66	58.34	5.21
	Species	**Abundance (per 0.01m²)**	**Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Nephtys hombergii	2	200	-	-	-
	Abra tenuis	1	100	-	-	-

Group d (Average similarity: 24.56%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
CN2LC	Muddy Sand	3.413	0	70.39	29.61	4.07
CS1LC	Muddy Sand	2.902	0	87.37	12.63	1.54
CS3LC	Muddy Sand	2.922	0	77.88	22.12	4.27
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Nephtyidae spp.	0.67	67	67	42.33	42.33
	Enchytraeidae spp.	1.00	100	67	28.84	71.16
	Limecola balthica	0.67	67	67	28.84	100

Group e (Average similarity: 45.88%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.2 UC	Sandy Mud	5.621	0	25.55	74.45	9.29
NKM 2.1 UC	Sandy Mud	5.477	0	26.15	73.85	9.59
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Collembola	24.50	2450	100	69.1	69.1
	Diptera larvae	3.00	300	100	30.9	100
	Corophium volutator	0.5	50	50	0	100
	Tubificoides benedii	0.5	50	50	0	100

Group f (Average similarity: 49.49%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.3 UC	Sandy Mud	5.09	0.00	32.64	67.36	9.63
CN4LA	Sandy Mud	4.74	0.00	28.57	71.43	4.18
CS3UA	Sandy Mud	5.09	0.00	26.13	73.87	6.52
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Tubificoides benedii	32.67	3267	100	35.27	35.27
	Nematoda	14.33	1433	100	32.31	67.59
	Hediste diversicolor	3.00	300	100	15.94	83.53
	Collembola	10.67	1067	67	10.62	94.15
	Abra alba	0.67	67	67	3.02	97.16
	Diptera larvae	1.00	100	67	2.84	100
	Enchytraeidae spp.	35.33	3533	33	0	100
	Eteone longa/flava agg.	1.00	100	33	0	100
	Pygospio elegans	1.00	100	33	0	100
	Corophium volutator	0.33	33	33	0	100
	Retusa spp.	0.33	33	33	0	100

Group g (Average similarity: 57.01%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 2.4 UA	Sandy Mud	5.93	0.00	17.32	82.68	9.16
CN1MA	Sandy Mud	4.89	0.00	26.54	73.46	4.66
CN1MB	Sandy Mud	4.39	0.00	40.25	59.75	5.78
CN1MC	Sandy Mud	4.73	0.00	31.85	68.15	5.15
CN1U2	Sandy Mud	5.36	0.00	26.08	73.92	7.76
CN1UA	Sandy Mud	4.85	0.00	31.89	68.11	7.31
CN1UB	Sandy Mud	4.71	0.00	33.70	66.30	6.62
CN1UC	Sandy Mud	4.58	0.00	33.53	66.47	4.78
CN2LA	Sandy Mud	4.83	0.00	29.67	70.33	5.86
CN2MA	Sandy Mud	4.55	0.00	34.03	65.97	4.59
CN2MB	Sandy Mud	4.51	0.00	36.63	63.37	5.89
CN2MC	Sandy Mud	4.76	0.00	33.50	66.50	6.95
CN2U2	Sandy Mud	5.96	0.00	16.90	83.10	7.90
CN2UA	Sandy Mud	4.73	0.00	34.62	65.38	7.33
CN2UB	Sandy Mud	4.73	0.00	32.12	67.88	4.79
CN2UC	Sandy Mud	4.57	0.00	34.42	65.58	4.63
CN4MA	Sandy Mud	4.94	0.00	30.01	69.99	6.37
CN4MB	Sandy Mud	4.69	0.00	31.69	68.31	4.66
CN4U2	Sandy Mud	5.49	0.00	23.25	76.75	8.80
CN4UA	Sandy Mud	5.24	0.00	22.19	77.81	7.14
CN4UB	Sandy Mud	4.89	0.00	31.27	68.73	7.92
CN4UC	Sandy Mud	4.93	0.00	27.55	72.45	6.48

	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Enchytraeidae spp.	316.64	31664	100	49.74	49.74
	Nematoda	143.86	14386	100	30.66	80.4
	Hediste diversicolor	5.86	586	95	7.99	88.39
	Manayunkia aestuarina	17.82	1782	68	3.55	91.94
	Diptera larvae	2.09	209	59	2.49	94.43
	Collembola	16.23	1623	50	1.58	96.01
	Pygospio elegans	1.64	164	50	1.42	97.43
	Bivalvia sp.	2.64	264	45	1.25	98.68
	Limecola balthica	1.09	109	32	0.46	99.14
	Peringia ulvae	1.45	145	27	0.33	99.47
	Eteone longa/flava agg.	0.86	86	27	0.29	99.76
	Acari spp.	0.55	55	18	0.14	99.9
	Tubificoides benedii	1.14	114	14	0.07	99.98
	Nephtyidae spp.	0.09	9	9	0.02	100

Group h (Average similarity: 50.26%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.1 MA	Sandy Mud	5.12	0.00	35.08	64.92	9.41
NKM 1.1 MB	Sandy Mud	4.67	0.00	35.49	64.51	6.41
NKM 1.1 UA	Sandy Mud	4.94	0.00	36.95	63.05	9.36
NKM 1.1 UB	Sandy Mud	5.32	0.00	32.19	67.81	9.79
NKM 1.1 UC	Sandy Mud	5.25	0.00	33.38	66.62	8.45
NKM 1.2 UA	Sandy Mud	4.64	0.00	42.87	57.13	9.39
NKM 1.2 UB	Sandy Mud	5.51	0.00	26.81	73.19	9.47
NKM 1.3 UA	Sandy Mud	5.42	0.00	31.63	68.37	9.07
NKM 1.3 UB	Sandy Mud	5.67	0.00	26.20	73.80	9.90
NKM 1.4 UB	Sandy Mud	6.05	0.00	12.86	87.14	7.86
NKM 2.1 UA	Sandy Mud	5.63	0.00	28.11	71.89	9.72
NKM 2.1 UB	Sandy Mud	5.58	0.00	22.20	77.80	8.05
NKM 2.2 UB	Sandy Mud	5.09	0.00	33.81	66.19	8.80
NKM 2.4 UB	Sandy Mud	5.45	0.00	19.35	80.65	7.12
NKM 3.1 UA	Sandy Mud	5.16	0.00	32.94	67.06	9.07
NKM 3.2 UA	Sandy Mud	5.17	0.00	35.97	64.03	8.88

	Species	**Mean Abundance (per 0.01m^2)**	**Mean Abundance (per 1m^2)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Corophium volutator	19.25	1925	100	46.94	46.94
	Diptera larvae	4.56	456	88	17.91	64.85
	Tubificoides pseudogaster agg.	17.44	1744	50	12.01	76.86
	Nematoda	2.50	250	75	8.57	85.43
	Hediste diversicolor	4.13	413	50	5.91	91.34
	Collembola	3.38	338	44	3.46	94.79
	Acari spp.	1.00	100	38	2.22	97.02
	Tubificoides benedii	1.00	100	31	1.64	98.66
	Enchytraeidae spp.	0.50	50	25	0.62	99.27
	Manayunkia aestuarina	0.94	94	19	0.36	99.63
	Baltidrilus costatus	0.69	69	13	0.28	99.91
	Limecola balthica	0.13	13	13	0.09	100
	Gastropoda spp.	0.06	6	6	0	100

Group i (Average similarity: 70.98%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.3 MA	Sandy Mud	4.91	0.00	31.00	69.00	7.29
NKM 1.4 MA	Sandy Mud	5.28	0.00	23.60	76.40	7.56
NKM 1.4 UC	Sandy Mud	5.08	0.00	29.72	70.28	8.73
NKM 1.7 LB	Sandy Mud	4.83	0.00	31.66	68.34	4.95
NKM 2.2 MA	Sandy Mud	4.90	0.00	33.66	66.34	8.08
NKM 2.2 UC	Sandy Mud	4.69	0.00	36.88	63.12	8.10
NKM 2.3 LB	Sandy Mud	5.11	0.00	22.94	77.06	4.67
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Tubificoides benedii	67.86	6786	100	40.76	40.76
	Corophium volutator	29.71	2971	100	25.03	65.79
	Streblospio shrubsolii	16.43	1643	86	15.59	81.38
	Nematoda	11.14	1114	100	13.39	94.77
	Limecola balthica	1.29	129	71	3.51	98.28
	Hediste diversicolor	3.86	386	43	0.79	99.07
	Tharyx killariensis	0.29	29	29	0.34	99.41
	Tubificoides pseudogaster agg.	0.71	71	29	0.33	99.73
	Pygospio elegans	0.29	29	29	0.27	100
	Peringia ulvae	0.14	14	14	0	100

Group j (Average similarity: 79.79%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.2 LA	Sandy Mud	4.33	0.00	40.81	59.19	3.86
NKM 1.3 LB	Sandy Mud	4.67	0.00	34.19	65.81	5.37
NKM 1.8 MB	Slightly Gravelly Sandy Mud	4.61	0.09	33.99	65.92	5.79
NKM 1.8 MC	Sandy Mud	4.36	0.00	40.80	59.20	5.20
NKM 3.1 LB	Sandy Mud	4.73	0.00	30.79	69.21	4.50
NKM 3.2 LB	Sandy Mud	4.64	0.00	36.29	63.71	6.64
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Corophium volutator	33.67	3367	100	46.91	46.91
	Tubificoides benedii	6.17	617	100	17.62	64.53
	Nematoda	5.33	533	100	16.24	80.78
	Limecola balthica	3.83	383	100	12.55	93.32
	Eteone longa/flava agg.	1.67	167	67	3.75	97.07
	Nephtys hombergii	0.83	83	50	1.88	98.94
	Pygospio elegans	0.33	33	33	0.53	99.48
	Streblospio shrubsolii	0.67	67	33	0.52	100
	Enchytraeidae spp.	0.33	33	17	0	100

Group k (Average similarity: 72.28%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.1 LA	Sandy Mud	4.67	0.00	31.73	68.27	4.46
NKM 1.2 MA	Sandy Mud	4.97	0.00	28.41	71.59	6.87
NKM 1.2 MB	Sandy Mud	4.66	0.00	32.54	67.46	4.83
NKM 1.2 MC	Sandy Mud	4.51	0.00	34.57	65.43	4.13
NKM 1.3 LA	Sandy Mud	4.31	0.00	42.39	57.61	5.84
NKM 1.3 MB	Sandy Mud	4.61	0.00	36.98	63.02	6.82
NKM 1.3 MC	Sandy Mud	4.50	0.00	35.79	64.21	4.86
NKM 1.4 LA	Sandy Mud	5.54	0.00	19.25	80.75	4.83
NKM 1.4 MB	Sandy Mud	5.02	0.00	26.03	73.97	6.53
NKM 1.4 MC	Sandy Mud	5.03	0.00	26.26	73.74	5.99
NKM 1.5 MA	Sandy Mud	4.55	0.00	36.95	63.05	6.93
NKM 1.5 MB	Sandy Mud	4.82	0.00	30.25	69.75	5.68
NKM 1.5 MC	Sandy Mud	5.50	0.00	19.33	80.67	5.92
NKM 1.6 MA	Sandy Mud	4.81	0.00	32.21	67.79	7.32
NKM 1.6 MB	Sandy Mud	4.91	0.00	26.65	73.35	5.42
NKM 1.6A MA	Sandy Mud	4.71	0.00	31.19	68.81	5.15
NKM 1.6A MB	Sandy Mud	4.70	0.00	32.91	67.09	4.95
NKM 1.6A MC	Sandy Mud	5.04	0.00	24.28	75.72	4.84
NKM 1.6A UC	Sandy Mud	5.04	0.00	27.86	72.14	8.12
NKM 1.7 MA	Sandy Mud	4.89	0.00	24.68	75.32	5.32
NKM 1.7 MB	Sandy Mud	4.66	0.00	30.19	69.81	4.95
NKM 1.7 MC	Slightly Gravelly Sandy Mud	4.61	0.02	33.95	66.03	4.85
NKM 1.7 UC	Sandy Mud	4.87	0.00	34.26	65.74	8.82
NKM 1.9 MA	Sandy Mud	4.61	0.00	34.40	65.60	6.34
NKM 1.9 MC	Sandy Mud	4.66	0.00	34.58	65.42	5.92
NKM 2.1 MA	Sandy Mud	4.80	0.00	32.12	67.88	6.66
NKM 2.1 MA2	Sandy Mud	5.04	0.00	29.81	70.19	8.47
NKM 2.1 MB	Sandy Mud	4.76	0.00	29.14	70.86	4.20
NKM 2.1 MC	Sandy Mud	4.74	0.00	30.31	69.69	4.10
NKM 2.2 LA	Sandy Mud	4.75	0.00	31.36	68.64	5.96
NKM 2.2 MB	Sandy Mud	5.00	0.00	29.47	70.53	7.06
NKM 2.2 MC	Slightly Gravelly Sandy Mud	4.61	0.01	33.46	66.53	6.02
NKM 2.3 MA	Sandy Mud	4.83	0.00	36.85	63.15	8.49
NKM 2.3 MB	Sandy Mud	4.71	0.00	30.79	69.21	4.89
NKM 2.3 MC	Sandy Mud	4.96	0.00	26.86	73.14	5.53
NKM 2.4 MA	Sandy Mud	4.81	0.00	31.06	68.94	6.81
NKM 2.4 MB	Sandy Mud	5.09	0.00	23.07	76.93	5.32
NKM 2.4 MC	Sandy Mud	5.24	0.00	23.52	76.48	5.51
NKM 3.2 LA	Sandy Mud	4.76	0.00	31.66	68.34	5.85
NKM 3.2 MB	Sandy Mud	4.68	0.00	31.88	68.12	4.72
NKM 3.2 MC	Sandy Mud	4.77	0.00	30.77	69.23	4.60
NKM 3.3 LA	Sandy Mud	5.03	0.00	22.76	77.24	5.59
NKM 3.3 LB	Sandy Mud	5.03	0.00	24.09	75.91	6.02
NKM 3.3 MB	Sandy Mud	4.77	0.00	31.05	68.95	7.35
NKM 3.3 MC	Sandy Mud	4.65	0.00	32.59	67.41	4.80

Group k (Average similarity: 72.28%)					
Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
Corophium volutator	135.53	13553	100	48.95	48.95
Tubificoides benedii	46.53	4653	100	21.49	70.44
Nematoda	18.31	1831	100	13.54	83.98
Limecola balthica	7.76	776	93	8.45	92.43
Eteone longa/flava agg.	1.58	158	76	3.41	95.84
Streblospio shrubsolii	4.93	493	60	2.66	98.5
Pygospio elegans	0.80	80	38	0.72	99.22
Hediste diversicolor	0.89	89	38	0.7	99.92
Tharyx killariensis	0.09	9	9	0.03	99.95
Nephtys hombergii	0.07	7	7	0.02	99.97
Diptera larvae	0.16	16	7	0.01	99.98
Enchytraeidae spp.	0.31	31	4	0.01	99.99
Nemertea	0.04	4	4	0.01	100

Group l (Average similarity: 69.78%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.4 LB	Sandy Mud	5.41	0.00	22.28	77.72	5.34
NKM 1.4 LC	Sandy Mud	4.51	0.00	36.43	63.57	5.01
NKM 1.5 LA	Sandy Mud	4.70	0.00	37.21	62.79	5.68
NKM 1.5 LB	Sandy Mud	4.70	0.00	31.96	68.04	5.71
NKM 1.5 LC	Sandy Mud	4.26	0.00	44.69	55.31	6.24
NKM 1.6 LA	Sandy Mud	4.34	0.00	41.61	58.39	5.42
NKM 1.6 LC	Sandy Mud	4.41	0.00	41.24	58.76	6.09
NKM 1.6 MC	Sandy Mud	5.01	0.00	28.57	71.43	5.59
NKM 1.6 UC	Sandy Mud	5.41	0.00	21.86	78.14	7.02
NKM 1.7 UB	Sandy Mud	4.85	0.00	35.30	64.70	8.56
NKM 2.2 LB	Sandy Mud	4.70	0.00	32.68	67.32	5.44
NKM 2.3 LA	Sandy Mud	5.04	0.00	28.10	71.90	5.88
NKM 2.3 LC	Sandy Mud	4.65	0.00	37.07	62.93	6.17
NKM 2.3 UB	Sandy Mud	5.15	0.00	30.84	69.16	7.57
NKM 2.3 UC	Sandy Mud	5.04	0.00	30.99	69.01	8.09
NKM 2.4 LB	Slightly Gravelly Sandy Mud	4.50	0.18	38.03	61.79	5.15
NKM 2.4 LC	Sandy Mud	4.30	0.00	44.97	55.03	6.33
NKM 2.4 UC	Sandy Mud	5.31	0.00	22.31	77.69	6.85

Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
Corophium volutator	116.44	11644	100	66.02	66.02
Tubificoides benedii	17.00	1700	100	18.35	84.37
Streblospio shrubsolii	4.44	444	83	7.95	92.32
Nematoda	1.61	161	67	3.22	95.54
Hediste diversicolor	6.06	606	39	2.02	97.56
Enchytraeidae spp.	1.11	111	39	1.06	98.63
Pygospio elegans	0.50	50	33	0.86	99.49
Eteone longa/flava agg.	0.28	28	28	0.38	99.87
Tubificoides pseudogaster agg.	0.39	39	11	0.04	99.91
Limecola balthica	0.11	11	11	0.04	99.96
Tharyx killariensis	0.11	11	11	0.04	100

Group m (Average similarity: 65.64%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.1 MC	Sandy Mud	4.99	0.00	26.03	73.97	5.74
NKM 1.4 UA	Sandy Mud	5.38	0.00	27.04	72.96	9.35
NKM 1.5 UA	Sandy Mud	6.02	0.00	15.59	84.41	9.87
NKM 1.5 UB	Sandy Mud	5.74	0.00	19.10	80.90	9.35
NKM 1.5 UC	Sandy Mud	5.28	0.00	23.90	76.10	7.74
NKM 1.6 UA	Sandy Mud	5.68	0.00	25.14	74.86	9.92
NKM 1.6 UB	Sandy Mud	5.57	0.00	17.28	82.72	6.89
NKM 1.6A UA	Sandy Mud	5.57	0.00	20.86	79.14	8.44
NKM 1.6A UB	Sandy Mud	5.03	0.00	28.09	71.91	7.53
NKM 1.7 UA	Sandy Mud	5.05	0.00	28.94	71.06	7.53
NKM 1.8 MA	Sandy Mud	4.54	0.00	34.87	65.13	4.91
NKM 1.8 UA	Sandy Mud	5.32	0.00	29.83	70.17	7.25
NKM 1.8 UB	Sandy Mud	4.86	0.00	35.69	64.31	8.91
NKM 1.8 UC	Sandy Mud	4.32	0.00	42.24	57.76	5.99
NKM 1.9 MB	Sandy Mud	4.63	0.00	35.85	64.15	6.26
NKM 1.9 UA	Sandy Mud	4.40	0.00	45.07	54.93	9.28
NKM 1.9 UB	Sandy Mud	4.60	0.00	36.87	63.13	7.02
NKM 1.9 UC	Sandy Mud	4.78	0.00	32.94	67.06	6.88
NKM 2.2 UA	Sandy Mud	5.45	0.00	28.85	71.15	9.22
NKM 2.3 UA	Sandy Mud	5.63	0.00	19.31	80.69	9.01
NKM 3.1 MA	Sandy Mud	4.79	0.00	27.38	72.62	4.82
NKM 3.1 MB	Sandy Mud	4.47	0.00	34.85	65.15	4.21
NKM 3.1 MC	Sandy Mud	4.60	0.00	32.75	67.25	4.20
NKM 3.1 UB	Sandy Mud	4.81	0.00	30.24	69.76	7.07
NKM 3.1 UC	Sandy Mud	4.62	0.00	32.58	67.42	5.02
NKM 3.2 MA	Sandy Mud	4.60	0.00	33.39	66.61	5.65
NKM 3.2 UB	Sandy Mud	5.48	0.00	27.97	72.03	8.72
NKM 3.2 UC	Sandy Mud	4.90	0.00	28.24	71.76	6.73
NKM 3.3 MA	Sandy Mud	4.86	0.00	30.32	69.68	7.22
NKM 3.3 UA	Sandy Mud	5.37	0.00	26.68	73.32	7.64
NKM 3.3 UB	Sandy Mud	5.45	0.00	23.78	76.22	8.07
NKM 3.3 UC	Sandy Mud	5.32	0.00	27.77	72.23	7.61

	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Corophium volutator	98.88	9888	100	42.91	42.91
	Enchytraeidae spp.	51.97	5197	100	24.38	67.29
	Nematoda	11.91	1191	100	13.93	81.23
	Hediste diversicolor	7.00	700	94	9.86	91.08
	Limecola balthica	2.28	228	63	2.7	93.78
	Tubificoides benedii	5.88	588	50	2.01	95.79
	Eteone longa/flava agg.	1.16	116	53	1.58	97.37
	Streblospio shrubsolii	2.31	231	44	1.11	98.48
	Diptera larvae	1.41	141	38	1.1	99.58
	Tubificoides pseudogaster agg.	1.91	191	22	0.36	99.94
	Collembola	0.13	13	9	0.03	99.97
	Baltidrilus costatus	0.66	66	6	0.02	99.99
	Acari spp.	0.06	6	6	0.01	100

Group n (Average similarity: 63.73%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.1 LB	Sandy Mud	4.42	0.00	38.39	61.61	4.04
NKM 1.1 LC	Slightly Gravelly Sandy Mud	4.85	0.28	30.23	69.50	6.64
NKM 1.8 LC	Sandy Mud	4.50	0.00	38.21	61.79	7.09
NKM 2.1 LC	Sandy Mud	4.96	0.00	32.96	67.04	7.24
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Corophium volutator	1.40	140	100	50.83	50.83
	Tubificoides benedii	1.00	100	100	49.17	100
	Nematoda	0.80	80	20	0	100
	Streblospio shrubsolii	0.80	80	20	0	100
	Enchytraeidae spp.	0.20	20	20	0	100
	Limecola balthica	0.20	20	20	0	100

Group o (Average similarity: 56.01%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 3.3 LC	Sandy Mud	4.92	0.00	34.56	65.44	7.81
NKM 1.2 LC	Sandy Mud	4.42	0.00	39.54	60.46	9.52
NKM 1.3 LC	Sandy Mud	4.83	0.00	33.69	66.31	7.83
NKM 1.6 LB	Sandy Mud	5.04	0.00	31.38	68.62	6.06
NKM 1.6A LA	Sandy Mud	4.96	0.00	30.65	69.35	5.80
NKM 1.6A LB	Sandy Mud	4.88	0.00	35.50	64.50	5.88
NKM 1.6A LC	Slightly Gravelly Sandy Mud	4.31	0.02	44.10	55.88	5.96
NKM 1.7 LA	Sandy Mud	5.00	0.00	28.27	71.73	7.10
NKM 1.7 LC	Sandy Mud	4.67	0.00	38.37	61.63	6.33
NKM 1.8 LA	Sandy Mud	4.59	0.00	35.76	64.24	5.47
NKM 1.8 LB	Sandy Mud	4.43	0.00	41.01	58.99	6.90
NKM 1.9 LA	Sandy Mud	4.62	0.00	35.88	64.12	5.26
NKM 1.9 LB	Slightly Gravelly Sandy Mud	4.55	1.03	36.85	62.12	5.93
NKM 1.9 LC	Sandy Mud	4.14	0.00	47.49	52.51	6.26
NKM 2.1 LA	Sandy Mud	4.97	0.00	29.86	70.14	6.53
NKM 2.1 LB	Sandy Mud	4.81	0.00	34.38	65.62	6.12
NKM 2.2 LC	Sandy Mud	5.01	0.00	30.96	69.04	7.13
NKM 2.4 LA	Sandy Mud	5.18	0.00	23.40	76.60	5.30
NKM 3.1 LA	Sandy Mud	4.67	0.00	33.34	66.66	4.39
	Species	**Mean Abundance (per 0.01m²)**	**Mean Abundance (per 1m²)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Tubificoides benedii	8.78	878	100	38.24	38.24
	Corophium volutator	5.56	556	94	24.86	63.1
	Streblospio shrubsolii	4.06	406	89	19	82.1
	Limecola balthica	1.17	117	67	7.86	89.96
	Nematoda	0.83	83	50	3.82	93.78
	Eteone longa/flava agg.	1.00	100	44	3.26	97.04
	Nephtys hombergii	0.50	50	33	1.45	98.49
	Tubificoides swirencoides	0.28	28	17	0.32	98.81
	Tharyx killariensis	0.28	28	17	0.32	99.13
	Hediste diversicolor	0.17	17	17	0.3	99.43
	Pygospio elegans	0.28	28	17	0.27	99.7
	Tubificoides pseudogaster agg.	0.39	39	17	0.21	99.91
	Enchytraeidae spp.	0.28	28	11	0.09	100

Group p (Average similarity: 46.49%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
NKM 1.2 LB	Sandy Mud	4.49	0.00	36.89	63.11	4.90
CN1LA	Sandy Mud	4.83	0.00	29.47	70.53	5.39
CN1LB	Sandy Mud	4.24	0.00	44.08	55.92	4.19
CN1LC	Sandy Mud	4.58	0.00	39.60	60.40	6.98
CN2LB	Slightly Gravelly Sandy Mud	4.10	0.01	47.31	52.68	7.66
CN4LB	Sandy Mud	4.03	0.00	49.22	50.78	5.02
CS1LB	Muddy Sand	3.13	0.00	77.30	22.70	2.63
CS2LA	Slightly Gravelly Muddy Sand	3.46	0.01	69.05	30.94	2.81
CS2LB	Sand	2.84	0.00	95.57	4.43	1.41
CS2LC	Sand	2.63	0.00	96.68	3.32	1.43
CS2MB	Muddy Sand	3.97	0.00	51.21	48.79	2.58
CS3LA	Slightly Gravelly Sandy Mud	4.29	0.02	42.84	57.14	3.67
CS3LB	Muddy Sand	3.53	0.00	60.06	39.94	8.06
CS3MB	Muddy Sand	3.33	0.00	72.78	27.22	2.00
CS3MC	Muddy Sand	3.68	0.00	61.12	38.88	2.96

	Species	**Mean Abundance (per 0.01m^2)**	**Mean Abundance (per 1m^2)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Limecola balthica	4.87	487	100	32.51	32.51
	Nematoda	8.40	840	87	27.83	60.33
	Tubificoides benedii	2.40	240	67	11.65	71.98
	Nephtys hombergii	1.20	120	67	11.2	83.18
	Pygospio elegans	2.40	240	60	8.5	91.68
	Peringia ulvae	0.73	73	40	3.6	95.29
	Eteone longa/flava agg.	0.47	47	33	1.86	97.14
	Enchytraeidae spp.	0.40	40	27	1.26	98.41
	Bodotria arenosa	0.33	33	20	0.66	99.06
	Abra tenuis	0.80	80	20	0.52	99.58
	Streblospio shrubsolii	0.33	33	13	0.27	99.85
	Cyathura carinata	0.13	13	13	0.15	100

Group q (Average similarity: 60.02%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
CN4MC	Sandy Mud	4.12	0.00	46.81	53.19	5.14
CS1MA	Sandy Mud	4.93	0.00	24.51	75.49	5.49
CS1MB	Slightly Gravelly Sandy Mud	4.50	0.32	33.42	66.25	4.00
CS1MC	Slightly Gravelly Sandy Mud	4.76	0.21	32.62	67.17	5.33
CS1UA	Sandy Mud	5.10	0.00	25.54	74.46	6.26
CS1UB	Sandy Mud	4.87	0.00	24.24	75.76	6.10
CS1UC	Sandy Mud	5.00	0.00	24.31	75.69	5.35
CS2MA	Slightly Gravelly Sandy Mud	4.85	0.13	26.29	73.58	4.86
CS2UA	Sandy Mud	5.12	0.00	26.18	73.82	7.16
CS2UB	Slightly Gravelly Sandy Mud	5.09	0.14	22.05	77.81	5.74
CS2UC	Sandy Mud	4.86	0.00	24.82	75.18	4.75
CS3UB	Slightly Gravelly Sandy Mud	4.61	0.24	28.65	71.11	3.66
CS3UC	Slightly Gravelly Sandy Mud	4.71	0.06	28.43	71.51	7.26

	Species	**Mean Abundance (per 0.01m^2)**	**Mean Abundance (per 1m^2)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Tubificoides benedii	57.38	5738	100	23.28	23.28
	Nematoda	67.46	6746	100	21.77	45.05
	Pygospio elegans	36.23	3623	100	15.11	60.16
	Limecola balthica	15.08	1508	92	9.53	69.69
	Peringia ulvae	20.38	2038	92	8.59	78.28
	Abra tenuis	19.31	1931	92	8.52	86.8
	Eteone longa/flava agg.	4.69	469	92	5.34	92.14
	Hediste diversicolor	3.62	362	69	2.79	94.93
	Cyathura carinata	2.08	208	62	2.16	97.09
	Abra alba	0.54	54	38	0.6	97.68
	Manayunkia aestuarina	0.77	77	38	0.54	98.23
	Enchytraeidae spp.	6.77	677	31	0.43	98.66
	Streblospio shrubsolii	0.92	92	31	0.4	99.06
	Diptera larvae	0.54	54	31	0.31	99.37
	Bivalvia sp.	8.00	800	15	0.21	99.57
	Tellinoidea spp. Juv.	3.62	362	15	0.16	99.73
	Nephtys hombergii	0.46	46	15	0.1	99.83
	Dalyelliidae spp.	0.31	31	15	0.07	99.9
	Tubificoides pseudogaster agg.	0.31	31	15	0.05	99.96
	Collembola	0.15	15	15	0.04	100

Group r (Average similarity: 50.93%)						
Sites	**Sediment Type**	**Median Phi**	**% Gravel**	**% Sand**	**% Mud**	**% LOI**
CS1LA	Sandy Mud	4.74	0.00	31.42	68.58	4.44
CS2MC	Muddy Sand	3.34	0.00	78.03	21.97	2.00
CS3MA	Slightly Gravelly Muddy Sand	4.00	0.02	50.07	49.91	3.73

	Species	**Mean Abundance (per 0.01m^2)**	**Mean Abundance (per 1m^2)**	**% of Sites Recorded**	**% Contribution to similarity**	**Cumulative % Contribution**
	Pygospio elegans	25.00	2500	100	51.28	51.28
	Limecola balthica	10.67	1067	100	25.11	76.39
	Tellinoidea spp. Juv.	16.00	1600	67	6.35	82.74
	Tubificoides benedii	3.33	333	67	5.33	88.08
	Nephtys hombergii	1.33	133	67	4.49	92.57
	Eteone longa/flava agg.	1.33	133	67	4.35	96.92
	Peringia ulvae	5.33	533	67	3.08	100
	Abra tenuis	1.67	167	33	0	100
	Tubificoides pseudogaster agg.	0.67	67	33	0	100
	Bathyporeia spp.	0.33	33	33	0	100
	Corophium volutator	0.33	33	33	0	100
	Retusa spp.	0.33	33	33	0	100

4. Conclusions

The results of the autumn intertidal benthic survey indicate that the intertidal habitats at North Killingholme and Cherry Cobb Sands are characterised by a range of sedimentary habitats including sandy muds and muds at North Killingholme and sandy muds and muddy sands or sands at Cherry Cobb Sands. These habitats maintain a variety of infaunal invertebrates including good examples of mid estuary mud assemblages characterised by species such as *Corophium volutator*, a variety of oligochaete taxa (notably *Tubificoides benedii and other Tubificoides spp. and Enchytraeidae)* along with *Hediste diversicolor*, *Macoma balthica, Streblospio shrubsolii*, and *Pygospio elegans* which are typical residents of this section of the Humber.

Numbers of richness and diversity are relatively low as might be expected in a dynamic estuarine environment with typically less than 10 taxa per core sample and impoverished communities were often recorded in more dynamic low shore areas or on the extreme upper shore. Numbers of individuals and biomass were extremely variable with up to 52800 individuals and 11 g AFDW biomass per m^2 at North Killingholme and up to 280500 individuals and 22.74 g AFDW biomass per m^2 at Cherry Cobb Sands. Such values are typical for this area of the Humber and observed densities and biomass were generally comparable to values recorded in other intertidal areas of the mid to outer Humber and correspond to those recorded during the spring and autumn 2013 surveys. The influence of increased corer depth utilised in 2015 was not overly evident although a wider range of taxa was recorded at both Cherry Cobb Sands and North Killingholme and some samples included much higher numbers of animals with increases in numbers of some taxa e.g. Enchytraeidae at Cherry Cobb Sands and *Corophium volutator* at North Killingholme in 2015 compared with 2013. However, total numbers and biomass of *Hediste diversicolor* have reduced somewhat in 2015 whilst numbers of *Limicola (Macoma) balthica* increased slightly at North Killingholme although biomass reduced slightly. For the most part the infaunal densities recorded per sample were highly variable but broadly comparable to those obtained in 2013 and it is difficult to partition any variation due to increases in sample depth from natural variability.

A degree of spatial variation is evident in terms of biological parameters and community structure at North Killingholme and particularly at Cherry Cobb Sands (in relation to variation in sediment type) and this is primarily in relation to shore position and corresponding variability in sediment type/stability. Lower shore communities or those on the upper shore adjacent to saltmarsh (with greater elevation) tend to exhibit more impoverished communities whilst sites on the remaining upper and mid shore or lower mid shore tended to be more diverse/productive. Differences between the observed communities identified from multivariate analysis were often rather subtle and often reflect changes in dominance by a similar group of key taxa as opposed to significant shifts in community structure.

As in 2013 some spatial trends were evident at North Killingholme in terms of observable differences between the mudflats inside and outside the proposed development area although some although these were often relatively small or highlight smaller scale patchiness/heterogeneity in infaunal communities. Whilst sites from the control area to the north were generally similar to those within the development area there was some indication

of somewhat reduced diversity/productivity within the indirect impact areas adjacent to the development area and particularly to the south in areas of increased saltmarsh encroachment. Shore level zonation of key species such as *Hediste diversicolor* and *Limicola (Macoma) balthica* on the upper and mid shore were often more evident within the development area in comparison to transects further north although other taxa such as *Corophium volutator* were widespread and abundant throughout the area.

As in 2013 high densities of *Corophium* volutator were observed in 2015 at North Killingholme with numbers of *Corophium* volutator generally declining further downstream toward the outer Humber and this species was largely absent from Cherry Cobb Sands with the species only recorded in one CCS sample. Densities of *Corophium volutator* have increased somewhat at North Killingholme in 2015 although this species often exhibits high levels of temporal and spatial variability in the Humber and periods of expansion and reduction in numbers having been reported in the middle estuary at various times (Allen, 2009). At Cherry Cobb Sands a similar range of invertebrate species were recorded to those reported for North Killingholme and these were generally similar to those identified during the 2013 surveys. However, densities of Enchytraeidae oligochaetes have increased in 2015 whilst total numbers of *Hediste diversicolor* and *Limicola (Macoma) balthica* have reduced somewhat. As in 2013 a wider range of taxa were recorded at Cherry Cobb Sands in comparison to North Killingholme which in part reflects the greater variation in sediment type at this area. The most obvious difference between the two survey locations in terms of species composition was the much higher densities of *Corophium volutator* and *Streblospio shrubsolii* at North Killingholme and higher numbers of *Pygospio elegans* at Cherry Cobb Sands.

The intertidal habitats at in both areas are generally characterised by typical estuarine mud biotopes although in many cases (and particularly at North Killingholme) these appear to be are somewhat transitional forms and appear to be inherently variable. These include somewhat transitional middle estuary variants of *LS.LMu.MEst.HedMac (Hediste diversicolor and Macoma balthica in littoral sandy mud)* and examples of this biotope at North Killingholme (particularly toward the upper shore) often had elements of upper estuarine biotopes *such as LS.LMu.UEst* or *LS.LMu.UEst.Hed (Hediste diversicolor in littoral mud).* Variants of these biotopes were recorded at North Killingholme which had relatively high abundances of both *Corophium volutator* and *Streblospio shrubsolii* in contrast to mid shore habitats at Cherry Cobb Sands which tended to exhibit a more typical *LS.LMu.MEst.HedMac* community.

A range of other estuarine biotopes are present at North Killingholme and Cherry Cobb Sands including poorly defined or transitional variants of *LS.LMu.MEst (Polychaete/bivalve-dominated mid estuarine mud shores)* on the low shore which could *include LS.LMu.MEst.NhomMacStr (Nephtys hombergii, Macoma balthica and Streblospio shrubsolii in littoral sandy mud)* or low shore variants of *LS.LMu.MEst.HedMac* which are subject to sediment instability. Various forms of more typically upper estuarine biotopes were also recorded on the upper shore and particularly in areas adjacent to saltmarsh which tended to be variants of *LS.LMu.UEst (Polychaete/oligochaete-dominated upper estuarine mud shores)* and included a number of somewhat poorly defined oligochaete or polychaete dominated often with terrestrial (insect) taxa. Cherry Cobb Sands included impoverished and poorly

defined sand or muddy sand biotopes on the lower shore e.g. *LS.LSa.MuSa (Polychaete/bivalve-dominated muddy sand shores)* and described for the 2013 survey mid-shore samples in the southern control area of Cherry Cobb Sands included the biotope *LS.LSa.MuSa.MacAre (Macoma balthica and Arenicola marina in littoral muddy sand)* where areas of *Arenicola* beds were noted during survey.

It is considered that in general terms the intertidal biotopes, and associated infaunal invertebrate communities recorded during the current surveys are typical for muddy or sandy intertidal sediments and adjacent subtidal habitats in the mid to outer Humber and generally correspond to those recorded in previous surveys (Burdon et al., 2011, ABPmer & PMSL, 2010; PMSL, 2010; Allen, 2009; Allen, 2008; Allen, 2007 and Allen et al., 2003). The intertidal surveys in and around the development area at North Killingholme indicate dense populations of infauna this area and whilst they have been broadly consistent from 2013 to 2015 in terms of community type there is also quite a high level of spatial and temporal variability which reflects the dynamic nature of the middle estuary. The current survey also highlighted high densities of certain taxa such as *Macoma balthica* on the mid shore and *Hediste diversicolor* on the upper shore with distinct zonation of these taxa within the development area (but less so elsewhere) and also the continued importance of *Corophium volutator* in this area. Whilst not particularly diverse in terms of the range of species present the intertidal invertebrate communities in particular can support quite high densities of benthic infauna which will form an important food source for avifaunal and fish communities. The information gathered on size class measurements for polychaete, oligochaete and mollusc taxa will provide useful additional information on invertebrate community structure in relation to key avifaunal populations.

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Appendix 1. Summary of Size Class Data

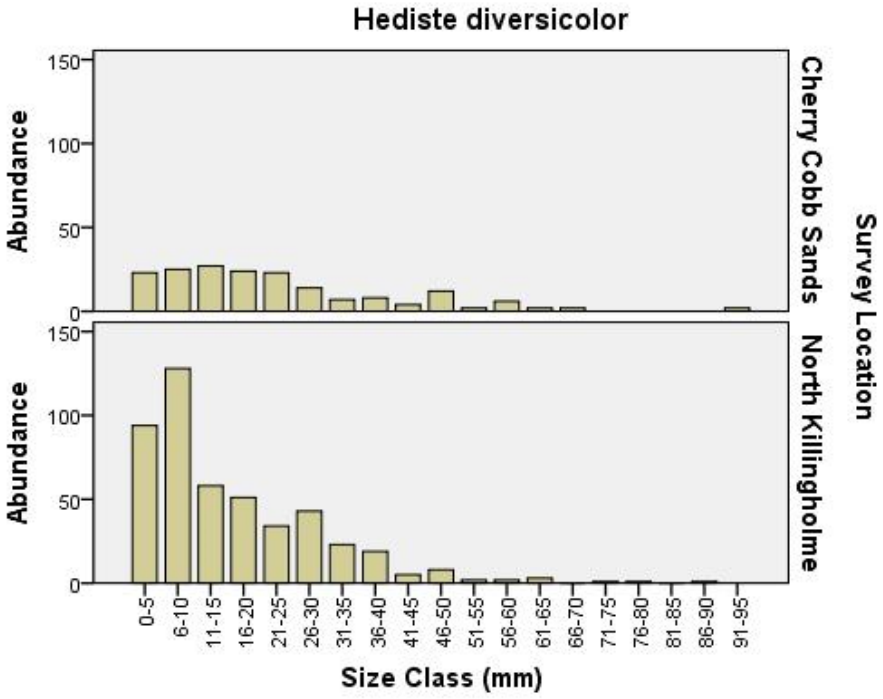

Figure 52. Size class distribution by abundance (per 0.1m^2) for *Hediste diversicolor*.

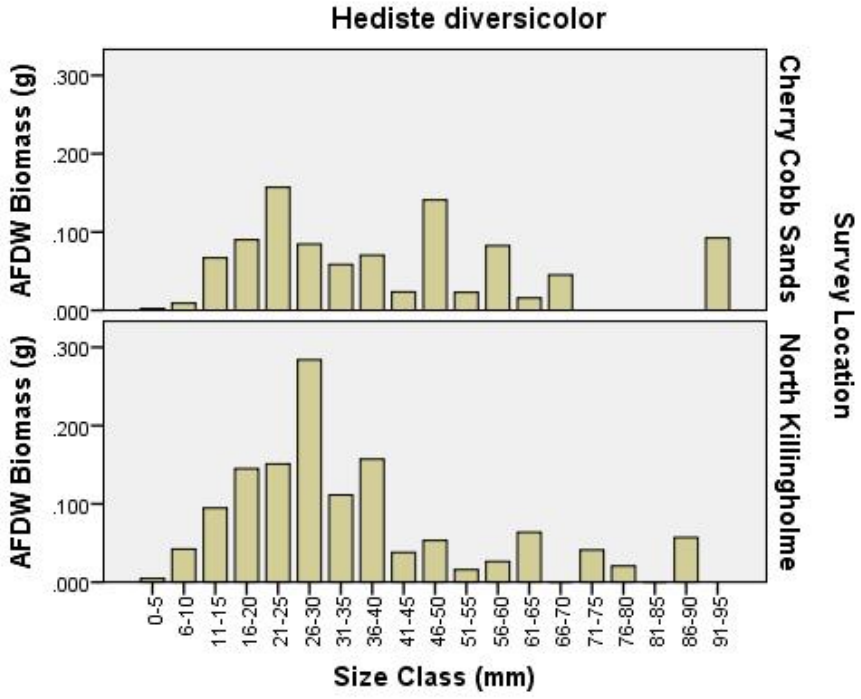

Figure 53. Size class distribution by AFDW biomass (per 0.1m^2) for *Hediste diversicolor*.

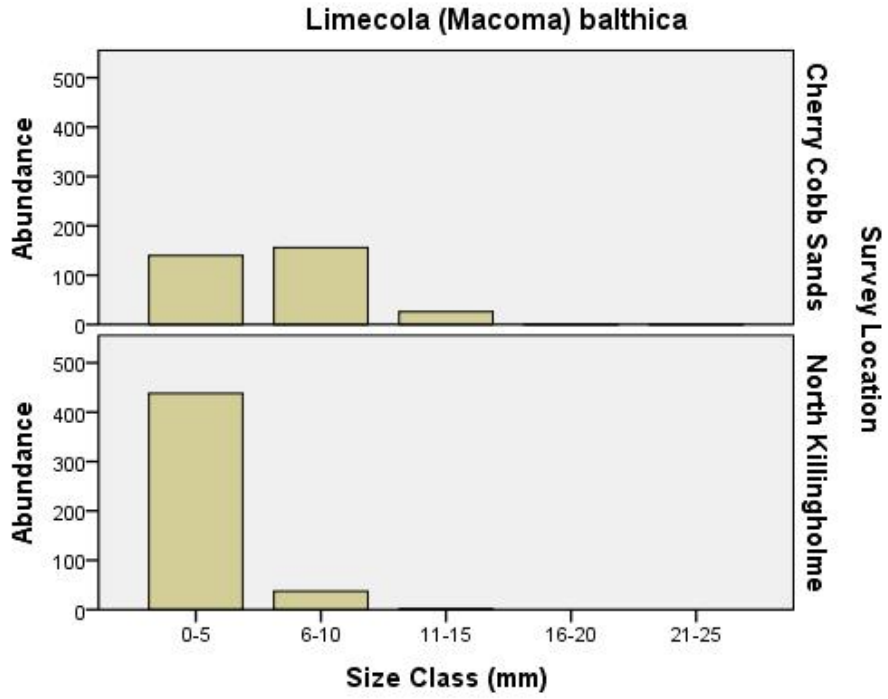

Figure 54. Size class distribution by abundance (per 0.01m^2) for *Limicola (Macoma) balthica*.

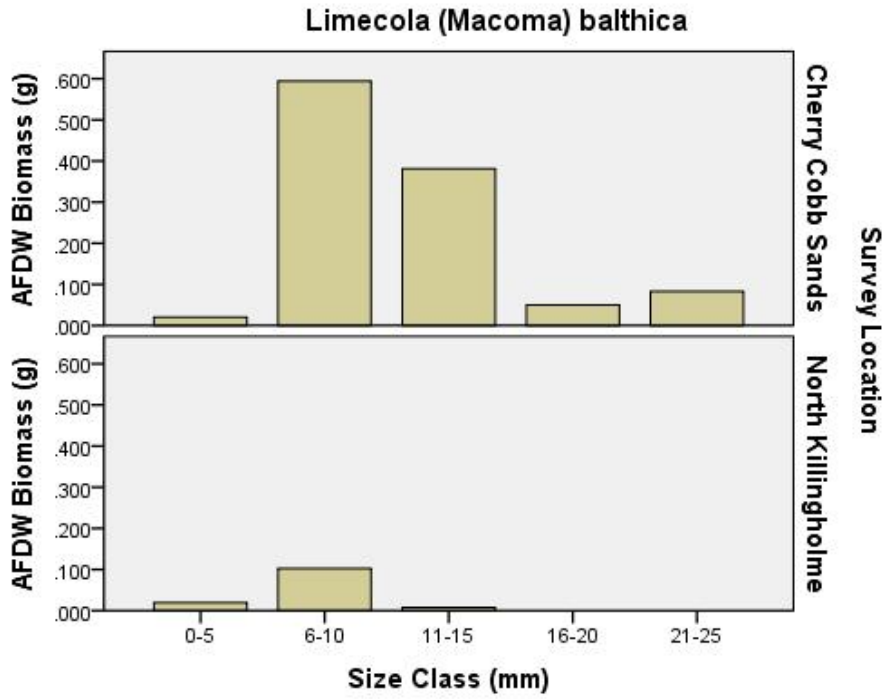

Figure 55. Size class distribution by AFDW biomass (per 0.01m^2) for *Limicola (Macoma) balthica*.

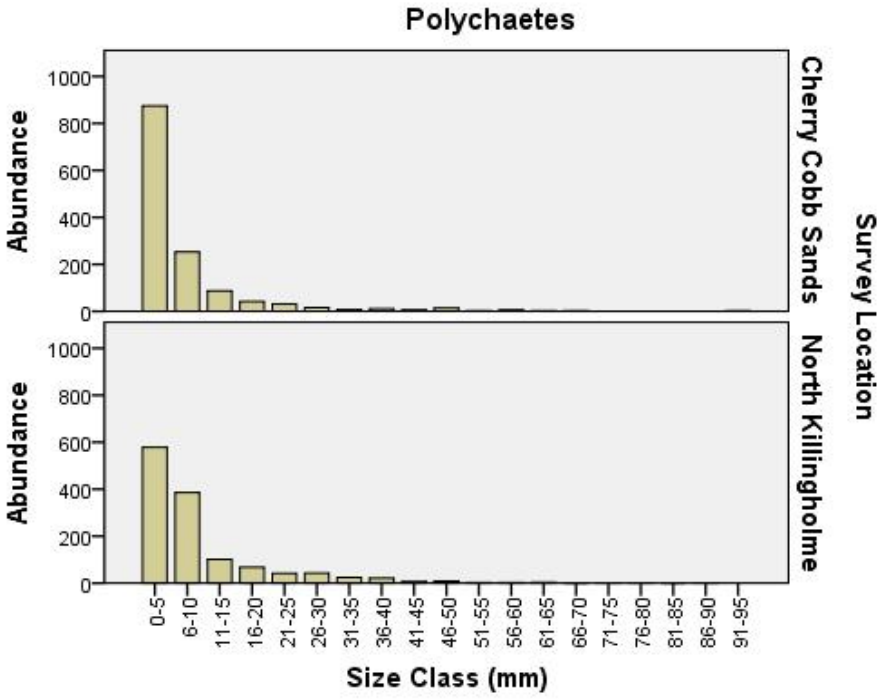

Figure 56. Size class distribution by abundance (per 0.01m^2) for all polychaete taxa.

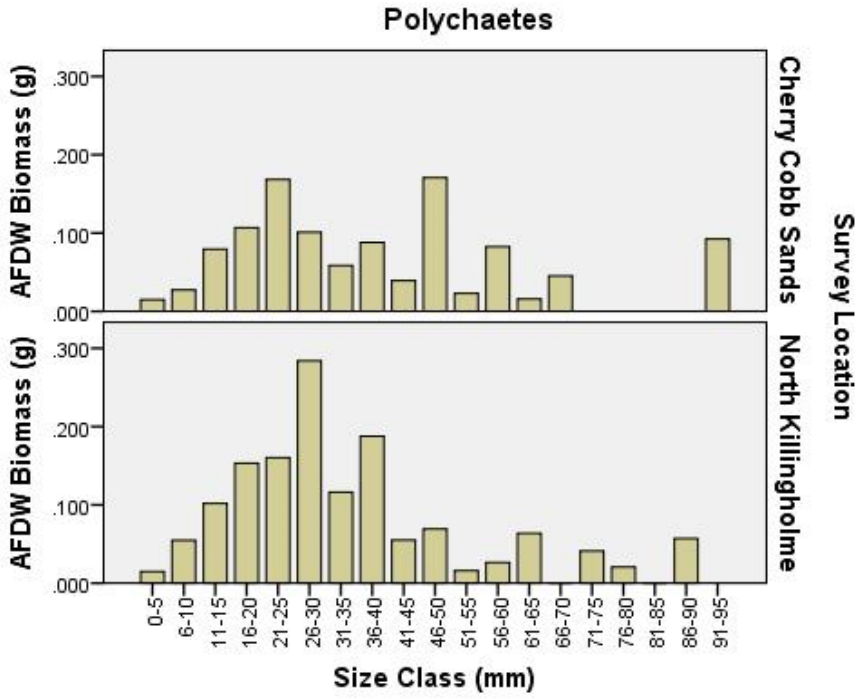

Figure 57. Size class distribution by AFDW biomass (per 0.01m^2) for all polychaete taxa.

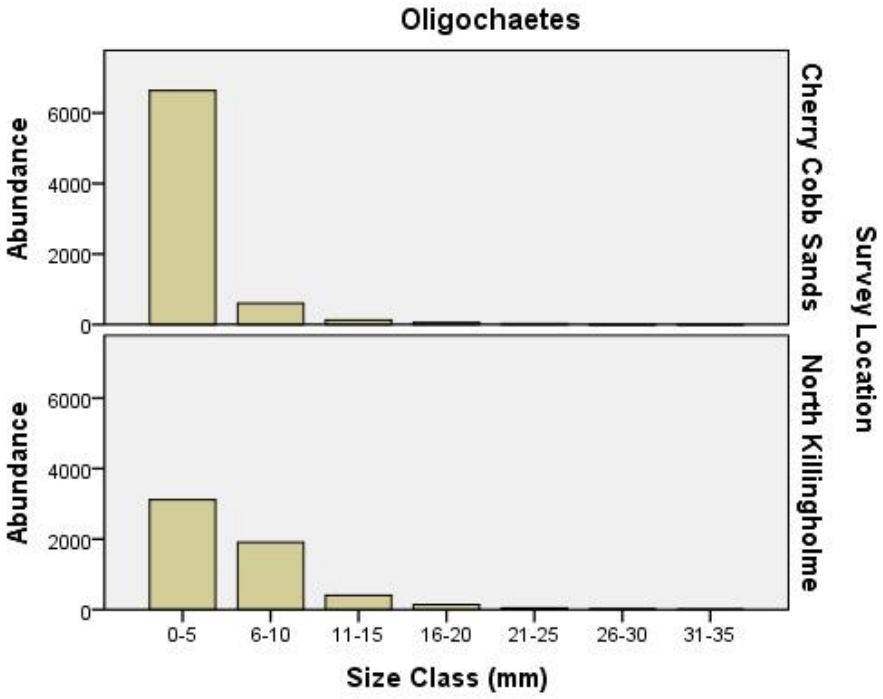

Figure 58. Size class distribution by abundance (per 0.01m^2) for all oligochaete taxa.

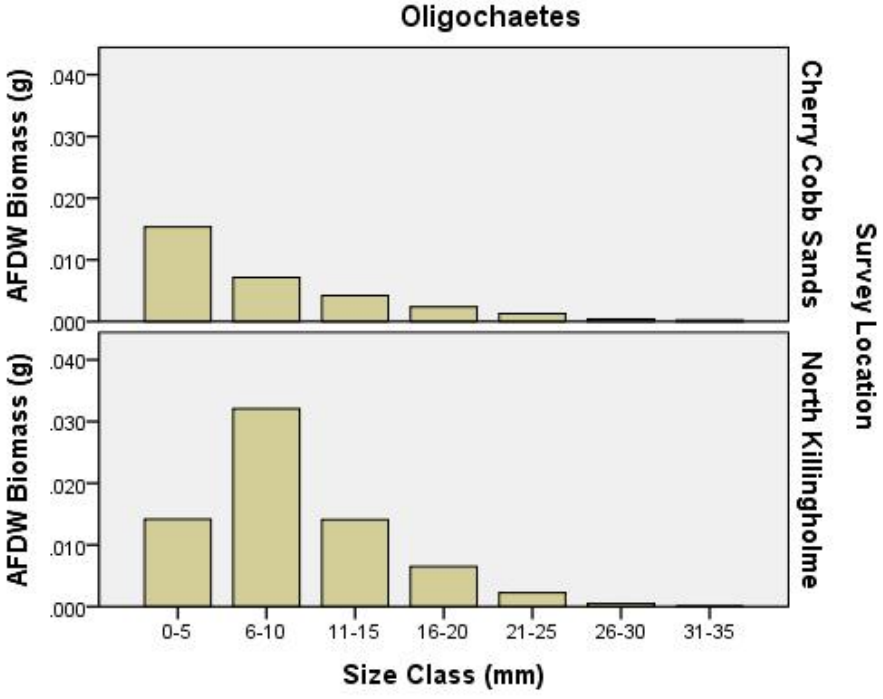

Figure 59. Size class distribution by AFDW biomass (per 0.01m^2) for all oligochaete taxa.

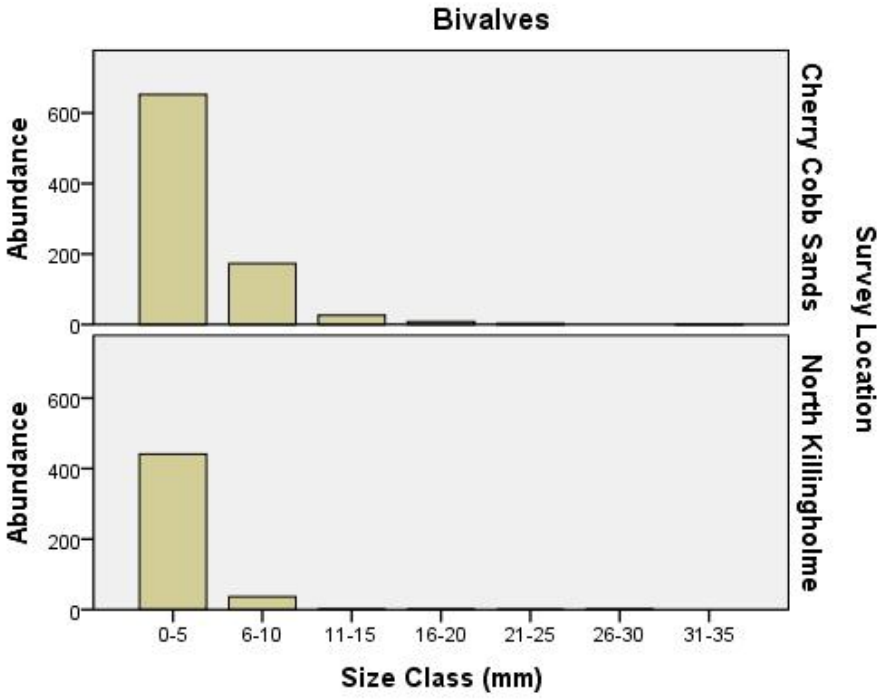

Figure 60. Size class distribution by abundance (per 0.01m^2) for all bivalve mollusc taxa.

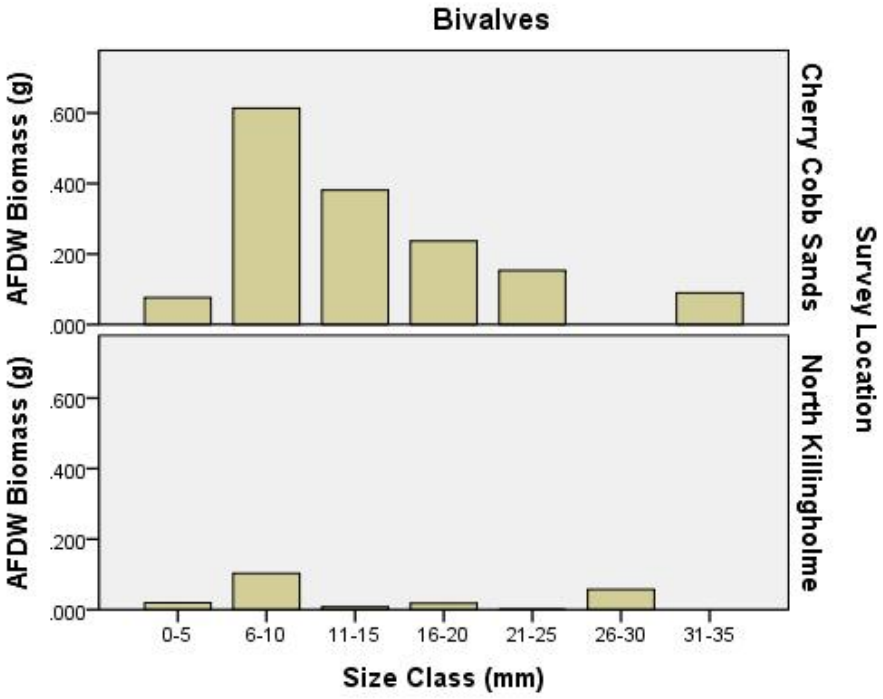

Figure 61. Size class distribution by AFDW biomass (per 0.01m^2) for all bivalve mollusc taxa.

Appendix 2. Results of Particle Size Analysis at North Killingholme

SAMPLE	PARAMETER	1.1 LA	1.1 LB	1.1 LC	1.1 MA	1.1 MB	1.1 MC	1.1 UA	1.1 UB	1.1 UC	1.2 LA	1.2 LB	1.2 LC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Fine Gravelly Very Fine Sandy Very Coarse Silt	Coarse Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Medium Sandy Coarse Silt	Medium Sandy Coarse Silt	Medium Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	39.2	46.7	34.6	28.7	39.3	31.41	32.6	24.99	26.3	49.7	44.626	46.6
FOLK AND	MEAN GRAIN SIZE (µm)	32.33	38.00	31.5	39.0	37.8	26.07	39.3	30.5	32.9	42.4	37.1	42.156
WARD METHOD	SORTING	3.210	3.359	3.615	6.030	3.952	3.453	5.551	5.25	5.546	3.180	3.5	3.516
(µm)	SKEWNESS	-0.223	-0.231	-0.070	0.207	-0.031	-0.187	0.130	0.156	0.169	-0.194	-0.175	-0.104
	KURTOSIS	0.960	1.043	0.969	0.817	1.022	0.890	0.825	0.811	0.814	1.077	1.059	1.069
	MEDIAN GRAIN SIZE D_{50} (phi):	4.672	4.419	4.854	5.121	4.671	4.993	4.937	5.322	5.249	4.330	4.5	4.422
FOLK AND	MEAN GRAIN SIZE (phi):	4.951	4.718	4.989	4.682	4.725	5.262	4.668	5.035	4.926	4.558	4.8	4.568
WARD METHOD	SORTING	1.682	1.748	1.854	2.592	1.982	1.788	2.473	2.393	2.472	1.669	1.8	1.814
(phi)	SKEWNESS	0.223	0.231	0.070	-0.207	0.031	0.187	-0.130	-0.156	-0.169	0.194	0.175	0.104
	KURTOSIS	0.960	1.043	0.969	0.817	1.022	0.890	0.825	0.811	0.814	1.077	1.059	1.069
	MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Fine Skewed	Fine Skewed	Symmetrical	Coarse Skewed	Symmetrical	Fine Skewed	Coarse Skewed	Coarse Skewed	Coarse Skewed	Fine Skewed	Fine Skewed	Fine Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Platykurtic	Platykurtic	Platykurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	31.726	38.388	30.226	35.079	35.491	26.026	36.954	32.189	33.378	40.811	36.887	39.537
	%MUD:	68.274	61.612	69.497	64.921	64.509	73.974	63.046	67.811	66.622	59.189	63.113	60.463
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.277	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	0.249	0.475	0.410	9.873	1.379	0.192	6.685	2.877	5.262	0.416	1.139	1.593
	%MEDIUM SAND:	2.184	3.619	4.544	9.268	7.667	1.749	10.998	10.524	10.222	4.277	4.466	5.709
	%FINE SAND:	7.032	9.546	8.387	6.984	9.753	6.064	8.555	8.984	8.258	10.670	8.137	10.513
	%V FINE SAND:	22.260	24.748	16.840	8.954	16.691	18.020	10.716	9.804	9.635	25.447	23.144	21.721
	%V COARSE SILT:	26.307	25.046	22.810	13.000	21.677	24.136	13.993	12.780	12.800	25.053	24.735	23.421
	%COARSE SILT:	16.436	14.372	18.151	16.111	17.744	17.566	16.192	15.878	15.606	14.834	15.210	16.243
	%MEDIUM SILT:	11.510	9.670	13.215	15.331	11.493	12.958	13.940	15.564	15.294	9.634	10.663	10.257
	%FINE SILT:	9.739	8.482	10.781	13.223	8.926	12.143	11.999	14.584	14.279	7.005	8.695	7.384
	%V FINE SILT:	4.054	3.799	4.338	6.552	4.296	6.439	6.216	7.958	7.669	2.594	3.604	3.007
	%CLAY:	0.229	0.242	0.201	0.704	0.372	0.731	0.707	1.045	0.974	0.069	0.206	0.151
%LOI		4.46	4.04	6.64	9.41	6.41	5.74	9.36	9.79	8.45	3.86	4.90	9.52

SAMPLE	PARAMETER	1.2 MA	1.2 MB	1.2 MC	1.2 UA	1.2 UB	1.2 UC	1.3 LA	1.3 LB	1.3 LC	1.3 MA	1.3 MB	1.3 MC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Coarse Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	31.9	39.6	43.7	40.2	22.0	20.3	50.5	39.4	35.0	33.16	41.0	44.1
FOLK AND	MEAN GRAIN SIZE (µm)	29.501	35.608	35.442	49.249	27.604	23.860	47.835	37.427	35.572	33.639	41.60	41.11
WARD METHOD	SORTING	3.751	3.242	3.039	6.423	5.243	4.713	3.886	3.712	4.279	3.920	3.867	3.252
(µm)	SKEWNESS	-0.046	-0.125	-0.275	0.113	0.218	0.179	-0.053	-0.026	0.040	0.048	0.013	-0.077
	KURTOSIS	0.992	1.067	0.991	0.720	0.988	0.931	1.117	1.103	0.990	1.033	1.018	1.209
	MEDIAN GRAIN SIZE D_{50} (phi):	4.971	4.658	4.515	4.637	5.509	5.621	4.307	4.666	4.835	4.914	4.607	4.502
FOLK AND	MEAN GRAIN SIZE (phi):	5.083	4.812	4.818	4.344	5.179	5.389	4.386	4.740	4.813	4.894	4.587	4.604
WARD METHOD	SORTING	1.907	1.697	1.603	2.683	2.390	2.237	1.958	1.892	2.097	1.971	1.951	1.702
(phi)	SKEWNESS	0.046	0.125	0.275	-0.113	-0.218	-0.179	0.053	0.026	-0.040	-0.048	-0.013	0.077
	KURTOSIS	0.992	1.067	0.991	0.720	0.988	0.931	1.117	1.103	0.990	1.033	1.018	1.209
	MEAN:	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Symmetrical	Fine Skewed	Fine Skewed	Coarse Skewed	Coarse Skewed	Coarse Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	28.411	32.545	34.571	42.871	26.810	25.546	42.393	34.191	33.690	31.000	36.977	35.789
	%MUD:	71.589	67.455	65.429	57.129	73.190	74.454	57.607	65.809	66.310	69.000	63.023	64.211
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	0.742	0.180	0.349	13.332	6.268	2.598	3.606	2.336	3.243	2.599	2.412	1.403
	%MEDIUM SAND:	4.931	3.876	1.361	11.702	6.905	7.084	8.110	6.206	7.509	6.133	7.603	5.371
	%FINE SAND:	7.785	8.435	7.192	8.773	5.581	6.694	10.067	8.128	8.418	8.084	10.453	8.252
	%V FINE SAND:	14.954	20.054	25.668	9.063	8.055	9.171	20.610	17.521	14.520	14.184	16.510	20.763
	%V COARSE SILT:	22.241	26.252	27.395	11.728	13.999	13.816	23.156	23.686	19.621	20.879	21.716	27.565
	%COARSE SILT:	19.127	18.582	15.451	14.281	18.264	17.323	14.803	18.419	17.900	20.080	18.325	17.994
	%MEDIUM SILT:	13.367	10.854	10.502	12.887	17.020	17.275	9.336	11.611	13.424	13.831	11.673	9.228
	%FINE SILT:	11.180	8.224	8.621	11.270	14.892	16.245	7.113	8.338	10.403	10.085	8.089	6.529
	%V FINE SILT:	5.241	3.388	3.327	6.153	7.955	8.702	3.033	3.533	4.595	3.958	3.092	2.754
	%CLAY:	0.433	0.155	0.134	0.810	1.061	1.092	0.167	0.222	0.367	0.167	0.128	0.140
%LOI		6.87	4.83	4.13	9.39	9.47	9.29	5.84	5.37	7.83	7.29	6.82	4.86

SAMPLE	PARAMETER	1.3 UA	1.3 UB	1.3 UC	1.4 LA	1.4 LB	1.4 LC	1.4 MA	1.4 MB	1.4 MC	1.4 UA	1.4 UB	1.4 UC
SAMPLE TYPE:		Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Medium Sandy Medium Silt	Very Fine Sandy Medium Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	23.3	19.7	29.3	2142	23.6	43.75	25.8	30.8	30.58	23.99	15.09	29.627
FOLK AND	MEAN GRAIN SIZE (µm)	32.3	25.7	34.5	20.01	22.5	38.1	24.6	27.5	27.701	27.297	15.292	311
WARD METHOD	SORTING	5.970	5.358	5.182	3.566	3.812	3.57	3.686	3.622	3.755	4.424	3.325	4.2
(µm)	SKEWNESS	0.241	0.250	0.151	-0.039	0.008	-0.120	-0.009	-0.074	-0.048	0.137	0.060	0.072
	KURTOSIS	0.832	0.962	0.921	0.869	0.952	1122	0.968	1017	1042	0.936	0.900	0.971
	MEDIAN GRAIN SIZE D_{50} (phi):	5.423	5.666	5.092	5.545	5.408	4515	5.276	5.023	5.031	5.381	6.050	5.1
FOLK AND	MEAN GRAIN SIZE (phi):	4.952	5.280	4.858	5.643	5.477	4716	5.348	5.183	5.174	5.195	6.031	5.0
WARD METHOD	SORTING	2.578	2.422	2.373	1834	1930	1837	1882	1857	1909	2.145	1733	2.1
(phi)	SKEWNESS	-0.241	-0.250	-0.151	0.039	-0.008	0.120	0.009	0.074	0.048	-0.137	-0.060	-0.072
	KURTOSIS	0.832	0.962	0.921	0.869	0.952	1122	0.968	1017	1042	0.936	0.900	0.971
	MEAN:	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Medium Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Coarse Skewed	Coarse Skewed	Coarse Skewed	Symmetrical	Symmetrical	Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Coarse Skewed	Symmetrical	Symmetrical
	KURTOSIS:	Platykurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	31625	26.198	32.639	19.248	22.281	36.434	23.601	26.030	26.255	27.035	12.858	29.724
	%MUD:	68.375	73.802	67.361	80.752	77.719	63.566	76.399	73.970	73.745	72.965	87.142	70.276
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	8.036	6.287	6.578	0.097	0.597	1989	0.176	0.456	0.969	1361	0.037	1770
	%MEDIUM SAND:	8.785	7.011	7.852	2.139	4.257	5.072	4.207	4.474	5.176	7.918	1353	7.580
	%FINE SAND:	6.914	5.201	7.391	4.742	5.292	8.278	6.851	6.412	6.024	7.858	3.663	8.042
	%V FINE SAND:	7.890	7.699	10.817	12.270	12.135	21095	12.367	14.689	14.086	9.899	7.805	12.331
	%V COARSE SILT:	11842	12.597	15.732	19.815	19.466	25.050	20.452	23.479	23.079	15.618	15.586	18.715
	%COARSE SILT:	15.895	17.074	17.293	19.257	19.374	16.105	20.311	19.602	19.518	19.258	20.568	19.376
	%MEDIUM SILT:	16.136	17.496	14.882	16.093	15.958	10.267	15.548	13.458	13.509	16.891	19.478	14.839
	%FINE SILT:	15.352	16.548	12.935	15.543	14.478	8.195	13.208	11355	11438	13.948	19.125	11786
	%V FINE SILT:	8.161	8.937	6.018	8.848	7.591	3.656	6.332	5.557	5.652	6.647	10.926	5.199
	%CLAY:	0.989	1149	0.502	1196	0.853	0.292	0.548	0.519	0.548	0.604	1459	0.360
%LOI		9.07	9.90	9.63	4.83	5.34	5.01	7.56	6.53	5.99	9.35	7.86	8.73

SAMPLE	PARAMETER	15 LA	15 LB	15 LC	15 MA	15 MB	15 MC	15 UA	15 UB	15 UC	16 LA	16 LB	16 LC
SAMPLE TYPE:		Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	38.47	38.4	52.31	42.81	35.40	22.17	15.45	18.74	25.7	49.2	30.37	47.06
FOLK AND	MEAN GRAIN SIZE (µm)	41.809	31.892	55.491	39.557	32.401	19.805	16.289	19.557	24.260	42.702	31.063	40.547
WARD METHOD	SORTING	4.763	3.401	4.961	3.623	3.618	3.563	3.639	3.897	3.727	4.051	4.579	4.531
(µm)	SKEWNESS	0.065	-0.184	0.033	-0.079	-0.063	-0.090	0.123	0.117	-0.023	-0.102	0.066	-0.091
	KURTOSIS	0.956	0.973	1.020	1.060	1.051	0.818	0.973	1.010	0.938	1.111	0.994	1.005
	MEDIAN GRAIN SIZE D_{50} (phi):	4.700	4.701	4.257	4.546	4.820	5.495	6.016	5.738	5.282	4.345	5.041	4.409
FOLK AND	MEAN GRAIN SIZE (phi):	4.580	4.971	4.172	4.660	4.948	5.658	5.940	5.676	5.365	4.550	5.009	4.624
WARD METHOD	SORTING	2.252	1.766	2.311	1.857	1.855	1.833	1.863	1.963	1.898	2.018	2.195	2.180
(phi)	SKEWNESS	-0.065	0.184	-0.033	0.079	0.063	0.090	-0.123	-0.117	0.023	0.102	-0.066	0.091
	KURTOSIS	0.956	0.973	1.020	1.060	1.051	0.818	0.973	1.010	0.938	1.111	0.994	1.005
	MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Symmetrical	Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Coarse Skewed	Coarse Skewed	Symmetrical	Fine Skewed	Symmetrical	Symmetrical
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	37.209	31.958	44.695	36.949	30.251	19.326	15.585	19.104	23.897	41.612	31.379	41.245
	%MUD:	62.791	68.042	55.305	63.051	69.749	80.674	84.415	80.896	76.103	58.388	68.621	58.755
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	5.203	0.633	9.577	1.666	0.869	0.073	0.544	1.217	0.163	4.328	4.521	5.118
	%MEDIUM SAND:	9.464	3.339	8.548	5.469	5.259	1.509	3.038	4.396	3.677	6.098	6.707	7.270
	%FINE SAND:	8.996	6.556	8.511	10.420	7.689	4.452	4.253	4.645	7.288	9.321	6.501	8.752
	%V FINE SAND:	13.546	21.430	18.059	19.394	16.433	13.291	7.750	8.846	12.769	21.865	13.650	20.105
	%V COARSE SILT:	18.576	25.004	19.449	23.547	24.132	21.023	14.229	16.088	20.239	22.158	17.878	19.354
	%COARSE SILT:	17.338	16.324	13.991	17.145	18.941	18.016	19.860	20.087	19.603	13.858	17.570	13.131
	%MEDIUM SILT:	12.188	11.866	10.073	10.551	12.272	14.742	19.847	18.541	15.292	9.860	14.517	10.931
	%FINE SILT:	9.428	10.013	7.989	8.038	9.735	15.857	18.611	16.667	13.431	8.168	11.842	9.739
	%V FINE SILT:	4.738	4.489	3.554	3.536	4.345	9.648	10.421	8.573	6.837	3.948	6.076	5.030
	%CLAY:	0.523	0.346	0.249	0.234	0.325	1.389	1.447	0.940	0.702	0.396	0.738	0.570
%LOI		5.68	5.71	6.24	6.93	5.68	5.92	9.87	9.35	7.74	5.42	6.06	6.09

SAMPLE	PARAMETER	16 MA	16 MB	16 MC	16 UA	16 UB	16 UC	16A LA	16A LB	16A LC	16A MA	16A MB	16A MC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Medium Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	35.58	33.35	31.02	19.50	21.00	23.55	32.24	33.96	50.58	38.10	38.35	30.40
FOLK AND	MEAN GRAIN SIZE (µm)	34.731	29.273	29.897	25.147	20.118	22.774	31.785	35.835	53.681	36.518	35.532	25.494
WARD METHOD	SORTING	3.767	3.286	4.032	5.102	3.375	3.816	4.155	4.681	5.011	3.258	3.677	3.411
(µm)	SKEWNESS	-0.003	-0.129	0.010	0.256	-0.005	0.027	0.024	0.042	0.040	-0.047	-0.054	-0.172
	KURTOSIS	1.026	1.021	1.046	1.011	0.976	0.996	1.016	0.866	1.013	1.129	1.092	0.921
	MEDIAN GRAIN SIZE D_{50} (phi):	4.813	4.906	5.011	5.680	5.573	5.408	4.955	4.880	4.305	4.714	4.705	5.040
FOLK AND	MEAN GRAIN SIZE (phi):	4.848	5.094	5.064	5.313	5.635	5.456	4.975	4.803	4.219	4.775	4.815	5.294
WARD METHOD	SORTING	1.914	1.716	2.012	2.351	1.755	1.932	2.055	2.227	2.325	1.704	1.879	1.770
(phi)	SKEWNESS	0.003	0.129	-0.010	-0.256	0.005	-0.027	-0.024	-0.042	-0.040	0.047	0.054	0.172
	KURTOSIS	1.026	1.021	1.046	1.011	0.976	0.996	1.016	0.866	1.013	1.129	1.092	0.921
	MEAN:	Very Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Symmetrical	Fine Skewed	Symmetrical	Coarse Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Fine Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000
	%SAND:	32.209	26.649	28.570	25.136	17.277	21.860	30.645	35.502	44.098	31.185	32.913	24.275
	%MUD:	67.791	73.351	71.430	74.864	82.723	78.140	69.355	64.498	55.880	68.815	67.087	75.725
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000
	%COARSE SAND:	1.656	0.173	2.168	6.195	0.252	1.234	2.417	2.090	9.881	0.845	1.472	0.144
	%MEDIUM SAND:	6.022	3.004	6.118	6.371	2.474	4.096	6.847	9.751	7.727	4.635	6.073	2.372
	%FINE SAND:	8.911	6.650	6.720	5.009	4.371	5.387	7.427	10.814	9.296	8.261	8.179	5.052
	%V FINE SAND:	15.621	16.822	13.564	7.561	10.179	11.143	13.954	12.848	17.171	17.445	17.188	16.708
	%V COARSE SILT:	22.042	25.803	21.206	12.735	19.391	19.398	20.297	16.564	18.689	26.610	24.259	24.915
	%COARSE SILT:	19.337	20.089	19.449	18.157	22.761	20.453	18.764	16.659	14.799	20.590	18.378	18.372
	%MEDIUM SILT:	12.871	12.461	13.722	18.422	17.870	16.269	13.662	13.586	10.201	10.906	11.334	13.309
	%FINE SILT:	9.558	10.074	10.964	16.535	14.559	14.041	10.848	11.286	8.010	7.599	8.844	12.081
	%V FINE SILT:	3.814	4.589	5.502	8.182	7.374	7.177	5.248	5.739	3.844	3.008	3.982	6.304
	%CLAY:	0.168	0.334	0.587	0.832	0.768	0.801	0.536	0.665	0.336	0.102	0.290	0.743
%LOI		7.32	5.42	5.59	9.92	6.89	7.02	5.80	5.88	5.96	5.15	4.95	4.84

SAMPLE	PARAMETER	16A UA	16A UB	16A UC	17 LA	17 LB	17 LC	17 MA	17 MB	17 MC	17 UA	17 UB	17 UC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	21.12	30.70	30.4	31.33	35.2	39.37	33.70	39.5	41.07	30.26	34.73	34.09
FOLK AND	MEAN GRAIN SIZE (µm)	22.049	30.348	29.634	30.561	31.253	42.586	28.899	34.185	39.730	31.592	39.578	36.760
WARD METHOD	SORTING	3.773	3.883	3.716	3.943	3.873	4.636	3.054	2.973	3.153	3.850	4.660	4.362
(µm)	SKEWNESS	0.101	0.031	0.010	0.024	-0.078	0.061	-0.184	-0.199	-0.059	0.067	0.113	0.059
	KURTOSIS	1.027	1.046	1.002	1.088	0.993	0.910	1.030	1.079	1.109	1.017	0.922	0.891
	MEDIAN GRAIN SIZE D_{50} (phi):	5.565	5.025	5.040	4.996	4.829	4.667	4.891	4.663	4.606	5.046	4.848	4.875
FOLK AND	MEAN GRAIN SIZE (phi):	5.503	5.042	5.077	5.032	5.000	4.553	5.113	4.871	4.654	4.984	4.659	4.766
WARD METHOD	SORTING	1.916	1.957	1.894	1.979	1.953	2.213	1.611	1.572	1.657	1.945	2.220	2.125
(phi)	SKEWNESS	-0.101	-0.031	-0.010	-0.024	0.078	-0.061	0.184	0.199	0.059	-0.067	-0.113	-0.059
	KURTOSIS	1.027	1.046	1.002	1.088	0.993	0.910	1.030	1.079	1.109	1.017	0.922	0.891
	MEAN:	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Coarse Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Fine Skewed	Fine Skewed	Symmetrical	Symmetrical	Coarse Skewed	Symmetrical
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000
	%SAND:	20.861	28.090	27.862	28.270	31.662	38.366	24.679	30.185	33.947	28.941	35.300	34.262
	%MUD:	79.139	71.910	72.138	71.730	68.338	61.634	75.321	69.815	66.031	71.059	64.700	65.738
	%VCOARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%VFINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000
	%VCOARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000
	%COARSE SAND:	1.718	1.837	1.172	2.768	1.338	4.442	0.149	0.008	0.453	1.413	4.790	1.214
	%MEDIUM SAND:	3.689	6.174	5.073	5.424	5.332	10.074	1.700	1.903	4.516	6.516	9.198	9.922
	%FINE SAND:	5.417	6.922	7.546	6.596	7.533	10.007	5.263	7.098	9.873	8.156	9.248	10.572
	%VFINE SAND:	10.037	13.157	14.071	13.482	17.458	13.843	17.567	21.177	19.083	12.857	12.063	12.553
	%VCOARSE SILT:	16.919	21.354	21.279	21.818	22.022	17.734	28.441	29.447	26.647	20.025	17.560	18.140
	%COARSE SILT:	21.682	20.316	20.225	20.419	17.100	17.051	20.531	18.577	20.030	21.267	18.491	18.136
	%MEDIUM SILT:	18.707	14.222	14.594	13.615	12.677	12.741	11.989	10.168	10.072	14.881	13.839	13.722
	%FINE SILT:	14.474	10.874	11.180	10.382	10.677	9.706	9.775	8.076	6.529	10.336	10.271	10.798
	%VFINE SILT:	6.703	4.795	4.608	5.008	5.300	4.148	4.305	3.359	2.638	4.315	4.303	4.646
	%CLAY:	0.654	0.349	0.252	0.489	0.562	0.254	0.281	0.188	0.115	0.235	0.236	0.296
%LOI		8.44	7.53	8.12	7.10	4.95	6.33	5.32	4.95	4.85	7.53	8.56	8.82

SAMPLE	PARAMETER	18 LA	18 LB	18 LC	18 MA	18 MB	18 MC	18 UA	18 UB	18 UC	19 LA	19 LB	19 LC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Very Poorly Sorted	Unimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	41.41	46.27	44.2	43.07	41.07	48.86	25.05	34.52	50.00	40.69	42.7	56.84
FOLK AND	MEAN GRAIN SIZE (µm)	38.967	52.507	43.100	38.989	38.566	44.747	28.040	37.407	51.897	39.267	41.457	60.794
WARD METHOD	SORTING	3.722	4.575	3.815	3.336	3.482	3.468	4.742	4.521	3.780	3.935	4.211	4.785
(µm)	SKEWNESS	-0.036	0.090	-0.021	-0.109	-0.051	-0.114	0.118	0.074	0.010	-0.020	0.006	0.016
	KURTOSIS	1.111	1.043	1.092	1.170	1.171	1.104	0.889	0.888	1.107	1.059	1.092	0.882
	MEDIAN GRAIN SIZE D_{50} (phi):	4.594	4.434	4.498	4.537	4.606	4.355	5.319	4.856	4.322	4.619	4.548	4.137
FOLK AND	MEAN GRAIN SIZE (phi):	4.682	4.251	4.536	4.681	4.697	4.482	5.156	4.741	4.268	4.671	4.592	4.040
WARD METHOD	SORTING	1.896	2.194	1.932	1.738	1.800	1.794	2.245	2.177	1.918	1.976	2.074	2.258
(phi)	SKEWNESS	0.036	-0.090	0.021	0.109	0.051	0.114	-0.118	-0.074	-0.010	0.020	-0.006	-0.016
	KURTOSIS	1.111	1.043	1.092	1.170	1.171	1.104	0.889	0.888	1.107	1.059	1.092	0.882
	MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Symmetrical	Symmetrical	Symmetrical	Fine Skewed	Symmetrical	Fine Skewed	Coarse Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical
	KURTOSIS:	Leptokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Leptokurtic	Mesokurtic	Platykurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.089	0.000	0.000	0.000	0.000	0.000	1.029	0.000
	%SAND:	35.765	41.006	38.206	34.873	33.990	40.796	29.827	35.691	42.239	35.878	36.848	47.486
	%MUD:	64.235	58.994	61.794	65.127	65.921	59.204	70.173	64.309	57.761	64.122	62.124	52.514
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.089	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.029	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.267	0.000	0.000	0.000	0.000	0.000	0.880	0.000
	%COARSE SAND:	2.711	7.754	2.831	0.772	1.949	1.095	2.755	3.213	3.554	2.285	3.437	7.902
	%MEDIUM SAND:	6.096	9.022	7.301	5.360	5.073	6.045	7.125	8.860	8.771	7.593	6.590	13.237
	%FINE SAND:	8.381	8.743	9.769	8.530	8.263	11.883	8.790	10.649	11.490	8.999	8.244	11.329
	%V FINE SAND:	18.577	15.487	18.305	20.211	18.438	21.774	11.158	12.970	18.424	17.000	17.697	15.018
	%V COARSE SILT:	23.669	21.192	23.422	27.452	26.262	24.586	14.695	16.863	23.978	22.735	21.693	18.296
	%COARSE SILT:	17.686	17.133	17.139	17.332	18.534	15.605	17.228	17.716	16.553	17.325	16.614	14.323
	%MEDIUM SILT:	11.197	10.050	10.281	9.386	10.025	8.840	15.878	13.961	8.328	11.378	11.337	9.368
	%FINE SILT:	8.091	7.339	7.588	7.485	7.661	6.961	13.835	10.777	6.178	8.773	8.553	7.264
	%V FINE SILT:	3.405	3.123	3.193	3.289	3.274	3.047	7.493	4.667	2.603	3.709	3.677	3.098
	%CLAY:	0.187	0.156	0.172	0.182	0.164	0.165	1.042	0.324	0.121	0.202	0.249	0.166
%LOI		5.47	6.90	7.09	4.91	5.79	5.20	7.25	8.91	5.99	5.26	5.93	6.26

SAMPLE	PARAMETER	1.9 LC PSA2	1.9 MA	1.9 MB	1.9 MC	1.9 UA	1.9 UB	1.9 UC	2.1 LA	2.1 LB	2.1 LC	2.1 MA	2.1 MA2
SAMPLE TYPE:		Bimodal, Extremely Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Very Poorly Sorted
TEXTURAL GROUP:		Muddy Gravel	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Coarse Silty Very Coarse Gravel	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Medium Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	29038.4	40.8	40.37	39.62	47.53	41.29	36.41	31.86	35.73	32.14	35.79	30.48
FOLK AND	MEAN GRAIN SIZE (µm)	3810.797	37.087	39.253	37.582	53.048	39.922	34.605	30.807	37.115	34.408	36.237	30.752
WARD METHOD	SORTING	26.181	3.571	3.894	3.676	5.627	3.897	3.848	3.840	4.322	4.442	3.810	4.173
(µm)	SKEWNESS	-0.832	-0.083	-0.023	-0.038	0.056	-0.023	-0.026	0.001	0.060	0.084	0.042	0.051
	KURTOSIS	0.613	1.105	1.029	1.066	0.742	1.022	1.013	0.988	1.005	0.945	1.085	0.997
	MEDIAN GRAIN SIZE D_{50} (phi):	-4.860	4.615	4.630	4.658	4.395	4.598	4.779	4.972	4.807	4.960	4.804	5.036
FOLK AND	MEAN GRAIN SIZE (phi):	-1.930	4.753	4.671	4.734	4.237	4.647	4.853	5.021	4.752	4.861	4.786	5.023
WARD METHOD	SORTING	4.710	1.836	1.961	1.878	2.492	1.962	1.944	1.941	2.112	2.151	1.930	2.061
(phi)	SKEWNESS	0.832	0.083	0.023	0.038	-0.056	0.023	0.026	-0.001	-0.060	-0.084	-0.042	-0.051
	KURTOSIS	0.613	1.105	1.029	1.066	0.742	1.022	1.013	0.988	1.005	0.945	1.085	0.997
	MEAN:	Very Fine Gravel	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Extremely Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Very Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Symmetrical
	KURTOSIS:	Very Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	71.619	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	6.934	34.398	35.849	34.578	45.068	36.872	32.942	29.859	34.384	32.957	32.121	29.813
	%MUD:	21.447	65.602	64.151	65.422	54.932	63.128	67.058	70.141	65.616	67.043	67.879	70.187
	%VCOARSE GRAVEL:	46.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	18.747	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	4.648	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	1.355	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%VFINE GRAVEL:	0.737	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%VCOARSE SAND:	0.482	0.000	0.000	0.000	0.000	0.000	0.000	0.053	0.000	0.000	0.000	0.028
	%COARSE SAND:	0.046	1.447	1.814	1.580	9.986	2.402	1.432	1.318	4.173	3.348	2.755	2.783
	%MEDIUM SAND:	0.464	5.633	7.505	6.401	13.895	6.912	6.590	5.742	7.566	8.132	6.479	6.215
	%FINE SAND:	1.346	8.524	9.850	8.953	10.496	10.270	8.669	7.788	8.080	8.250	7.891	7.554
	%VFINE SAND:	4.596	18.794	16.680	17.644	10.690	17.288	16.251	14.958	14.565	13.227	14.996	13.234
	%VCOARSE SILT:	6.177	25.088	22.445	23.409	13.268	21.946	21.931	20.729	19.467	17.786	22.439	19.467
	%COARSE SILT:	4.518	17.545	17.509	18.211	14.422	17.342	18.169	19.015	18.209	17.813	20.113	18.891
	%MEDIUM SILT:	3.626	10.697	11.525	11.616	12.326	11.473	12.713	14.365	13.490	14.832	12.984	14.549
	%FINE SILT:	4.038	8.325	8.778	8.525	10.043	8.748	9.739	10.868	9.925	11.482	8.883	11.684
	%VFINE SILT:	2.638	3.678	3.676	3.489	4.499	3.467	4.215	4.773	4.227	4.803	3.341	5.196
	%CLAY:	0.450	0.269	0.218	0.172	0.374	0.153	0.290	0.390	0.298	0.328	0.119	0.399
%LOI		3.29	6.34	6.26	5.92	9.28	7.02	6.88	6.53	6.12	7.24	6.66	8.47

SAMPLE	PARAMETER	2.1 MB	2.1 MC	2.1 UA	2.1 UB	2.1 UC	2.2 LA	2.2 LB	2.2 LC	2.2 MA	2.2 MB	2.2 MC	2.2 UA
SAMPLE TYPE:		Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Medium Sandy Medium Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	36.92	37.33	20.18	20.92	22.44	37.26	38.40	3106	33.57	3122	4109	22.91
FOLK AND	MEAN GRAIN SIZE (µm)	29.881	31.542	27.664	22.211	25.062	34.554	34.604	32.779	38.985	30.831	38.727	31.029
WARD METHOD	SORTING	3.147	3.196	5.556	4.128	4.617	3.318	3.554	4.468	4.637	3.815	3.164	5.366
(µm)	SKEWNESS	-0.251	-0.198	0.260	0.116	0.154	-0.083	-0.089	0.089	0.133	0.022	-0.070	0.250
	KURTOSIS	0.921	0.973	0.902	0.999	0.964	1049	1071	1014	0.973	0.989	1.141	0.942
	MEDIAN GRAIN SIZE D_{50} (phi):	4.759	4.743	5.631	5.579	5.477	4.746	4.703	5.009	4.897	5.001	4.605	5.448
FOLK AND	MEAN GRAIN SIZE (phi):	5.065	4.987	5.176	5.493	5.318	4.855	4.853	4.931	4.681	5.019	4.691	5.010
WARD METHOD	SORTING	1654	1676	2.474	2.045	2.207	1730	1830	2.160	2.213	1932	1662	2.424
(phi)	SKEWNESS	0.251	0.198	-0.260	-0.116	-0.154	0.083	0.089	-0.089	-0.133	-0.022	0.070	-0.250
	KURTOSIS	0.921	0.973	0.902	0.999	0.964	1049	1071	1014	0.973	0.989	1.141	0.942
	MEAN:	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Fine Skewed	Fine Skewed	Coarse Skewed	Coarse Skewed	Coarse Skewed	Symmetrical	Symmetrical	Symmetrical	Coarse Skewed	Symmetrical	Symmetrical	Coarse Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000
	%SAND:	29.139	30.306	28.106	22.201	26.149	31358	32.676	30.960	33.665	29.473	33.457	28.853
	%MUD:	70.861	69.694	71894	77.799	73.851	68.642	67.324	69.040	66.335	70.527	66.531	71.147
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.067	0.000
	%COARSE SAND:	0.061	0.330	6.161	1685	3.863	0.186	1353	4.541	5.159	1370	0.811	6.786
	%MEDIUM SAND:	1.166	2.307	8.051	5.326	5.892	4.262	4.641	6.892	8.934	5.748	4.567	7.976
	%FINE SAND:	5.816	6.528	6.174	5.917	6.321	8.658	8.135	6.804	7.747	7.923	8.232	6.085
	%V FINE SAND:	22.096	21141	7.719	9.273	10.074	18.251	18.546	12.722	11825	14.432	19.781	8.007
	%V COARSE SILT:	26.903	26.055	11638	16.232	15.295	24.985	24.513	18.866	18.365	20.502	27.186	13.094
	%COARSE SILT:	16.848	17.768	16.718	19.883	17.859	19.633	18.120	18.530	19.240	19.671	19.538	18.595
	%MEDIUM SILT:	11821	11872	17.491	17.552	16.778	11960	11466	14.595	14.126	14.626	10.267	17.691
	%FINE SILT:	10.335	9.473	16.236	15.320	15.497	8.412	8.876	11471	10.204	10.973	6.815	14.359
	%V FINE SILT:	4.604	4.221	8.687	7.885	7.670	3.478	4.020	5.143	4.183	4.522	2.639	6.755
	%CLAY:	0.350	0.304	1125	0.928	0.751	0.175	0.329	0.435	0.217	0.233	0.086	0.653
%LOI		4.20	4.10	9.72	8.05	9.59	5.96	5.44	7.13	8.08	7.06	6.02	9.22

SAMPLE	PARAMETER	2.2 UB	2.2 UC	2.3 LA	2.3 LB	2.3 LC	2.3 MA	2.3 MB	2.3 MC	2.3 UA	2.3 UB	2.3 UC	2.4 LA
SAMPLE TYPE:		Bimodal, Very Poorly Sorted	Unimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Coarse Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Medium Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	29.28	38.66	30.35	28.86	39.92	35.11	38.27	32.23	20.20	28.19	30.34	27.56
FOLK AND	MEAN GRAIN SIZE (µm)	39.136	41.253	28.287	25.290	39.880	43.236	32.804	27.877	20.327	33.228	32.488	24.475
WARD METHOD	SORTING	5.696	4.408	3.904	3.304	4.542	5.206	3.427	3.570	3.667	4.735	4.351	3.467
(µm)	SKEWNESS	0.208	0.055	-0.029	-0.131	0.027	0.145	-0.141	-0.108	0.055	0.152	0.086	-0.104
	KURTOSIS	0.876	0.963	0.985	0.943	1.016	0.843	1.086	0.999	0.962	0.947	0.957	0.925
	MEDIAN GRAIN SIZE D_{50} (phi):	5.094	4.693	5.042	5.115	4.647	4.832	4.708	4.955	5.629	5.149	5.043	5.181
FOLK AND	MEAN GRAIN SIZE (phi):	4.675	4.599	5.144	5.305	4.648	4.532	4.930	5.165	5.620	4.911	4.944	5.353
WARD METHOD	SORTING	2.510	2.140	1.965	1.724	2.183	2.380	1.777	1.836	1.875	2.243	2.121	1.794
(phi)	SKEWNESS	-0.208	-0.055	0.029	0.131	-0.027	-0.145	0.141	0.108	-0.055	-0.152	-0.086	0.104
	KURTOSIS	0.876	0.963	0.985	0.943	1.016	0.843	1.086	0.999	0.962	0.947	0.957	0.925
	MEAN:	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Coarse Skewed	Symmetrical	Symmetrical	Fine Skewed	Symmetrical	Coarse Skewed	Fine Skewed	Fine Skewed	Symmetrical	Coarse Skewed	Symmetrical	Fine Skewed
	KURTOSIS:	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	33.807	36.878	28.104	22.941	37.073	36.846	30.785	26.861	19.307	30.843	30.989	23.398
	%MUD:	66.193	63.122	71.896	77.059	62.927	63.154	69.215	73.139	80.693	69.157	69.011	76.602
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	9.118	3.812	0.963	0.132	5.570	6.539	0.451	0.858	0.260	3.944	2.447	0.871
	%MEDIUM SAND:	8.955	9.065	5.419	1.774	7.351	11.747	4.466	3.866	3.414	8.924	8.134	2.547
	%FINE SAND:	6.732	9.993	7.090	5.610	8.476	8.033	6.880	5.731	5.569	7.452	7.967	4.668
	%V FINE SAND:	9.003	14.007	14.633	15.425	15.676	10.528	18.988	16.407	10.064	10.523	12.442	15.312
	%V COARSE SILT:	14.507	19.299	21.054	24.485	19.989	16.053	26.837	24.207	17.526	16.299	18.188	22.765
	%COARSE SILT:	17.815	18.022	18.621	20.334	16.466	17.517	17.574	18.556	20.774	18.976	18.633	19.572
	%MEDIUM SILT:	15.257	12.291	14.008	14.038	11.887	13.926	10.895	13.126	18.018	15.800	14.941	14.531
	%FINE SILT:	12.323	9.133	11.722	11.961	9.693	10.701	9.333	11.339	15.478	12.219	11.836	12.549
	%V FINE SILT:	5.765	4.085	5.876	5.740	4.497	4.644	4.245	5.415	7.969	5.428	5.084	6.461
	%CLAY:	0.526	0.291	0.615	0.500	0.395	0.313	0.332	0.497	0.927	0.435	0.328	0.724
%LOI		8.80	8.10	5.88	4.67	6.17	8.49	4.89	5.53	9.01	7.57	8.09	5.30

SAMPLE	PARAMETER	2.4 LB	2.4 LC	2.4 MA	2.4 MB	2.4 MC	2.4 UA	2.4 UB	2.4 UC	3.1 LA	3.1 LB	3.1 LC	3.1 MA
SAMPLE TYPE:		Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Trimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Slightly Gravelly Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	44.15	50.84	35.61	29.28	26.47	16.44	22.87	25.23	39.37	37.80	44.61	36.15
FOLK AND	MEAN GRAIN SIZE (µm)	38.382	54.830	33.106	24.801	23.217	17.562	21.442	23.400	35.608	32.623	48.647	30.470
WARD METHOD	SORTING	3.913	5.037	3.622	3.613	3.822	3.864	3.579	3.661	3.357	3.187	4.483	3.039
(µm)	SKEWNESS	-0.107	0.035	-0.048	-0.120	-0.072	0.146	-0.019	-0.037	-0.109	-0.175	0.069	-0.215
	KURTOSIS	1.029	0.871	1.038	1.014	0.924	1.014	0.981	0.951	1.037	0.997	1.036	1.006
	MEDIAN GRAIN SIZE D_{50} (phi):	4.501	4.298	4.812	5.094	5.239	5.927	5.450	5.309	4.667	4.725	4.487	4.790
FOLK AND	MEAN GRAIN SIZE (phi):	4.703	4.189	4.917	5.333	5.429	5.831	5.543	5.417	4.812	4.938	4.362	5.036
WARD METHOD	SORTING	1.968	2.333	1.857	1.853	1.934	1.950	1.839	1.872	1.747	1.672	2.165	1.604
(phi)	SKEWNESS	0.107	-0.035	0.048	0.120	0.072	-0.146	0.019	0.037	0.109	0.175	-0.069	0.215
	KURTOSIS	1.029	0.871	1.038	1.014	0.924	1.014	0.981	0.951	1.037	0.997	1.036	1.006
	MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Fine Skewed	Symmetrical	Symmetrical	Fine Skewed	Symmetrical	Coarse Skewed	Symmetrical	Symmetrical	Fine Skewed	Fine Skewed	Symmetrical	Fine Skewed
	KURTOSIS:	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	38.032	44.966	31.058	23.067	23.518	17.316	19.349	22.308	33.342	30.791	40.168	27.385
	%MUD:	61.787	55.034	68.942	76.933	76.482	82.684	80.651	77.692	66.658	69.209	59.832	72.615
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	2.043	8.246	1.450	1.205	0.800	1.478	0.684	0.158	0.601	0.342	6.632	0.079
	%MEDIUM SAND:	6.204	11.725	4.817	3.294	3.807	3.673	2.867	3.398	4.123	2.443	8.544	1.398
	%FINE SAND:	9.403	10.528	8.092	4.124	4.892	4.193	5.170	6.536	8.875	7.301	9.508	5.743
	%V FINE SAND:	20.303	14.466	16.699	14.443	14.019	7.972	10.628	12.215	19.742	20.705	15.484	20.165
	%V COARSE SILT:	22.091	16.983	23.393	24.862	21.776	14.505	20.248	20.968	24.695	26.106	20.643	28.410
	%COARSE SILT:	14.941	14.881	19.030	19.587	17.959	19.662	21.853	20.278	18.298	18.133	17.269	18.879
	%MEDIUM SILT:	11.105	10.883	12.582	12.817	13.756	19.511	16.132	15.068	11.574	11.804	10.582	11.616
	%FINE SILT:	9.182	8.353	9.654	11.987	14.066	18.000	13.947	13.568	8.415	9.111	7.674	9.351
	%V FINE SILT:	4.121	3.679	4.065	6.785	7.957	9.736	7.578	7.081	3.494	3.829	3.432	4.070
	%CLAY:	0.347	0.256	0.218	0.896	0.969	1.270	0.893	0.729	0.183	0.227	0.233	0.289
%LOI		5.15	6.33	6.81	5.32	5.51	9.16	7.12	6.85	4.39	4.50	6.61	4.82

SAMPLE	PARAMETER	3.1 MB	3.1 MC	3.1 UA	3.1 UB	3.1 UC	3.2 LA	3.2 LB	3.2 LC	3.2 MA	3.2 MB	3.2 MC	3.2 UA
SAMPLE TYPE:		Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Coarse Sandy Medium Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	45.01	41.19	27.96	35.69	40.76	36.89	40.21	28.81	41.25	39.08	36.64	27.75
FOLK AND	MEAN GRAIN SIZE (µm)	37.815	33.518	35.561	32.259	35.867	34.434	40.182	28.615	37.068	34.323	32.887	40.044
WARD METHOD	SORTING	2.940	3.101	5.315	3.389	3.149	3.581	4.065	3.838	3.284	3.316	3.373	6.242
(µm)	SKEWNESS	-0.250	-0.258	0.189	-0.103	-0.158	-0.049	0.006	0.034	-0.112	-0.131	-0.107	0.237
	KURTOSIS	1.095	0.973	0.868	1.005	1.086	1.076	1.023	1.020	1.127	1.069	1.025	0.742
	MEDIAN GRAIN SIZE D_{50} (phi):	4.474	4.602	5.160	4.809	4.617	4.761	4.636	5.118	4.599	4.678	4.771	5.172
FOLK AND	MEAN GRAIN SIZE (phi):	4.725	4.899	4.814	4.954	4.801	4.860	4.637	5.127	4.754	4.865	4.926	4.642
WARD METHOD	SORTING	1.556	1.633	2.410	1.761	1.655	1.840	2.023	1.940	1.715	1.730	1.754	2.642
(phi)	SKEWNESS	0.250	0.258	-0.189	0.103	0.158	0.049	-0.006	-0.034	0.112	0.131	0.107	-0.237
	KURTOSIS	1.095	0.973	0.868	1.005	1.086	1.076	1.023	1.020	1.127	1.069	1.025	0.742
	MEAN:	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Fine Skewed	Fine Skewed	Coarse Skewed	Fine Skewed	Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Fine Skewed	Fine Skewed	Fine Skewed	Coarse Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic	Platykurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	34.849	32.753	32.937	30.240	32.580	31.658	36.286	26.952	33.392	31.877	30.772	35.974
	%MUD:	65.151	67.247	67.063	69.760	67.420	68.342	63.714	73.048	66.608	68.123	69.228	64.026
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	0.277	0.141	6.229	0.279	0.589	1.065	2.441	1.298	0.728	0.761	0.416	10.892
	%MEDIUM SAND:	2.159	1.508	9.502	3.542	3.048	5.675	8.478	5.664	4.687	3.853	3.855	10.602
	%FINE SAND:	7.191	6.951	7.639	8.473	7.805	7.944	9.304	7.039	7.830	7.374	7.957	7.034
	%V FINE SAND:	25.222	24.153	9.566	17.947	21.137	16.974	16.063	12.950	20.146	19.889	18.544	7.446
	%V COARSE SILT:	29.258	27.135	14.307	24.460	27.668	24.151	21.621	20.507	27.187	26.368	24.868	11.403
	%COARSE SILT:	15.997	16.010	17.285	19.135	17.942	19.081	17.532	20.461	17.870	17.956	18.806	15.871
	%MEDIUM SILT:	9.346	11.018	15.989	12.323	10.294	12.123	11.800	15.115	10.359	11.262	12.213	15.949
	%FINE SILT:	7.381	9.059	13.184	9.551	8.023	8.900	8.843	11.497	7.901	8.745	9.241	13.773
	%V FINE SILT:	3.016	3.787	5.822	4.055	3.331	3.822	3.713	5.063	3.149	3.608	3.873	6.434
	%CLAY:	0.152	0.236	0.476	0.236	0.163	0.265	0.204	0.404	0.143	0.184	0.228	0.596
%LOI		4.21	4.20	9.07	7.07	5.02	5.85	6.64	5.98	5.65	4.72	4.60	8.88

SAMPLE	PARAMETER	3.2 UB	3.2 UC	3.3 LA	3.3 LB	3.3 LC	3.3 MA	3.3 MB	3.3 MC	3.3 UA	3.3 UB	3.3 UC
SAMPLE TYPE:		Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted	Bimodal, Very Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	22.39	33.60	30.61	30.67	32.97	34.46	36.76	39.80	24.12	22.81	25.11
FOLK AND	MEAN GRAIN SIZE (µm)	28.727	31.314	25.455	27.121	39.490	32.637	34.207	36.370	29.145	24.880	29.139
WARD METHOD	SORTING	5.078	3.518	3.253	3.351	4.749	3.624	3.632	3.353	4.696	4.097	4.642
(µm)	SKEWNESS	0.224	-0.040	-0.199	-0.100	0.141	-0.035	-0.037	-0.090	0.201	0.134	0.164
	KURTOSIS	0.935	1.082	0.934	1.028	0.896	1.021	1.114	1.125	1.034	1.027	0.984
	MEDIAN GRAIN SIZE D_{50} (phi):	5.481	4.896	5.030	5.027	4.923	4.859	4.766	4.651	5.374	5.454	5.316
FOLK AND	MEAN GRAIN SIZE (phi):	5.121	4.997	5.296	5.204	4.662	4.937	4.870	4.781	5.101	5.329	5.101
WARD METHOD	SORTING	2.344	1.815	1.702	1.744	2.248	1.858	1.861	1.745	2.231	2.035	2.215
(phi)	SKEWNESS	-0.224	0.040	0.199	0.100	-0.141	0.035	0.037	0.090	-0.201	-0.134	-0.164
	KURTOSIS	0.935	1.082	0.934	1.028	0.896	1.021	1.114	1.125	1.034	1.027	0.984
	MEAN:	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted	Very Poorly Sorted
(Description)	SKEWNESS:	Coarse Skewed	Symmetrical	Fine Skewed	Symmetrical	Coarse Skewed	Symmetrical	Symmetrical	Symmetrical	Coarse Skewed	Coarse Skewed	Coarse Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Mesokurtic	Leptokurtic	Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	27.967	28.244	22.757	24.092	34.562	30.322	31.054	32.594	26.678	23.775	27.766
	%MUD:	72.033	71.756	77.243	75.908	65.438	69.678	68.946	67.406	73.322	76.225	72.234
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	5.009	1.514	0.056	0.269	4.337	0.800	1.963	1.065	5.096	1.741	3.994
	%MEDIUM SAND:	8.161	4.260	1.427	3.400	10.503	5.232	5.528	4.604	7.275	6.366	7.601
	%FINE SAND:	6.254	6.913	4.848	5.645	8.782	8.562	7.115	7.955	5.503	6.156	6.357
	%V FINE SAND:	8.543	15.557	16.426	14.778	10.940	15.728	16.448	18.970	8.804	9.513	9.814
	%V COARSE SILT:	13.644	24.392	26.581	25.283	16.846	23.021	24.831	26.600	15.715	16.738	16.107
	%COARSE SILT:	17.885	20.538	19.556	20.701	18.819	19.579	19.057	18.616	20.418	20.832	19.272
	%MEDIUM SILT:	17.617	12.762	12.753	13.545	14.621	12.878	11.936	10.589	17.519	17.927	16.758
	%FINE SILT:	15.203	9.725	11.748	11.042	10.496	9.856	9.208	8.011	13.381	13.955	13.508
	%V FINE SILT:	7.044	4.129	5.995	4.967	4.361	4.120	3.737	3.389	5.828	6.242	6.074
	%CLAY:	0.639	0.209	0.610	0.371	0.294	0.224	0.177	0.200	0.460	0.530	0.515
%LOI		8.72	6.73	5.59	6.02	7.81	7.22	7.35	4.80	7.64	8.07	7.61

Appendix 3. Results of Particle Size Analysis at Cherry Cobb Sands

SAMPLE	PARAMETER	CN1LA	CN1LB	CN1LC	CN1MA	CN1MB	CN1MC	CN1U2	CN1UA	CN1UB	CN1UC	CN2 LA	CN2 LB
SAMPLE TYPE:		Bimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	35.1	52.9	417	33.7	47.6	37.76	24.4	34.56	38.3	417	35.191	58.2
FOLK AND	MEAN GRAIN SIZE (µm)	27.96	37.88	35.6	26.4	40.6	29.70	24.9	318	34.5	35.2	29.8	45.727
WARD METHOD	SORTING	3.550	3.485	3.946	3.313	3.754	3.507	4.198	3.83	3.658	3.228	3.6	3.723
(µm)	SKEWNESS	-0.218	-0.355	-0.145	-0.275	-0.147	-0.251	0.058	-0.065	-0.096	-0.199	-0.148	-0.220
	KURTOSIS	0.867	0.860	0.840	0.837	1.019	0.880	0.922	0.930	0.980	1.041	0.956	1.123
	MEDIAN GRAIN SIZE D_{50} (phi):	4.832	4.239	4.584	4.891	4.393	4.727	5.356	4.855	4.706	4.582	4.8	4.103
FOLK AND	MEAN GRAIN SIZE (phi):	5.161	4.722	4.813	5.246	4.622	5.073	5.329	4.974	4.855	4.828	5.1	4.451
WARD METHOD	SORTING	1.828	1.801	1.980	1.728	1.908	1.810	2.070	1.939	1.871	1.691	1.8	1.896
(phi)	SKEWNESS	0.218	0.355	0.145	0.275	0.147	0.251	-0.058	0.065	0.096	0.199	0.148	0.220
	KURTOSIS	0.867	0.860	0.840	0.837	1.019	0.880	0.922	0.930	0.980	1.041	0.956	1.123
	MEAN:	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Fine Skewed	Very Fine Skewed	Fine Skewed	Fine Skewed	Fine Skewed	Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Fine Skewed	Fine Skewed	Fine Skewed
	KURTOSIS:	Platykurtic	Platykurtic	Platykurtic	Platykurtic	Mesokurtic	Platykurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
	%SAND:	29.474	44.079	39.602	26.537	40.249	31.852	26.082	31.893	33.699	33.526	29.672	47.308
	%MUD:	70.526	55.921	60.398	73.463	59.751	68.148	73.918	68.107	66.301	66.474	70.328	52.680
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023
	%COARSE SAND:	0.164	0.221	0.450	0.007	0.842	0.069	0.866	0.201	0.139	0.053	0.289	2.043
	%MEDIUM SAND:	2.684	2.336	5.242	0.733	7.060	2.081	5.935	5.562	5.509	3.065	3.731	6.513
	%FINE SAND:	6.570	11.844	12.948	4.835	10.481	7.430	7.355	9.872	10.087	8.312	7.268	10.880
	%V FINE SAND:	20.056	29.678	20.962	20.963	21.867	22.271	11.926	16.257	17.964	22.095	18.384	27.848
	%V COARSE SILT:	24.330	19.939	16.912	26.097	22.601	24.143	17.370	21.169	22.911	27.073	24.357	21.610
	%COARSE SILT:	14.970	10.509	14.363	15.682	14.039	14.618	17.912	17.227	17.140	16.351	16.876	10.479
	%MEDIUM SILT:	12.123	10.895	12.855	12.296	10.433	11.671	15.834	13.215	12.034	10.562	12.339	9.234
	%FINE SILT:	12.323	9.949	10.918	12.281	8.778	11.096	14.411	11.043	9.652	8.571	11.104	7.850
	%V FINE SILT:	6.173	4.344	4.946	6.387	3.685	5.892	7.497	5.021	4.231	3.661	5.207	3.292
	%CLAY:	0.607	0.284	0.403	0.718	0.215	0.728	0.895	0.432	0.333	0.256	0.446	0.215
%LOI		5.39	4.19	6.98	4.66	5.78	5.15	7.76	7.31	6.62	4.78	5.86	7.66

SAMPLE	PARAMETER	CN2 LC	CN2 MA	CN2 MB	CN2 MC	CN2 U2	CN2 UA	CN2 UB	CN2 UC	CN4 LA	CN4 LB	CN4 LC	CN4 MA
SAMPLE TYPE:		Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Very Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Muddy Sand	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Coarse Silty Very Fine Sand	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	93.9	42.8	43.9	37.0	16.1	37.6	37.7	42.0	37.5	61.42	44.7	32.6
FOLK AND	MEAN GRAIN SIZE (µm)	76.638	36.051	34.618	32.470	16.772	35.928	33.544	35.208	27.796	47.978	38.03	30.13
WARD METHOD	SORTING	2.828	3.265	3.408	3.926	3.759	3.894	3.557	3.397	3.250	3.047	4.068	3.829
(µm)	SKEWNESS	-0.353	-0.192	-0.258	-0.099	0.093	-0.043	-0.104	-0.181	-0.345	-0.331	-0.137	-0.052
	KURTOSIS	1.548	1.093	0.914	0.938	0.913	0.943	1.017	1.033	0.841	1.255	0.841	0.937
	MEDIAN GRAIN SIZE D_{50} (phi):	3.413	4.546	4.510	4.757	5.956	4.734	4.727	4.572	4.739	4.025	4.485	4.937
FOLK AND	MEAN GRAIN SIZE (phi):	3.706	4.794	4.852	4.945	5.898	4.799	4.898	4.828	5.169	4.381	4.717	5.053
WARD METHOD	SORTING	1.500	1.707	1.769	1.973	1.911	1.961	1.831	1.764	1.701	1.607	2.024	1.937
(phi)	SKEWNESS	0.353	0.192	0.258	0.099	-0.093	0.043	0.104	0.181	0.345	0.331	0.137	0.052
	KURTOSIS	1.548	1.093	0.914	0.938	0.913	0.943	1.017	1.033	0.841	1.255	0.841	0.937
	MEAN:	Very Fine Sand	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Very Fine Skewed	Fine Skewed	Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Fine Skewed	Fine Skewed	Very Fine Skewed	Very Fine Skewed	Fine Skewed	Symmetrical
	KURTOSIS:	Very Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Leptokurtic	Platykurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%SAND:	70.392	34.029	36.632	33.505	16.895	34.615	32.117	34.424	28.569	49.225	41.657	30.010
	%MUD:	29.608	65.971	63.368	66.495	83.105	65.385	67.883	65.576	71.431	50.775	58.343	69.990
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE SAND:	2.783	0.162	0.030	0.381	0.381	0.211	0.355	0.280	0.022	0.285	0.804	0.360
	%MEDIUM SAND:	3.575	3.818	2.391	6.263	2.978	7.069	5.040	4.048	0.525	3.664	6.704	5.339
	%FINE SAND:	25.896	8.004	9.833	9.246	4.408	11.198	8.576	8.471	4.282	11.857	13.387	8.836
	%V FINE SAND:	38.137	22.046	24.378	17.615	9.128	16.136	18.146	21.625	23.741	33.418	20.762	15.475
	%V COARSE SILT:	12.664	27.783	23.632	21.511	15.588	21.002	24.402	25.941	27.942	24.768	15.858	21.326
	%COARSE SILT:	5.650	15.958	13.891	15.669	18.317	17.325	17.500	15.690	14.087	9.161	13.887	17.597
	%MEDIUM SILT:	5.372	9.952	11.277	12.502	18.109	12.509	11.892	10.715	10.928	7.491	12.968	13.726
	%FINE SILT:	4.069	8.360	9.897	11.051	18.296	9.975	9.741	9.162	11.673	6.557	10.733	11.678
	%V FINE SILT:	1.788	3.654	4.350	5.256	11.019	4.299	4.129	3.859	6.137	2.669	4.583	5.240
	%CLAY:	0.065	0.264	0.320	0.507	1.776	0.274	0.219	0.209	0.665	0.129	0.315	0.422
%LOI		4.07	4.59	5.89	6.95	7.90	7.33	4.79	4.63	4.18	5.02	5.21	6.37

SAMPLE	PARAMETER	CN4 MB	CN4 MC	CN4 U2	CN4 UA	CN4 UB	CN4 UC	CS1LA	CS1LB	CS1LC	CS1MA	CS1MB	CS1MC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Sandy Mud	Muddy Sand	Muddy Sand	Sandy Mud	Slightly Gravelly Sandy Mud	Slightly Gravelly Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Coarse Silty Fine Sand	Very Coarse Silty Fine Sand	Very Fine Sandy Very Coarse Silt	Slightly Fine Gravelly Very Fine Sandy Very Coarse Silt	Slightly Fine Gravelly Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	38.7	57.7	22.2	26.51	33.8	32.84	37.4	114.4	133.82	32.80	44.28	36.929
FOLK AND	MEAN GRAIN SIZE (µm)	30.8	43.0	22.0	24.76	32.8	29.3	28.6	94.5	126.672	26.437	35.935	32.0
WARD METHOD	SORTING	3.416	3.424	4.042	3.419	3.765	3.48	3.532	2.640	2.064	3.205	3.026	3.7
(µm)	SKEWNESS	-0.240	-0.328	0.045	-0.040	-0.019	-0.093	-0.274	-0.437	-0.307	-0.245	-0.275	-0.120
	KURTOSIS	0.923	1.054	0.922	0.989	0.966	0.996	0.838	1.594	1.649	0.895	1.115	0.943
	MEDIAN GRAIN SIZE D_{50} (phi):	4.692	4.116	5.491	5.237	4.886	4.928	4.742	3.127	2.902	4.930	4.497	4.8
FOLK AND	MEAN GRAIN SIZE (phi):	5.023	4.541	5.503	5.336	4.930	5.091	5.126	3.404	2.981	5.241	4.798	5.0
WARD METHOD	SORTING	1.772	1.776	2.015	1.774	1.913	1.798	1.820	1.400	1.045	1.680	1.598	1.9
(phi)	SKEWNESS	0.240	0.328	-0.045	0.040	0.019	0.093	0.274	0.437	0.307	0.245	0.275	0.120
	KURTOSIS	0.923	1.054	0.922	0.989	0.966	0.996	0.838	1.594	1.649	0.895	1.115	0.943
	MEAN:	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Coarse Silt	Coarse Silt	Coarse Silt	Very Fine Sand	Fine Sand	Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Fine Skewed	Very Fine Skewed	Symmetrical	Symmetrical	Symmetrical	Symmetrical	Fine Skewed	Very Fine Skewed	Very Fine Skewed	Fine Skewed	Fine Skewed	Fine Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Platykurtic	Very Leptokurtic	Very Leptokurtic	Platykurtic	Leptokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.323	0.206
	%SAND:	31.687	46.811	23.252	22.193	31.267	27.546	31.418	77.304	87.374	24.508	33.424	32.623
	%MUD:	68.313	53.189	76.748	77.807	68.733	72.454	68.582	22.696	12.626	75.492	66.253	67.171
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.305	0.189
	%V FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.017
	%V COARSE SAND:	0.000	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.017
	%COARSE SAND:	0.084	0.126	0.735	0.174	0.315	0.251	0.018	0.186	0.001	0.033	0.143	0.349
	%MEDIUM SAND:	2.704	3.883	4.666	3.129	6.010	3.852	1.171	5.817	8.244	1.133	2.069	4.647
	%FINE SAND:	7.026	12.937	6.179	6.014	9.800	7.311	7.536	38.742	46.977	4.533	6.443	8.695
	%V FINE SAND:	21.873	29.865	11.649	12.875	15.143	16.131	22.693	32.558	32.151	18.809	24.742	18.915
	%V COARSE SILT:	25.516	22.507	17.625	22.300	21.240	24.212	24.261	7.968	4.554	27.327	30.146	22.305
	%COARSE SILT:	14.989	9.771	18.035	21.623	19.088	19.304	13.940	4.931	3.181	17.736	15.278	16.202
	%MEDIUM SILT:	11.505	8.821	16.137	15.566	13.437	13.065	11.190	4.296	2.265	12.438	8.752	12.595
	%FINE SILT:	10.641	8.138	15.317	12.318	10.240	10.758	12.018	3.846	1.875	11.777	8.212	10.743
	%V FINE SILT:	5.156	3.662	8.478	5.565	4.432	4.786	6.450	1.626	0.751	5.683	3.661	4.916
	%CLAY:	0.506	0.290	1.155	0.436	0.296	0.329	0.722	0.028	0.001	0.530	0.205	0.411
%LOI		4.66	5.14	8.80	7.14	7.92	6.48	4.44	2.63	1.54	5.49	4.00	5.33

SAMPLE	PARAMETER	CS1 UA	CS1 UB	CS1 UC	CS2 LA	CS2 LB	CS2 LC	CS2 MA	CS2 MB	CS2 MC	CS2 UA	CS2 UB	CS2 UC
SAMPLE TYPE:		Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Moderately Well Sorted	Unimodal, Moderately Well Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Bimodal, Poorly Sorted
TEXTURAL GROUP:		Sandy Mud	Sandy Mud	Sandy Mud	Slightly Gravelly Muddy Sand	Sand	Sand	Slightly Gravelly Sandy Mud	Muddy Sand	Muddy Sand	Sandy Mud	Slightly Gravelly Sandy Mud	Sandy Mud
SEDIMENT NAME:		Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt	Slightly Very Fine Gravelly Very Coarse Silty Very Fine Sand	Moderately Well Sorted Fine Sand	Moderately Well Sorted Fine Sand	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Coarse Silty Very Fine Sand	Very Coarse Silty Very Fine Sand	Very Fine Sandy Very Coarse Silt	Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	29.26	34.2	31.30	91.03	139.77	161.57	34.58	63.83	99.0	28.7	29.45	34.46
FOLK AND	MEAN GRAIN SIZE (µm)	26.718	27.405	25.829	75.657	139.216	158.828	28.175	49.623	93.314	27.290	24.540	28.098
WARD METHOD	SORTING	3.566	3.081	3.366	2.699	1.533	1.549	3.212	2.788	2.101	3.670	3.327	3.099
(µm)	SKEWNESS	-0.065	-0.270	-0.192	-0.382	-0.061	-0.090	-0.230	-0.416	-0.314	-0.017	-0.182	-0.246
	KURTOSIS	0.971	0.949	0.927	1.456	0.997	1.073	0.944	1.257	1.602	0.975	0.915	0.995
	MEDIAN GRAIN SIZE D_{50} (phi):	5.095	4.871	4.998	3.457	2.839	2.630	4.854	3.970	3.337	5.122	5.086	4.859
FOLK AND	MEAN GRAIN SIZE (phi):	5.226	5.189	5.275	3.724	2.845	2.654	5.149	4.333	3.422	5.195	5.349	5.153
WARD METHOD	SORTING	1.834	1.623	1.751	1.433	0.617	0.632	1.683	1.479	1.071	1.876	1.734	1.632
(phi)	SKEWNESS	0.065	0.270	0.192	0.382	0.061	0.090	0.230	0.416	0.314	0.017	0.182	0.246
	KURTOSIS	0.971	0.949	0.927	1.456	0.997	1.073	0.944	1.257	1.602	0.975	0.915	0.995
	MEAN:	Coarse Silt	Coarse Silt	Coarse Silt	Very Fine Sand	Fine Sand	Fine Sand	Coarse Silt	Very Coarse Silt	Very Fine Sand	Coarse Silt	Coarse Silt	Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Moderately Well Sorted	Moderately Well Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Symmetrical	Fine Skewed	Fine Skewed	Very Fine Skewed	Symmetrical	Symmetrical	Fine Skewed	Very Fine Skewed	Very Fine Skewed	Symmetrical	Fine Skewed	Fine Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic	Leptokurtic	Very Leptokurtic	Mesokurtic	Mesokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.000	0.000	0.000	0.008	0.000	0.000	0.132	0.000	0.000	0.000	0.139	0.000
	%SAND:	25.538	24.237	24.309	69.052	95.567	96.676	26.286	51.211	78.030	26.180	22.049	24.820
	%MUD:	74.462	75.763	75.691	30.940	4.433	3.324	73.582	48.789	21.970	73.820	77.812	75.180
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.043	0.000
	%V FINE GRAVEL:	0.000	0.000	0.000	0.008	0.000	0.000	0.091	0.000	0.000	0.000	0.096	0.000
	%V COARSE SAND:	0.000	0.000	0.000	0.025	0.000	0.000	0.020	0.000	0.000	0.000	0.021	0.000
	%COARSE SAND:	0.129	0.003	0.160	0.271	0.000	0.001	0.044	0.035	0.000	0.403	0.018	0.075
	%MEDIUM SAND:	3.663	0.837	2.062	3.980	5.904	12.772	1.273	0.107	0.911	4.567	1.719	1.477
	%FINE SAND:	7.182	4.344	5.082	26.437	54.531	60.922	5.622	13.055	31.416	7.193	4.667	4.431
	%V FINE SAND:	14.564	19.053	17.006	38.340	35.132	22.981	19.327	38.014	45.703	14.018	15.623	18.837
	%V COARSE SILT:	22.422	29.480	25.737	14.188	1.463	0.632	27.494	24.450	12.225	21.220	25.943	29.235
	%COARSE SILT:	19.789	18.547	18.690	5.183	1.559	1.330	17.939	8.692	2.967	19.971	19.182	19.049
	%MEDIUM SILT:	14.260	11.241	12.423	5.464	0.843	0.642	11.660	6.731	3.329	14.831	13.052	11.128
	%FINE SILT:	11.914	10.839	12.044	4.364	0.487	0.586	10.934	6.109	2.449	12.110	12.568	10.263
	%V FINE SILT:	5.601	5.222	6.208	1.712	0.080	0.134	5.135	2.652	0.993	5.317	6.432	5.052
	%CLAY:	0.477	0.435	0.588	0.030	0.000	0.000	0.419	0.154	0.008	0.370	0.635	0.454
%LOI		6.26	6.10	5.35	2.81	1.41	1.43	4.86	2.58	2.00	7.16	5.74	4.75

SAMPLE	PARAMETER	CS3 LA	CS3 LB	CS3 LC	CS3 MA	CS3 MB	CS3 MC	CS3 UA	CS3 UB	CS3 UC
SAMPLE TYPE:		Bimodal, Poorly Sorted	Trimodal, Very Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted	Bimodal, Poorly Sorted	Unimodal, Poorly Sorted
TEXTURAL GROUP:		Slightly Gravelly Sandy Mud	Muddy Sand	Muddy Sand	Slightly Gravelly Muddy Sand	Muddy Sand	Muddy Sand	Sandy Mud	Slightly Gravelly Sandy Mud	Slightly Gravelly Sandy Mud
SEDIMENT NAME:		Slightly Very Fine Gravelly Very Fine Sandy Very Coarse Silt	Very Coarse Silty Very Fine Sand	Very Coarse Silty Fine Sand	Slightly Fine Gravelly Very Coarse Silty Very Fine Sand	Very Coarse Silty Very Fine Sand	Very Coarse Silty Very Fine Sand	Very Fine Sandy Very Coarse Silt	Slightly Medium Gravelly Very Fine Sandy Very Coarse Silt	Slightly Fine Gravelly Very Fine Sandy Very Coarse Silt
	MEDIAN GRAIN SIZE D_{50} (µm)	51.22	86.63	131.94	62.60	99.17	78.28	29.35	40.85	38.33
FOLK AND	MEAN GRAIN SIZE (µm)	38.838	75.689	115.269	48.205	70.352	59.759	26.642	33.927	31.372
WARD METHOD	SORTING	3.538	4.652	2.873	2.853	2.954	3.015	3.674	2.795	2.928
(µm)	SKEWNESS	-0.301	-0.159	-0.277	-0.417	-0.534	-0.423	-0.063	-0.292	-0.275
	KURTOSIS	0.942	1.044	1.421	1.239	1.589	1.300	0.940	1.145	0.986
	MEDIAN GRAIN SIZE D_{50} (phi):	4.287	3.529	2.922	3.998	3.334	3.675	5.090	4.614	4.705
FOLK AND	MEAN GRAIN SIZE (phi):	4.686	3.724	3.117	4.375	3.829	4.065	5.230	4.881	4.994
WARD METHOD	SORTING	1.823	2.218	1.522	1.512	1.563	1.592	1.877	1.483	1.550
(phi)	SKEWNESS	0.301	0.159	0.277	0.417	0.534	0.423	0.063	0.292	0.275
	KURTOSIS	0.942	1.044	1.421	1.239	1.589	1.300	0.940	1.145	0.986
	MEAN:	Very Coarse Silt	Very Fine Sand	Very Fine Sand	Very Coarse Silt	Very Fine Sand	Very Coarse Silt	Coarse Silt	Very Coarse Silt	Very Coarse Silt
FOLK AND WARD METHOD	SORTING:	Poorly Sorted	Very Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted	Poorly Sorted
(Description)	SKEWNESS:	Very Fine Skewed	Fine Skewed	Fine Skewed	Very Fine Skewed	Very Fine Skewed	Very Fine Skewed	Symmetrical	Fine Skewed	Fine Skewed
	KURTOSIS:	Mesokurtic	Mesokurtic	Leptokurtic	Leptokurtic	Very Leptokurtic	Leptokurtic	Mesokurtic	Leptokurtic	Mesokurtic
BULK GRAIN SIZE	%GRAVEL:	0.019	0.000	0.000	0.017	0.000	0.000	0.000	0.238	0.061
	%SAND:	42.841	60.064	77.875	50.072	72.779	61.116	26.126	28.647	28.430
	%MUD:	57.140	39.936	22.125	49.911	27.221	38.884	73.874	71.115	71.509
	%V COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%COARSE GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	%MEDIUM GRAVEL:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.150	0.000
	%FINE GRAVEL:	0.000	0.000	0.000	0.008	0.000	0.000	0.000	0.018	0.044
	%V FINE GRAVEL:	0.019	0.000	0.000	0.008	0.000	0.000	0.000	0.071	0.017
	%V COARSE SAND:	0.019	0.000	0.000	0.017	0.000	0.000	0.000	0.035	0.192
	%COARSE SAND:	0.163	8.778	4.825	0.027	0.000	0.163	0.217	0.178	0.049
	%MEDIUM SAND:	2.528	13.711	13.233	0.442	1.264	1.556	3.942	0.891	0.562
	%FINE SAND:	13.652	16.431	34.830	12.394	32.853	22.870	7.483	4.349	4.816
	%V FINE SAND:	26.480	21.144	24.987	37.192	38.662	36.526	14.485	23.194	22.811
	%V COARSE SILT:	21.809	15.682	9.655	24.519	8.336	17.394	22.043	33.339	29.771
	%COARSE SILT:	12.015	7.518	4.902	9.136	5.434	6.684	18.644	17.535	17.598
	%MEDIUM SILT:	9.228	6.602	3.565	6.681	5.479	5.878	14.146	8.402	10.921
	%FINE SILT:	9.220	6.859	2.988	6.371	5.193	5.922	12.765	7.900	9.230
	%V FINE SILT:	4.480	3.094	1.006	2.989	2.607	2.810	5.852	3.671	3.804
	%CLAY:	0.387	0.181	0.008	0.215	0.172	0.197	0.423	0.268	0.185
%LOI		3.67	8.06	4.27	3.73	2.00	2.96	6.52	3.66	7.26

Appendix 4. Species data from North Killingholme

Abundance per 0.01m²	NKM 1.1 LA	NKM 1.1 LB	NKM 1.1 LC	NKM 1.1 MA	NKM 1.1 MB	NKM 1.1 MC	NKM 1.1 UA	NKM 1.1 UB	NKM 1.1 UC	NKM 1.2 LA	NKM 1.2 LB	NKM 1.2 LC
Nematoda	25	4	0	8	2	22	1	1	2	3	10	0
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	1	0	2	0	32	1	0	0	0	0	4
Baltidrilus costatus	0	0	0	0	0	0	0	6	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	6	1	1	0	3	9	0	0	0	5	p	5
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	33	0	0	16	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	1
Tubificoides spp.	p	0	0	p	0	0	0	0	0	p	0	p
Nephtys hombergii	0	0	0	0	0	0	0	0	0	2	0	0
Hediste diversicolor	0	0	0	10	8	14	0	1	0	0	0	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	2	0	0	0	0	2	0	0	0	1	1	0
Eteone spp.	p	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	10	0	0	0	0	0	0	0	0
Pygospio elegans	3	0	0	0	0	0	0	0	0	0	0	0
Streblospio shrubsolii	1	0	0	0	0	2	0	0	0	0	4	1
Spionidae spp.	0	0	p	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	1	0	0	4	0	3	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	7	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	1	0	0	5	1	7	2	8	5	0	0	0
Corophium volutator	185	2	1	20	8	108	1	10	11	36	0	3
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	35	0	1	0	0	0	0	0	0	6	3	2
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.1 LA	NKM 1.1 LB	NKM 1.1 LC	NKM 1.1 MA	NKM 1.1 MB	NKM 1.1 MC	NKM 1.1 UA	NKM 1.1 UB	NKM 1.1 UC	NKM 1.2 LA	NKM 1.2 LB	NKM 1.2 LC
Nematoda	0.0000736	0.0000184	0	0.0000552	0.0000184	0.0000184	0.0000184	0.0000184	0.0000184	0.0000368	0.0000184	0
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	5.39E-06	0	0.00000539	0	0.00007007	5.39E-06	0	0	0	0	1.617E-05
Baltidrilus costatus	0	0	0	0	0	0	0	0.0002695	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.0002372	1.078E-05	1.078E-05	0	0.00027489	0.00057673	0	0	0	5.39E-06	1.078E-05	7.007E-05
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0.00027489	0	0	1.617E-05	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	5.39E-06
Tubificoides spp.	0.0002318	0	0	0.00015092	0	0	0	0	0	0.0001348	0	5.929E-05
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0.00882	0	0
Hediste diversicolor	0	0	0	0.0529844	0.0407217	0.0413922	0	0.0119498	0	0	0	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0.0002584	0	0	0	0	0.0002856	0	0	0	0.0000408	0.0000136	0
Eteone spp.	0.0000816	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0.00016	0	0	0	0	0	0	0	0
Pygospio elegans	0.0000777	0	0	0	0	0	0	0	0	0	0	0
Streblospio shrubsolii	0.000016	0	0	0	0	0.000032	0	0	0	0	0.000064	0.000016
Spionidae spp.	0	0	0.000016	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0.00001365	0	0	0.0002321	0	1.365E-05	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0.0000273	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0.0025116	0	0	0.0011466	0.0005733	0.0009282	0.0003549	0.0007098	0.0004778	0	0	0
Corophium volutator	0.026912	0.000016	0.000016	0.000576	0.001376	0.0016416	0.000032	0.000896	0.002432	0.003248	0	0.00008
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0.0021814	0	5.495E-06	0	0	0	0	0	0	0.0001648	0.0016429	1.099E-05
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.2 MA	NKM 1.2 MB	NKM 1.2 MC	NKM 1.2 UA	NKM 1.2 UB	NKM 1.2 UC	NKM 1.3 LA	NKM 1.3 LB	NKM 1.3 LC	NKM 1.3 MA	NKM 1.3 MB	NKM 1.3 MC
Nematoda	11	44	33	9	2	0	13	5	3	3	36	55
Nemertea	0	0	0	0	0	0	0	0	0	0	0	1
Enchytraeidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	25	26	14	0	2	1	15	6	7	71	143	38
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	82	23	0	0	0	0	2	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	p	0	0	0	0	p	p	p	p	0	p
Nephtys hombergii	0	0	0	0	0	0	0	2	1	0	0	0
Hediste diversicolor	7	1	1	0	0	0	1	0	0	0	0	1
Nereididae spp.	0	0	0	p	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	4	2	0	0	0	1	0	0	0	5	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	3	0	0	0	2	0	0	0	1	0
Streblospio shrubsolii	0	5	0	0	0	0	0	1	3	37	5	2
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	1
Acari spp.	0	0	0	4	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	3	31	44	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	3	0	0	10	4	1	0	0	0	0	0	0
Corophium volutator	284	253	147	23	36	1	209	38	10	49	111	87
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	6	41	10	0	0	0	1	3	2	2	11	11
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.2 MA	NKM 1.2 MB	NKM 1.2 MC	NKM 1.2 UA	NKM 1.2 UB	NKM 1.2 UC	NKM 1.3 LA	NKM 1.3 LB	NKM 1.3 LC	NKM 1.3 MA	NKM 1.3 MB	NKM 1.3 MC
Nematoda	0.0000184	0.0003128	0.0000184	0.0000184	0.0000184	0	0.0000552	0.0000184	0.0000184	0.0000184	0.0000736	0.0002024
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0.000308
Enchytraeidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.00186494	0.00036652	0.00095403	0	1.078E-05	5.39E-06	0.0001348	1.617E-05	1.617E-05	0.00233387	0.00686686	0.00052822
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0.0033256	0.00228	0	0	0	0	0.00001617	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0.00450065	0	0	0	0	0.0014122	0.0004258	4.851E-05	0.01012781	0	0.00216139
Nephtys hombergii	0	0	0	0	0	0	0	0.0114975	0.001645	0	0	0
Hediste diversicolor	0.0107429	0.0006854	0.0000149	0	0	0	0.0001043	0	0	0	0	0.0016688
Nereididae spp.	0	0	0	0.0066007	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0.0006528	0.00034	0	0	0	0.0000272	0	0	0	0.0005304	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0.0000555	0	0	0	0.0000555	0	0	0	0.0000111	0
Streblospio shrubsolii	0	0.000048	0	0	0	0	0	0.000016	0.000032	0.00088	0.000096	0.000032
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0.000032
Acari spp.	0	0	0	1.365E-05	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	1.365E-05	0.000273	0.0003276	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0.00004095	0	0	0.0017609	0.0006006	0.0004095	0	0	0	0	0	0
Corophium volutator	0.03448	0.048704	0.016112	0.002864	0.003472	0.000016	0.026048	0.003344	0.000304	0.004784	0.01008	0.015392
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0.0001044	0.00236826	0.00506621	0	0	0	8.792E-05	0.0048739	7.143E-05	0.00078576	0.00112643	0.00030771
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.3 UA	NKM 1.3 UB	NKM 1.3 UC	NKM 1.4 LA	NKM 1.4 LB	NKM 1.4 LC	NKM 1.4 MA	NKM 1.4 MB	NKM 1.4 MC	NKM 1.4 UA	NKM 1.4 UB	NKM 1.4 UC
Nematoda	2	0	8	4	1	3	13	108	6	2	1	26
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0	0	7	0	0	0	30	4	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	5	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	3	0	27	38	3	4	91	117	16	0	3	57
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	43	0	0	0	0	0	0	0	0	9	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	p	0	0	p	0	0	0	p	0	0	p	0
Nephtys hombergii	0	0	0	p	0	0	0	0	0	0	0	0
Hediste diversicolor	6	0	2	0	0	2	0	0	0	5	14	1
Nereididae spp.	0	p	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0	1	0	1	0	3	2	0	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	p	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	2	0	0	0	0	0	0	1	0	0	0	0
Pygospio elegans	0	0	0	1	0	0	0	1	0	0	0	0
Streblospio shrubsolii	0	0	0	2	1	26	6	2	0	0	0	16
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	1	1	1	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	1	14	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	2	8	2	0	0	0	0	0	0	0	0	0
Corophium volutator	9	41	1	123	183	76	11	121	106	17	28	29
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1	0	0	2	0	0	3	16	1	0	0	1
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	1
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.3 UA	NKM 1.3 UB	NKM 1.3 UC	NKM 1.4 LA	NKM 1.4 LB	NKM 1.4 LC	NKM 1.4 MA	NKM 1.4 MB	NKM 1.4 MC	NKM 1.4 UA	NKM 1.4 UB	NKM 1.4 UC
Nematoda	0.0000184	0	0.0000184	0.0000368	0.0000184	0.0000184	0.0000184	0.0003864	0.0000184	0.0000184	0.0000184	0.0000552
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0	0	1.617E-05	0	0	0	8.624E-05	1.078E-05	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	1.617E-05	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	1.078E-05	0	0.0001132	0.0004959	0.0001671	6.468E-05	0.00574035	0.00181104	0.00108878	0	9.702E-05	0.0049858
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0.0002803	0	0	0	0	0	0	0	0	0.0003881	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0.0008193	0	0	0.0009433	0	0	0	0.01155077	0	0	0.0000539	0
Nephtys hombergii	0	0	0	0.0008575	0	0	0	0	0	0	0	0
Hediste diversicolor	0.1078313	0	0.0561432	0	0	0.0003427	0	0	0	0.0256578	0.1030931	0.0206365
Nereididae spp.	0	0.0200256	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0	0.0000816	0	0.0000408	0	0.000612	0.0000272	0	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0.000304	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0.000016	0	0	0	0	0	0	0.000016	0	0	0	0
Pygospio elegans	0	0	0	0.0000666	0	0	0	0.0000222	0	0	0	0
Streblospio shrubsolii	0	0	0	0.00008	0.000144	0.000432	0.000048	0.000032	0	0	0	0.000112
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0.000016	0.000064	0.000384	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	1.365E-05	1.365E-05	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0.0004368	0.0011466	0.0008873	0	0	0	0	0	0	0	0	0
Corophium volutator	0.001296	0.007232	0.0004	0.021552	0.014736	0.008608	0.000432	0.014208	0.010624	0.00224	0.00456	0.002656
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1.648E-05	0	0	0.0037969	0	0	8.2422E-05	0.00089016	5.4948E-06	0	0	9.341E-05
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	1.374E-05
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.5 LA	NKM 1.5 LB	NKM 1.5 LC	NKM 1.5 MA	NKM 1.5 MB	NKM 1.5 MC	NKM 1.5 UA	NKM 1.5 UB	NKM 1.5 UC	NKM 1.6 LA	NKM 1.6 LB	NKM 1.6 LC
Nematoda	0	0	0	17	6	2	8	7	16	0	0	0
Nemertea	0	0	0	0	1	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0	0	0	21	9	41	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	10	5	6	30	23	21	0	1	0	14	6	7
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	2
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0	0	0	0	0	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0	0	0	0	3	0	15	3	28	0	0	0
Nereididae spp.	0	0	0	p	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0	1	2	0	0	0	1	0	0	1
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	1	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	1	0	0	2	0	1	0	0	0	0	0	1
Streblospio shrubsolii	2	2	5	2	0	1	1	1	0	5	1	10
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	0	11	0	0	0	0
Corophium volutator	105	143	87	53	98	128	16	10	101	120	12	52
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0	0	0	0	2	1	1	0	0	0	0	0
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.5 LA	NKM 1.5 LB	NKM 1.5 LC	NKM 1.5 MA	NKM 1.5 MB	NKM 1.5 MC	NKM 1.5 UA	NKM 1.5 UB	NKM 1.5 UC	NKM 1.6 LA	NKM 1.6 LB	NKM 1.6 LC
Nematoda	0	0	0	0.0000184	0.0000184	0.0000184	0.0000184	0.0000184	0.0000184	0	0	0
Nemertea	0	0	0	0	0.000396	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0	0	0	3.234E-05	1.078E-05	1.617E-05	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.0003342	0.0001455	0.0001563	0.00112651	0.00146069	0.0008624	0	0.0001725	0	0.0004096	5.39E-06	2.695E-05
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	5.39E-06
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0	0	0	0	0	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0	0	0	0	0.0126203	0	0.0909943	0.0353577	0.0312751	0	0	0
Nereididae spp.	0	0	0	0.0022052	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0	0.0000272	0.0003536	0	0	0	0.000544	0	0	0.0000136
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0.000016	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0.0000111	0	0	0.0000111	0	0.0000111	0	0	0	0	0	0.0000111
Streblospio shrubsolii	0.000016	0.000032	0.000064	0.000016	0	0.000016	0.000016	0.000016	0	0.000048	0.000016	0.00008
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0	0	0	0	0.0016107	0	0	0	0
Corophium volutator	0.0128	0.020992	0.01264	0.004576	0.011296	0.016496	0.001984	0.001264	0.012384	0.01552	0.00128	0.0056
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0	0	0	0	0.0003187	5.4948E-05	1.099E-05	0	0	0	0	0
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.6 MA	NKM 1.6 MB	NKM 1.6 MC	NKM 1.6 UA	NKM 1.6 UB	NKM 1.6 UC	NKM 1.6A LA	NKM 1.6A LB	NKM 1.6A LC	NKM 1.6A MA	NKM 1.6A MB	NKM 1.6A MC
Nematoda	27	38	8	1	2	3	0	0	2	11	9	7
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	85	3	2	0	0	0	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	54	17	10	1	0	71	9	8	3	58	41	57
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	4	0	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	2	0	0	0
Tubificoides spp.	p	p	p	0	0	0	p	0	p	p	p	p
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	1	0
Hediste diversicolor	1	p	0	1	8	29	0	0	1	0	1	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	1	1	0	1	0	1	2	0	0	3	1	4
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	1	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	1	3	0	0	0	0	0	0	0	5	0
Streblospio shrubsolii	27	1	5	0	0	3	0	2	6	4	0	2
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	1	0	0	0	1	0	0	0	0	1
Acari spp.	0	0	0	1	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	1	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	3	0	0	0	0	0	0	0	0
Corophium volutator	263	158	99	40	73	81	3	22	9	184	68	51
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	2	4	0	1	0	0	0	0	1	9	8	4
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.6 MA	NKM 1.6 MB	NKM 1.6 MC	NKM 1.6 UA	NKM 1.6 UB	NKM 1.6 UC	NKM 1.6A LA	NKM 1.6A LB	NKM 1.6A LC	NKM 1.6A MA	NKM 1.6A MB	NKM 1.6A MC
Nematoda	0.000184	0.0001656	0.0000736	0.0000184	0.0000184	0.0000184	0	0	0.0000184	0.0000736	0.0000552	0.0000368
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	8.085E-05	5.39E-06	5.39E-06	0	0	0	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.00121814	0.00017787	0.00009702	5.39E-06	0	0.0037568	0.00009702	0.00001617	0.00006468	0.00155771	0.00054439	0.00117502
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	1.078E-05	0	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0.00001078	0	0	0
Tubificoides spp.	0.00751366	0.0031262	0.00093786	0	0	0	0.00040964	0	0.00004312	0.00316932	0.00316932	0.00409101
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0.0115675	0
Hediste diversicolor	0.0002384	0.0050064	0	0.0001341	0.0371755	0.0350746	0	0	0.0057216	0	0.0054683	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0.0005984	0.0000952	0	0.0001224	0	0.000544	0.0000272	0	0	0.0000272	0.0000408	0.0000408
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0.000016	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0.0000111	0.0000444	0	0	0	0	0	0	0	0.0000333	0
Streblospio shrubsolii	0.00064	0.000016	0.000032	0	0	0.000016	0	0.000032	0.00008	0.00008	0	0.000048
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0.000016	0	0	0	0.00008	0	0	0	0	0.000032
Acari spp.	0	0	0	1.365E-05	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0.00001365	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0.0004914	0	0	0	0	0	0	0	0
Corophium volutator	0.03088	0.016144	0.02112	0.00248	0.009936	0.01248	0.000144	0.001744	0.000544	0.013072	0.009344	0.008416
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	7.6927E-05	1.099E-05	0	1.648E-05	0	0	0	0	0.00318698	3.29688E-05	1.64844E-05	0.000054948
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.6A UA	NKM 1.6A UB	NKM 1.6A UC	NKM 1.7 LA	NKM 1.7 LB	NKM 1.7 LC	NKM 1.7 MA	NKM 1.7 MB	NKM 1.7 MC	NKM 1.7 UA	NKM 1.7 UB	NKM 1.7 UC
Nematoda	11	19	5	2	1	1	17	13	26	7	1	19
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	82	38	0	0	0	0	0	0	0	4	4	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0	1	38	24	28	3	24	80	109	0	46	75
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	1	0	0	0	0	0	0	5	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	p	0	p	p	p	0	p	0	p	p
Nephtys hombergii	0	0	0	1	0	0	0	0	1	0	0	0
Hediste diversicolor	6	16	2	0	0	0	0	0	0	11	23	3
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	1	0	3	1	0	0	2	1	4	0	1	3
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	1	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	1	0	1	3	0	0	1	0	0	0
Streblospio shrubsolii	1	0	46	6	19	10	9	0	2	0	2	24
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	2	0	0	0
Aphelochaeta	0	0	0	0	0	1	0	0	0	0	0	0
Tharyx killariensis	0	0	0	2	1	2	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	1	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	1	0	0	0
Diptera larvae	3	0	0	0	0	0	0	0	0	1	0	0
Corophium volutator	65	75	119	8	19	2	247	85	60	110	195	209
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1	0	4	5	1	0	4	9	7	0	0	6
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.6A UA	NKM 1.6A UB	NKM 1.6A UC	NKM 1.7 LA	NKM 1.7 LB	NKM 1.7 LC	NKM 1.7 MA	NKM 1.7 MB	NKM 1.7 MC	NKM 1.7 UA	NKM 1.7 UB	NKM 1.7 UC
Nematoda	0.0000184	0.0000184	0.0000368	0.0000184	0.0000184	0.0000184	0.0000736	0.0000184	0.0001288	0.0000184	0.0000184	0.0001656
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0.0002695	0.00004312	0	0	0	0	0	0	0	5.39E-06	5.39E-06	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0	0.00000539	0.00055517	0.0007762	2.156E-05	1.078E-05	0.00044737	0.004851	0.00154154	0	0.0013852	0.0017086
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	5.39E-06	0	0	0	0	0	0	0.0002156	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0.00538461	0	0.0002102	8.085E-05	0.00292138	0	0.00378378	0	0.0031478	0.0091253
Nephtys hombergii	0	0	0	0.00336	0	0	0	0	0.00343	0	0	0
Hediste diversicolor	0.0170307	0.0118753	0.0036207	0	0	0	0	0	0	0.0558601	0.0645468	0.0110409
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0.0002448	0	0.0007072	0.0000136	0	0	0.0002312	0.0000136	0.0000544	0	0.0005712	0.0009248
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0.000048	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0.0000111	0	0.0000666	0.0000333	0	0	0.0000222	0	0	0
Streblospio shrubsolii	0.000032	0	0.0008	0.000016	0.00008	0.00008	0.000176	0	0.000032	0	0.000032	0.000528
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0.000144	0	0	0
Aphelochaeta	0	0	0	0	0	0.000032	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0.000048	0.000016	0.000032	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0.00001365	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0.0001638	0	0	0
Diptera	0.00126945	0	0	0	0	0	0	0	0	0.0001229	0	0
Corophium volutator	0.009328	0.006128	0.014224	0.000624	0.001712	0.000256	0.03952	0.014512	0.006432	0.006368	0.034208	0.026368
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	8.7917E-05	0	0.00818725	0.001011	0.0027309	0	0.00269795	1.6484E-05	0.00213748	0	0	0.0005
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.8 LA	NKM 1.8 LB	NKM 1.8 LC	NKM 1.8 MA	NKM 1.8 MB	NKM 1.8 MC	NKM 1.8 UA	NKM 1.8 UB	NKM 1.8 UC	NKM 1.9 LA	NKM 1.9 LB	NKM 1.9 LC
Nematoda	0	0	0	8	11	5	30	11	12	3	1	0
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	29	0	0	36	84	36	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	1	0	0
Tubificoides benedii	4	7	1	17	9	9	0	1	14	18	7	21
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	1	0	0	0	3	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	p	p	0	p	0	0	0	0	p	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	3	1	0
Hediste diversicolor	1	0	0	2	0	0	2	6	3	0	0	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	1	0	4	0	1	1	0	3	7	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	1	0	0	0	1	0	0	0	0	0	0
Streblospio shrubsolii	1	4	0	1	0	0	0	0	4	0	11	11
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	1	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	3	0	0	0	0	0
Corophium volutator	5	6	1	129	33	31	156	60	149	1	1	0
Abra alba	0	0	0	0	0	0	0	0	0	1	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	2	2	0	5	1	2	1	0	2	0	0	1
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.8 LA	NKM 1.8 LB	NKM 1.8 LC	NKM 1.8 MA	NKM 1.8 MB	NKM 1.8 MC	NKM 1.8 UA	NKM 1.8 UB	NKM 1.8 UC	NKM 1.9 LA	NKM 1.9 LB	NKM 1.9 LC
Nematoda	0	0	0	0.0000552	0.0000184	0.0000184	0.000184	0.0000552	0.0000736	0.0000184	0.0000184	0
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0.00001078	0	0	1.078E-05	0.000124	0.0002318	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	5.39E-06	0	0
Tubificoides benedii	4.851E-05	0.0001401	5.39E-06	0.0002156	0.00047971	0.00083006	0	1.617E-05	0.0002048	0.0006252	0.0001294	0.0006845
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0.00001078	0	0	0	1.617E-05	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0.0005067	0.0001186	0	0.00171402	0	0	0	0	0.0007384	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0.011165	0.0004025	0
Hediste diversicolor	0.0000298	0	0	0.0000298	0	0	0.0110707	0.0110409	0.0071818	0	0	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0.0000272	0	0.0000544	0	0.0000136	0.0001224	0	0.0006664	0.0000136	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0.0000222	0	0	0	0.0000333	0	0	0	0	0	0
Streblospio shrubsolii	0.000016	0.000064	0	0.000032	0	0	0	0	0.000048	0	0.000096	0.000096
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	1.365E-05	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0	0	0	0.0010511	0	0	0	0	0
Corophium volutator	0.000176	0.000192	0.000016	0.015104	0.003952	0.003264	0.026928	0.000816	0.024512	0.000016	0.000016	0
Abra alba	0	0	0	0	0	0	0	0	0	0.0570443	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	3.846E-05	1.648E-05	0	0.00057146	5.4948E-06	5.4948E-06	0.0024946	0	0.0001264	0	0	0.0019507
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 1.9 MA	NKM 1.9 MB	NKM 1.9 MC	NKM 1.9 UA	NKM 1.9 UB	NKM 1.9 UC	NKM 2.1 LA	NKM 2.1 LB	NKM 2.1 LC	NKM 2.1 MA	NKM 2.1 MA2	NKM 2.1 MB
Nematoda	3	14	15	42	5	8	1	1	0	18	10	29
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	18	0	283	7	9	0	0	0	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	3	19	14	0	0	1	3	5	1	123	232	39
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	3	0	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	p	0	0	0	0	p	0	0	0	0	p
Nephtys hombergii	0	0	0	0	0	0	1	0	0	0	0	0
Hediste diversicolor	1	0	0	10	1	3	0	0	0	2	8	0
Nereididae spp.	0	0	0	0	0	0	0	0	p	0	0	0
Eteone longa/flava agg.	2	3	0	1	1	3	0	1	0	1	0	2
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	1	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0	0	0	0	0	0	0	0	1	5
Streblospio shrubsolii	0	4	2	2	0	1	1	1	0	17	0	2
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	2	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	0	0	0	0	3	0
Corophium volutator	79	121	143	91	211	128	2	2	2	141	272	208
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	7	13	7	1	3	2	2	1	0	9	2	15
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 1.9 MA	NKM 1.9 MB	NKM 1.9 MC	NKM 1.9 UA	NKM 1.9 UB	NKM 1.9 UC	NKM 2.1 LA	NKM 2.1 LB	NKM 2.1 LC	NKM 2.1 MA	NKM 2.1 MA2	NKM 2.1 MB
Nematoda	0.0000184	0.0000552	0.0000184	0.0002392	0.0000184	0.0000184	0.0000184	0.0000184	0	0.0000184	0.0000184	0.0002208
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0.00000539	0	0.0003989	5.39E-06	5.39E-06	0	0	0	0	0	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.00001078	0.00007007	0.00105105	0	0	1.617E-05	6.468E-05	4.312E-05	1.078E-05	0.00671594	0.01415953	0.00049588
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	1.078E-05	0	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0.0004851	0	0	0	0	3.234E-05	0	0	0	0	0.00209671
Nephtys hombergii	0	0	0	0	0	0	0.00637	0	0	0	0	0
Hediste diversicolor	0.0000149	0	0	0.0178949	0.0000149	0.0057961	0	0	0	0.0000298	0.0054832	0
Nereididae spp.	0	0	0	0	0	0	0	0	0.0002682	0	0	0
Eteone longa/flava agg.	0.0000272	0.0000136	0	0.0000408	0.0000136	0.0002448	0	0.0000136	0	0.0003536	0	0.0001496
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0.000048	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0	0	0	0	0	0	0	0	0.0000111	0.0002886
Streblospio shrubsolii	0	0.000112	0.000016	0.000032	0	0.000016	0.000016	0.000016	0	0.000064	0	0.000032
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0.00001365	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0	0	0	0	0	0	0	0.0017472	0
Corophium volutator	0.006944	0.012608	0.01768	0.006368	0.018096	0.011776	0.000064	0.000224	0.000112	0.013856	0.03904	0.04136
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1.6484E-05	0.00351118	2.1979E-05	0.0077367	0.0009781	5.495E-06	0.0051596	0.0006264	0	0.00087917	5.4948E-06	0.00428594
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 2.1 MC	NKM 2.1 UA	NKM 2.1 UB	NKM 2.1 UC	NKM 2.2 LA	NKM 2.2 LB	NKM 2.2 LC	NKM 2.2 MA	NKM 2.2 MB	NKM 2.2 MC	NKM 2.2 UA	NKM 2.2 UB
Nematoda	3	1	0	0	4	4	0	8	16	15	3	10
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0	0	0	0	0	0	0	16	1
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	9	0	0	0	13	13	7	137	176	19	0	5
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	30	11	0	0	0	1	0	0	0	40	0
Tubificoides swirencoides	0	0	0	0	0	0	2	0	0	0	0	0
Tubificoides spp.	0	p	0	0	p	0	p	0	0	p	0	0
Nephtys hombergii	1	0	0	0	0	0	2	0	0	0	0	0
Hediste diversicolor	0	0	0	0	0	0	0	1	0	0	7	16
Nereididae spp.	0	0	0	0	0	p	0	0	0	0	0	0
Eteone longa/flava agg.	3	0	0	0	3	0	2	0	2	1	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	3
Pygospio elegans	0	0	0	0	1	2	1	0	0	6	0	0
Streblospio shrubsolii	0	0	0	0	2	0	7	0	19	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	1	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	6	4	5	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	2	6	5	0	0	0	0	0	0	1	0
Corophium volutator	121	13	12	p	235	80	5	19	48	131	8	21
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	7	0	0	0	2	0	1	0	7	16	0	0
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	1

AFDW Biomass per 0.01m²	NKM 2.1 MC	NKM 2.1 UA	NKM 2.1 UB	NKM 2.1 UC	NKM 2.2 LA	NKM 2.2 LB	NKM 2.2 LC	NKM 2.2 MA	NKM 2.2 MB	NKM 2.2 MC	NKM 2.2 UA	NKM 2.2 UB
Nematoda	0.0000184	0.0000184	0	0	0.0000184	0.0000184	0	0.0000184	0.0000184	0.0000552	0.0000184	0.0000184
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	0	0	0	0	0	0	0	5.39E-06	5.39E-06
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.00007546	0	0	0	1.617E-05	0.000345	9.163E-05	0.01071532	0.00895818	0.00477015	0	2.695E-05
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0.0003881	0.0006414	0	0	0	5.39E-06	0	0	0	0.0024525	0
Tubificoides swirencoides	0	0	0	0	0	0	1.078E-05	0	0	0	0	0
Tubificoides spp.	0	0.0011211	0	0	0.0004582	0	4.851E-05	0	0	0.00031262	0	0
Nephtys hombergii	0.0158375	0	0	0	0	0	0.0004725	0	0	0	0	0
Hediste diversicolor	0	0	0	0	0	0	0	0.007003	0	0	0.0822033	0.1061476
Nereididae spp.	0	0	0	0	0	0.0003427	0	0	0	0	0	0
Eteone longa/flava agg.	0.0000408	0	0	0	0.0000408	0	0.0002448	0	0.00034	0.0000136	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0.000016
Pygospio elegans	0	0	0	0	0.0000111	0.0000222	0.0000111	0	0	0.0001998	0	0
Streblospio shrubsolii	0	0	0	0	0.000064	0	0.00008	0	0.000304	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0.000016	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0.0000819	1.365E-05	1.365E-05	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0.0001229	0.0007235	0.0007235	0	0	0	0	0	0	0.0006962	0
Corophium volutator	0.01008	0.003744	0.001696	0.000016	0.02728	0.002704	0.00016	0.001616	0.003136	0.02392	0.000576	0.00184
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0.00895103	0	0	0	0.0007803	0	3.846E-05	0	0.00154953	0.00056596	0	0
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0.0002622

Abundance per 0.01m²	NKM 2.2 UC	NKM 2.3 LA	NKM 2.3 LB	NKM 2.3 LC	NKM 2.3 MA	NKM 2.3 MB	NKM 2.3 MC	NKM 2.3 UA	NKM 2.3 UB	NKM 2.3 UC	NKM 2.4 LA	NKM 2.4 LB
Nematoda	19	0	8	1	12	10	11	5	3	2	1	1
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	2	0	0	0	55	3	0	1	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	62	25	29	1	25	59	20	0	28	36	17	11
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	3	0	0	0	0	0	0	0	0	2	5	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	p	p	0	0	0	p	0	0	0	p	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	25	0	0	1	0	0	0	10	22	14	1	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0	0	2	0	1	0	1	0	2	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	1
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	1	1	0	0	0	1	0	0	0	0	0	0
Streblospio shrubsolii	16	2	21	4	6	0	0	0	0	3	4	7
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	1	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	1	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	0	1	0	0	0	0
Corophium volutator	69	68	12	139	42	79	74	131	85	136	7	302
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0	0	2	0	5	3	0	0	0	1	1	0
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 2.2 UC	NKM 2.3 LA	NKM 2.3 LB	NKM 2.3 LC	NKM 2.3 MA	NKM 2.3 MB	NKM 2.3 MC	NKM 2.3 UA	NKM 2.3 UB	NKM 2.3 UC	NKM 2.4 LA	NKM 2.4 LB
Nematoda	0.0001656	0	0.0000184	0.0000184	0.0000184	0.0001288	0.0000184	0.0000184	0.0000184	0.0000368	0.0000184	0.0000184
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0	0	0	5.39E-06	0	0	0	0.0001725	5.39E-06	0	5.39E-06	0
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.0022422	0.0003881	0.0009702	3.234E-05	0.00183799	0.00114268	0.00090013	0	0.0011535	0.0004312	0.0001509	0.0001132
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	3.773E-05	0	0	0	0	0	0	0	0	1.617E-05	1.078E-05	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0.0055355	0.0006199	0	0	0	0.00142835	0	0	0	0.0022692	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0.0555025	0	0	0.0001341	0	0	0	0.0302023	0.0536847	0.0040528	0.0002682	0
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0	0	0.0008568	0	0.0000136	0	0.0009248	0	0.0000272	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0.000144
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0.0000222	0.0000333	0	0	0	0.0000111	0	0	0	0	0	0
Streblospio shrubsolii	0.000608	0.000048	0.000464	0.000128	0.000064	0	0	0	0	0.000032	0.000032	0.000032
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0.000048	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0.0002457	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0	0	0	0	0.0006825	0	0	0	0
Corophium volutator	0.006368	0.004768	0.00144	0.021168	0.00288	0.010752	0.006512	0.017648	0.007984	0.016496	0.000544	0.046944
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0	0	0.0001374	0	0.00050003	0.00015385	0	0	0	1.648E-05	0.003143	0
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 2.4 LC	NKM 2.4 MA	NKM 2.4 MB	NKM 2.4 MC	NKM 2.4 UA	NKM 2.4 UB	NKM 2.4 UC	NKM 3.1 LA	NKM 3.1 LB	NKM 3.1 LC	NKM 3.1 MA	NKM 3.1 MB
Nematoda	1	85	5	2	15	1	1	0	5	0	23	18
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	1	0	0	0	184	0	1	0	0	0	79	39
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	4	127	26	28	0	0	12	4	6	0	10	2
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	15	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	p	0	p	0	0	p	p	0
Nephtys hombergii	0	0	0	0	0	0	0	0	1	0	0	0
Hediste diversicolor	0	0	0	0	2	10	18	0	0	0	1	2
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	1	1	0	0	0	2	4	0	4	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	1	0	0	0	0	0	0	0	0	0	1	0
Streblospio shrubsolii	3	5	0	0	0	0	0	4	0	0	4	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	8	2	0	0	0	0	0	0
Corophium volutator	65	196	93	42	15	33	80	2	36	0	114	98
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1	7	1	0	0	0	0	1	5	0	8	6
Bivalvia sp.	0	0	0	0	0	0	1	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 2.4 LC	NKM 2.4 MA	NKM 2.4 MB	NKM 2.4 MC	NKM 2.4 UA	NKM 2.4 UB	NKM 2.4 UC	NKM 3.1 LA	NKM 3.1 LB	NKM 3.1 LC	NKM 3.1 MA	NKM 3.1 MB
Nematoda	0.0000184	0.0004048	0.0000184	0.0000184	0.0001656	0.0000184	0.0000184	0	0.0000184	0	0.0001656	0.0000184
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	5.39E-06	0	0	0	0.0002372	0	5.39E-06	0	0	0	0.00012936	0.0000539
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.0002803	0.00673211	0.00159005	0.0015092	0	0	0.0001401	7.546E-05	9.702E-05	0	0.0001078	0.00009702
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0.0001509	0	0	0	0	0	0	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0.0003288	0	0.0001833	0	0	5.39E-06	0.00004851	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0.0167475	0	0	0
Hediste diversicolor	0	0	0	0	0.0049617	0.0242125	0.0250916	0	0	0	0.0001192	0.0030992
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0.0000136	0.0000136	0	0	0	0.0000136	0.0000544	0	0.0004352	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0.0000111	0	0	0	0	0	0	0	0	0	0.0000111	0
Streblospio shrubsolii	0.000032	0.000048	0	0	0	0	0	0.000032	0	0	0.000032	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	0	0	0
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0	0.0015561	0.0007508	0	0	0	0	0	0
Corophium volutator	0.008048	0.018784	0.008336	0.007168	0.002064	0.005344	0.019264	0.000224	0.0044	0	0.01288	0.008528
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	5.495E-06	0.00044508	0.00346722	0	0	0	0	0.0033628	0.0002583	0	0.00647837	1.6484E-05
Bivalvia sp.	0	0	0	0	0	0	0.0000406	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 3.1 MC	NKM 3.1 UA	NKM 3.1 UB	NKM 3.1 UC	NKM 3.2 LA	NKM 3.2 LB	NKM 3.2 LC	NKM 3.2 MA	NKM 3.2 MB	NKM 3.2 MC	NKM 3.2 UA	NKM 3.2 UB
Nematoda	8	0	14	26	5	3	0	14	22	2	0	3
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	4	0	9	174	0	2	0	35	0	0	0	43
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	4	0	p	28	2	2	p	70	10	2	0	0
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	41	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	p	0	0	p	0	p	0	0	p	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0	0	7	3	1	0	0	8	1	0	1	3
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	6	0	1	3	0	4	0	0	0	0	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0	0	0	1	0	0	0	0	0	0
Streblospio shrubsolii	0	0	1	7	5	3	0	5	0	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	1	0	0	0	0	0	0	0	0	3	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	2	0	0	0	0	0	0	0	0	0	2
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera larvae	1	2	1	0	0	0	0	0	0	0	16	11
Corophium volutator	88	23	97	87	115	28	0	223	184	102	19	38
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	1	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	9	0	2	2	9	6	0	6	18	6	1	2
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 3.1 MC	NKM 3.1 UA	NKM 3.1 UB	NKM 3.1 UC	NKM 3.2 LA	NKM 3.2 LB	NKM 3.2 LC	NKM 3.2 MA	NKM 3.2 MB	NKM 3.2 MC	NKM 3.2 UA	NKM 3.2 UB
Nematoda	0.0000552	0	0.0000184	0.0002024	0.0000184	0.0000184	0	0.0001104	0.0001656	0.0000184	0	0.0000184
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0.00001078	0	5.39E-06	0.0001132	0	5.39E-06	0	0.00001078	0	0	0	1.078E-05
Baltidrilus costatus	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	0.00001078	0	5.39E-06	0.0004312	1.617E-05	2.156E-05	5.39E-06	0.00113729	0.00001617	0.00014014	0	0
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0.0012828	0
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0.00004312	0	0	0.0015146	0	3.773E-05	0	0	0.00066836	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0	0	0.0350299	0.000745	0.0079715	0	0	0.0070626	0.0002235	0	0.000298	0.0534016
Nereididae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0.0000816	0	0.0003264	0.0002584	0	0.0003672	0	0	0	0	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0	0	0	0.0000222	0	0	0	0	0	0
Streblospio shrubsolii	0	0	0.000016	0.000112	0.000048	0.000048	0	0.000048	0	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	1.365E-05	0	0	0	0	0	0	0	0	1.365E-05	0
Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	1.365E-05	0	0	0	0	0	0	0	0	0	0.0003686
Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
Diptera	0.0002457	0.0000273	0.0006689	0	0	0	0	0	0	0	0.0024024	0.0037401
Corophium volutator	0.005264	0.000848	0.010336	0.017472	0.01072	0.002656	0	0.01992	0.014048	0.011136	0.002896	0.001504
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0.0183512	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0.00551128	0	5.495E-06	5.495E-05	0.0001319	0.0001868	0	1.6484E-05	0.00097258	0.00456618	5.495E-06	1.099E-05
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	NKM 3.2 UC	NKM 3.3 LA	NKM 3.3 LB	NKM 3.3 LC	NKM 3.3 MA	NKM 3.3 MB	NKM 3.3 MC	NKM 3.3 UA	NKM 3.3 UB	NKM 3.3 UC
Nematoda	1	5	3	0	8	7	10	8	11	14
Nemertea	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	18	0	0	0	56	9	5	108	9	171
Baltidrilus costatus	0	0	0	0	0	0	0	19	2	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	1	40	8	1	9	33	21	0	0	0
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	1
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	p	0	0	p	p	p	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	14	1	0	0	13	5	0	8	2	12
Nereididae spp.	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	3	0	1	2	1	1	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0	0	0	0	0	0	0	0
Streblospio shrubsolii	0	1	12	4	40	16	0	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	1
Coleoptera	0	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	0	0	2	0
Corophium volutator	72	113	93	1	187	86	153	97	43	221
Abra alba	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0
Limecola balthica	4	9	2	0	2	7	16	0	0	2
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	NKM 3.2 UC	NKM 3.3 LA	NKM 3.3 LB	NKM 3.3 LC	NKM 3.3 MA	NKM 3.3 MB	NKM 3.3 MC	NKM 3.3 UA	NKM 3.3 UB	NKM 3.3 UC
Nematoda	0.0000184	0.0000368	0.0000184	0	0.0000736	0.0000368	0.0000736	0.0000184	0.0000184	0.0001104
Nemertea	0	0	0	0	0	0	0	0	0	0
Enchytraeidae spp.	0.0000539	0	0	0	0.00005929	0.00001078	0.00001078	0.0003072	1.078E-05	0.000345
Baltidrilus costatus	0	0	0	0	0	0	0	0.0007923	0.0001024	0
Limnodrilus hoffmeisteri	0	0	0	0	0	0	0	0	0	0
Tubificoides benedii	3.773E-05	0.0008462	0.0003557	0.0001186	0.00008624	0.00035574	0.00453299	0	0	0
Tubificoides galiciensis	0	0	0	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	5.39E-06
Tubificoides swirencoides	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0.0013529	0	0	0.00058751	0.00219373	0.00203742	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0.0182972	0.0043657	0	0	0.0062729	0.0112793	0	0.0307089	0.0149745	0.026969
Nereididae spp.	0	0	0	0	0	0	0	0	0	0
Eteone longa/flava agg.	0	0	0.0000408	0	0.0000136	0.0000408	0.0001224	0.0000136	0	0
Eteone spp.	0	0	0	0	0	0	0	0	0	0
Mysta picta	0	0	0	0	0	0	0	0	0	0
Phyllodoce maculata	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0	0
Pygospio elegans	0	0	0	0	0	0	0	0	0	0
Streblospio shrubsolii	0	0.000016	0.000336	0.000032	0.000256	0.000112	0	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0
Aphelochaeta marioni	0	0	0	0	0	0	0	0	0	0
Aphelochaeta	0	0	0	0	0	0	0	0	0	0
Tharyx killariensis	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0
Arachnida	0	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0	1.365E-05
Coleoptera	0	0	0	0	0	0	0	0	0	0
Diptera	0	0	0	0	0	0	0	0	0.0006143	0
Corophium volutator	0.003824	0.011968	0.01	0.000016	0.029152	0.007712	0.018928	0.01192	0.005408	0.026352
Abra alba	0	0	0	0	0	0	0	0	0	0
Scrobicularia plana	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1.099E-05	0.0051266	0.0029452	0	5.4948E-06	1.6484E-05	0.00684652	0	0	1.099E-05
Bivalvia sp.	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0

Appendix 5. Species data from Cherry Cobb Sands

Abundance per 0.01m²	CN1LA	CN1LB	CN1LC	CN1MA	CN1MB	CN1MC	CN1U2	CN1UA	CN1UB	CN1UC	CN2LA	CN2LB
Enchytraeidae spp.	1	1	0	101	310	417	65	23	245	14	102	1
Tubificoides benedii	0	0	0	0	2	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	p	0	0	0	0	0	0	0	0	p	0
Nephtys hombergii	3	0	2	0	0	0	0	0	0	0	0	1
Nephtyidae spp.	0	p	p	0	1	0	0	0	0	0	0	0
Hediste diversicolor	0	0	0	2	6	6	20	7	4	7	2	0
Nereididae spp.	0	0	0	0	p	p	p	p	p	0	0	0
Eteone longa/flava	0	0	0	0	4	0	0	0	0	0	0	0
Eteoninae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	p	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	1	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	2	0	0	6	0	0	1	0
Pygospio elegans	2	1	0	0	3	0	0	3	2	1	4	0
Streblospio shrubsolii	0	1	0	0	0	0	0	0	0	0	0	0
Spionidae spp.	0	p	0	0	0	0	0	0	0	0	0	0
Scoloplos (Scoloplos) armiger	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	1	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	4	1	4	0	0	0
Diptera larvae	0	0	0	1	0	0	4	0	2	0	0	0
Insecta	0	0	0	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	1	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	0	0	0	0	0	0	0	0	0	0	0
Copepoda spp.	0	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Abra tenuis	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	1	2	2	0	1	9	0	0	0	2	0	4
Tellinoidea spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	0	0	0	17	0	2	2	1	0	14	0
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	1	0	0	0	0	0	0	0	0	0
Hydrobia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	p	0
Nematoda	15	8	0	18	286	136	86	58	175	39	234	26
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	CN1LA	CN1LB	CN1LC	CN1MA	CN1MB	CN1MC	CN1U2	CN1UA	CN1UB	CN1UC	CN2LA	CN2LB
Enchytraeidae spp.	5.39E-06	5.39E-06	0	0.000135	0.000765	0.000884	5.39E-05	6.47E-05	0.000641	2.16E-05	0.000194	5.39E-06
Tubificoides benedii	0	0	0	0	0.000162	0	0	0	0	0	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	5.39E-06	0	0	0	0	0	0	0	0	2.16E-05	0
Nephtys hombergii	0.003308	0	0.001575	0	0	0	0	0	0	0	0	0.001033
Nephtyidae spp.	0	0.00028	0.00007	0	0.000403	0	0	0	0	0	0	0
Hediste diversicolor	0	0	0	0.006452	0.024928	0.013038	0.200435	0.056426	0.009611	0.048872	0.00447	0
Nereididae spp.	0	0	0	0	0.017105	0.006064	0.026418	0.009581	0.004559	0	0	0
Eteone longa/flava	0	0	0	0	0.000585	0	0	0	0	0	0	0
Eteoninae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0.000016	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0.000016	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0.000016	0	0	0.000032	0	0	0.000016	0
Pygospio elegans	5.55E-05	1.11E-05	0	0	0.000344	0	0	1.11E-05	3.33E-05	1.11E-05	5.55E-05	0
Streblospio shrubsolii	0	0.000016	0	0	0	0	0	0	0	0	0	0
Spionidae spp.	0	0.000016	0	0	0	0	0	0	0	0	0	0
Scoloplos (Scoloplos) armiger	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	1.37E-05	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	1.37E-05	1.37E-05	1.37E-05	0	0	0
Diptera larvae	0	0	0	0.000683	0	0	1.37E-05	0	0.000191	0	0	0
Insecta	0	0	0	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	7.6E-06	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	0	0	0	0	0	0	0	0	0	0	0
Copepoda spp.	0	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Abra alba	0	0	0	0	0	0	0	0	0	0	0	0
Abra tenuis	0	0	0	0	0	0	0	0	0	0	0	0
Limecola balthica	0.001978	0.000126	1.1E-05	0	0.001962	0.000209	0	0	0	0.000291	0	0.00017
Tellinoidea spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	0	0	0	0.000261	0	5.8E-06	5.8E-06	5.8E-06	0	0.004188	0
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	1.37E-05	0	0	0	0	0	0	0	0	0
Hydrobia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	0	1.38E-05	0
Nematoda	1.84E-05	1.84E-05	0	1.84E-05	0.00195	0.000534	0.000442	5.52E-05	0.000846	0.000313	0.00184	1.84E-05
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	CN2LC	CN2MA	CN2MB	CN2MC	CN2U2	CN2UA	CN2UB	CN2UC	CN4LA	CN4LB	CN4LC	CN4MA
Enchytraeidae spp.	0	275	24	223	187	197	606	148	106	3	0	313
Tubificoides benedii	0	0	0	0	0	0	0	0	64	1	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0	0	0	0	0	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	1	2	0
Nephtyidae spp.	1	0	1	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0	4	0	1	20	5	8	4	4	0	0	3
Nereididae spp.	0	p	0	p	p	p	p	p	p	0	0	0
Eteone longa/flava	0	1	0	0	0	0	1	0	3	1	0	0
Eteoninae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	1	0	1	7	4	112	10	0	0	0	2
Pygospio elegans	0	0	0	0	0	2	7	0	0	1	0	3
Streblospio shrubsolii	0	0	0	0	0	0	0	0	0	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Scoloplos (Scoloplos) armiger	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	6	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	2	4	3	0	18	0	0	3
Diptera larvae	0	0	2	2	4	6	2	3	1	0	0	0
Insecta	0	0	0	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	0	0	0	0	1	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	0	0	0	0	0	0	0	0	0	0	0
Copepoda spp.	0	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	1	0	0	0	0	0	0	0	0	0	p	0
Abra alba	0	0	0	0	0	0	0	0	1	0	0	0
Abra tenuis	0	0	0	0	0	0	0	0	0	0	1	0
Limecola balthica	0	0	0	0	3	0	1	0	0	5	0	0
Tellinoidea spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	1	0	0	0	0	0	1	0	0	0	2
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	5	0	0	0	2
Hydrobia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	p	0	0	0	3	0	0	0	0	0	0
Nematoda	0	54	8	10	24	28	558	4	13	32	0	162
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	CN2LC	CN2MA	CN2MB	CN2MC	CN2U2	CN2UA	CN2UB	CN2UC	CN4LA	CN4LB	CN4LC	CN4MA
Enchytraeidae spp.	0	0.000631	5.39E-06	0.000571	0.00034	0.000367	0.001682	0.000302	0.000302	5.39E-06	0	0.000679
Tubificoides benedii	0	0	0	0	0	0	0	0	0.003692	1.08E-05	0	0
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0	0	0	0	0	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0	0	0.00098	0.000193	0
Nephtyidae spp.	0.000158	0	0.000158	0	0	0	0	0	0	0	0	0
Hediste diversicolor	0	0.024108	0	0.004038	0.112152	0.034345	0.019981	0.019325	0.009059	0	0	0.001684
Nereididae spp.	0	0.005677	0	0.00441	0.018327	0.005588	0.012889	0.00204	0.001207	0	0	0
Eteone longa/flava	0	0.000109	0	0	0	0	1.36E-05	0	0.000639	1.36E-05	0	0
Eteoninae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0.000016	0	0.000016	0.000032	0.000016	0.000528	0.000032	0	0	0	0.000016
Pygospio elegans	0	0	0	0	0	5.55E-05	0.0002	0	0	1.11E-05	0	3.33E-05
Streblospio shrubsolii	0	0	0	0	0	0	0	0	0	0	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Scoloplos (Scoloplos) armiger	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	1.37E-05	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	1.37E-05	1.37E-05	1.37E-05	0	1.37E-05	0	0	1.37E-05
Diptera larvae	0	0	0.000478	0.000464	0.000519	0.000532	0.000287	0.001406	0.000177	0	0	0
Insecta	0	0	0	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	0	0	0	0	7.6E-06	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	0	0	0	0	0	0	0	0	0	0	0
Copepoda spp.	0	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	4.02E-05	0	0	0	0	0	0	0	0	0	1.01E-05	0
Abra alba	0	0	0	0	0	0	0	0	0.022835	0	0	0
Abra tenuis	0	0	0	0	0	0	0	0	0	0	3.38E-05	0
Limecola balthica	0	0	0	0	0.000258	0	0.005368	0	0	1.65E-05	0	0
Tellinoidea spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	5.8E-06	0	0	0	0	0	5.8E-06	0	0	0	1.16E-05
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0	0	0	0	0	0	0	1.37E-05	0	0	0	1.37E-05
Hydrobia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0.000069	0	0	0	1.38E-05	0	0	0	0	0	0
Nematoda	0	0.00035	1.84E-05	1.84E-05	1.84E-05	5.52E-05	0.002355	1.84E-05	1.84E-05	1.84E-05	0	0.000736
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	CN4MB	CN4MC	CN4U2	CN4UA	CN4UB	CN4UC	CS1LA	CS1LB	CS1LC	CS1MA	CS1MB	CS1MC
Enchytraeidae spp.	2432	0	442	431	85	142	0	0	2	0	0	0
Tubificoides benedii	0	65	0	0	18	5	3	2	0	61	16	30
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0	0	0	0	0	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	2	0	0	0	3
Nephtyidae spp.	0	0	0	0	0	0	p	0	1	0	0	p
Hediste diversicolor	2	6	5	3	10	8	0	0	0	2	0	0
Nereididae spp.	0	p	p	0	p	p	0	0	0	p	0	0
Eteone longa/flava	0	1	3	0	6	4	2	3	0	2	2	4
Eteoninae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	p	0	0	p	p	0	0	0	p	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	1	0	0	0
Manayunkia aestuarina	14	2	3	14	103	112	0	0	0	0	0	0
Pygospio elegans	6	7	0	0	4	1	35	2	0	20	16	24
Streblospio shrubsolii	0	0	0	0	0	2	0	0	0	0	5	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	p	0	0
Scoloplos (Scoloplos) armiger	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	1	4	0	0	0	0	0	0	0	0
Collembola	31	0	285	18	2	0	0	0	0	0	0	0
Diptera larvae	0	0	10	1	1	0	0	0	0	0	0	0
Insecta	0	0	0	0	0	0	0	0	0	1	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	1	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	1	0	0
Cyathura carinata	0	6	0	0	0	0	0	0	0	4	1	0
Copepoda spp.	0	0	0	0	1	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Abra alba	0	2	0	0	0	0	0	0	0	2	1	0
Abra tenuis	0	2	0	0	0	0	0	0	0	42	8	3
Limecola balthica	3	2	5	0	0	0	4	5	1	22	14	43
Tellinoidea spp. Juv.	2	0	0	0	0	0	0	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	2	0	0	0	0
Bivalvia spp. Juv.	0	p	0	0	2	16	0	0	0	0	0	0
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	2	3	1	0	5	17	1	0	0	6	1	2
Hydrobia spp.	0	0	0	0	3	0	0	0	0	0	0	0
Gastropoda spp.	0	p	0	0	p	0	0	0	p	0	0	0
Nematoda	313	81	122	391	216	228	0	2	0	8	14	34
Nemertea	0	2	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	CN4MB	CN4MC	CN4U2	CN4UA	CN4UB	CN4UC	CS1LA	CS1LB	CS1LC	CS1MA	CS1MB	CS1MC
Enchytraeidae spp.	0.004334	0	0.001013	0.001024	0.00014	0.000264	0	0	5.39E-06	0	0	0
Tubificoides benedii	0	0.001525	0	0	0.001504	0.00055	5.39E-05	1.08E-05	0	0.002841	0.00048	0.00138
Tubificoides pseudogaster agg.	0	0	0	0	0	0	0	0	0	0	0	0
Tubificoides spp.	0	0	0	0	0	0	0	0	0	0	0	0
Nephtys hombergii	0	0	0	0	0	0	0	0.004743	0	0	0	0.008365
Nephtyidae spp.	0	0	0	0	0	0	0.003763	0	1.75E-05	0	0	0.002818
Hediste diversicolor	0.022067	0.008612	0.057797	0.036594	0.044149	0.024972	0	0	0	0.002771	0	0
Nereididae spp.	0	0.013052	0.016688	0	0.003516	0.008493	0	0	0	0.000268	0	0
Eteone longa/flava	0	1.36E-05	8.16E-05	0	0.002815	0.000966	0.000177	4.08E-05	0	0.000816	4.08E-05	0.000122
Eteoninae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0.000016	0	0	0.000672	0.001024	0	0	0	0.00032	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0.000016	0	0	0
Manayunkia aestuarina	0.000048	0.000016	0.000032	0.000064	0.000352	0.000544	0	0	0	0	0	0
Pygospio elegans	0.000178	0.000111	0	0	0.000577	1.11E-05	0.001221	0.000211	0	0.000611	0.001188	0.001798
Streblospio shrubsolii	0	0	0	0	0	0.000032	0	0	0	0	0.00016	0
Spionidae spp.	0	0	0	0	0	0	0	0	0	0.0004	0	0
Scoloplos (Scoloplos) armiger	0	0	0	0	0	0	0	0	0	0	0	0
Acari spp.	0	0	1.37E-05	1.37E-05	0	0	0	0	0	0	0	0
Collembola	0.000287	0	0.000382	1.37E-05	1.37E-05	0	0	0	0	0	0	0
Diptera larvae	0	0	0.002129	1.37E-05	1.37E-05	0	0	0	0	0	0	0
Insecta	0	0	0	0	0	0	0	0	0	1.37E-05	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0.000016	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	1.65E-05	0	0
Cyathura carinata	0	0.000312	0	0	0	0	0	0	0	0.00213	0.000852	0
Copepoda spp.	0	0	0	0	1.65E-05	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Abra alba	0	0.046802	0	0	0	0	0	0	0	0.063901	0.025539	0
Abra tenuis	0	1.13E-05	0	0	0	0	0	0	0	0.020975	0.000924	0.001082
Limecola balthica	0.001995	0.011764	7.14E-05	0	0	0	0.012418	0.020644	0.005302	0.08107	0.045393	0.176927
Tellinoidea spp. Juv.	5.8E-06	0	0	0	0	0	0	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	4.6E-06	0	0	0	0
Bivalvia spp. Juv.	0	0.010457	0	0	5.8E-06	0.000986	0	0	0	0	0	0
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0.000179	2.75E-05	1.37E-05	0	1.37E-05	0.001552	0.000412	0	0	0.001786	0.000769	0.00033
Hydrobia spp.	0	0	0	0	1.37E-05	0	0	0	0	0	0	0
Gastropoda spp.	0	1.38E-05	0	0	1.38E-05	0	0	0	1.38E-05	0	0	0
Nematoda	0.00057	0.000423	0.000442	0.001546	0.00092	0.001233	0	1.84E-05	0	1.84E-05	0.000184	3.68E-05
Nemertea	0	0.000022	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	CS1UA	CS1UB	CS1UC	CS2LA	CS2LB	CS2LC	CS2MA	CS2MB	CS2MC	CS2UA	CS2UB	CS2UC
Enchytraeidae spp.	2	65	0	0	0	0	0	0	0	0	20	1
Tubificoides benedii	49	26	32	1	9	1	71	4	0	233	19	50
Tubificoides pseudogaster agg.	2	0	0	0	0	0	0	0	0	0	0	2
Tubificoides spp.	p	0	0	0	0	0	0	0	0	0	0	p
Nephtys hombergii	0	0	0	1	0	2	3	1	2	0	0	0
Nephtyidae spp.	0	0	0	0	0	0	p	0	0	0	0	0
Hediste diversicolor	12	8	4	0	0	0	1	0	0	7	0	6
Nereididae spp.	0	p	p	0	0	0	0	0	0	p	0	0
Eteone longa/flava	18	5	4	0	1	0	1	0	0	6	0	7
Eteoninae spp.	p	0	0	0	0	0	0	0	0	0	0	p
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	2	0	1	0	0	0	0	0	0	4	1	0
Pygospio elegans	192	26	2	1	0	0	30	6	22	34	38	19
Streblospio shrubsolii	0	1	0	0	0	0	0	0	0	4	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	p	p	0	p
Scoloplos (Scoloplos) armiger	0	0	0	0	2	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	1	0	0	0	0	0	0	0	0	1	0
Diptera larvae	0	1	1	0	0	0	0	0	0	0	2	3
Insecta	0	0	0	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	1	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	1	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	1	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	1	1	0	0	0	5	0	0	0	0	0
Copepoda spp.	0	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Abra alba	1	0	0	0	0	0	0	0	0	0	0	0
Abra tenuis	2	85	3	0	2	0	21	9	0	0	6	27
Limecola balthica	38	4	3	2	4	1	25	11	7	0	8	24
Tellinoidea spp. Juv.	30	0	0	0	0	0	0	0	4	0	0	17
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	0	p	0	0	0	23	0	0	81	0	0
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	18	65	30	1	2	0	17	3	0	23	6	79
Hydrobia spp.	0	0	p	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	p	0	0
Nematoda	84	99	53	1	14	0	21	2	0	152	215	38
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	2	2	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	CS1UA	CS1UB	CS1UC	CS2LA	CS2LB	CS2LC	CS2MA	CS2MB	CS2MC	CS2UA	CS2UB	CS2UC
Enchytraeidae spp.	1.62E-05	7.55E-05	0	0	0	0	0	0	0	0	5.39E-06	5.39E-06
Tubificoides benedii	0.001897	0.00173	0.002652	5.39E-06	0.000523	4.31E-05	0.001994	5.93E-05	0	0.008279	0.001153	0.001703
Tubificoides pseudogaster agg.	2.7E-05	0	0	0	0	0	0	0	0	0	0	1.08E-05
Tubificoides spp.	0.005094	0	0	0	0	0	0	0	0	0	0	0.001811
Nephtys hombergii	0	0	0	0.005023	0	0.01806	0.020475	0.00602	0.013895	0	0	0
Nephtyidae spp.	0	0	0	0	0	0	0.0091	0	0	0	0	0
Hediste diversicolor	0.061224	0.020756	0.015675	0	0	0	0.000164	0	0	0.02983	0	0.039589
Nereididae spp.	0	0.02162	0.018208	0	0	0	0	0	0	0.027908	0	0
Eteone longa/flava	0.001442	0.001714	0.000476	0	0.000122	0	0.000136	0	0	9.52E-05	0	0.000449
Eteoninae spp.	0.000176	0	0	0	0	0	0	0	0	0	0	0.000064
Phyllodocidae spp.	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0.000016	0	0.000016	0	0	0	0	0	0	0.000032	0.000016	0
Pygospio elegans	0.010478	0.000877	0.000211	1.11E-05	0	0	0.00202	0.000377	0.001909	0.000411	0.001876	0.000566
Streblospio shrubsolii	0	0.000016	0	0	0	0	0	0	0	0.000064	0	0
Spionidae spp.	0	0	0	0	0	0	0	0	0.001184	0.000496	0	0.000336
Scoloplos (Scoloplos) armiger	0	0	0	0	2.24E-05	0	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0	0	0	0
Collembola	0	1.37E-05	0	0	0	0	0	0	0	0	1.37E-05	0
Diptera larvae	0	0.000587	0.000137	0	0	0	0	0	0	0	0.001147	0.000819
Insecta	0	0	0	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0.000048	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0	0	0	0
Harpinia antennaria	0	0	0	0	0	0	0	0	0	0	0	0
Bodotria arenosa	0	0	0	0	0	7.6E-06	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	7.6E-06	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	1.42E-05	1.42E-05	0	0	0	0.002144	0	0	0	0	0
Copepoda spp.	0	0	0	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0	0	0	0
Abra alba	0.001966	0	0	0	0	0	0	0	0	0	0	0
Abra tenuis	5.07E-05	0.006744	0.001093	0	0.000377	0	0.00471	0.000501	0	0	0.001223	0.009302
Limecola balthica	0.004451	0.028095	0.009237	0.020226	0.005291	0.000764	0.062981	0.0673	0.005698	0	0.047052	0.049981
Tellinoidea spp. Juv.	0.000296	0	0	0	0	0	0	0	0.000029	0	0	3.48E-05
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	0	0.004588	0	0	0	0.00011	0	0	0.093908	0	0
Retusa spp.	0	0	0	0	0	0	0	0	0	0	0	0
Peringia ulvae	0.00103	0.005137	0.002953	1.37E-05	1.37E-05	0	0.011428	0.000563	0	0.001978	0.000453	0.014435
Hydrobia spp.	0	0	0.001016	0	0	0	0	0	0	0	0	0
Gastropoda spp.	0	0	0	0	0	0	0	0	0	1.38E-05	0	0
Nematoda	0.00138	0.000478	0.00011	1.84E-05	1.84E-05	0	1.84E-05	1.84E-05	0	0.001141	0.000994	0.000258
Nemertea	0	0	0	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	2.52E-05	2.52E-05	0	0	0	0	0	0	0	0	0

Abundance per 0.01m²	CS3LA	CS3LB	CS3LC	CS3MA	CS3MB	CS3MC	CS3UA	CS3UB	CS3UC
Enchytraeidae spp.	0	0	1	0	0	0	0	0	0
Tubificoides benedii	4	4	p	7	4	6	7	59	35
Tubificoides pseudogaster agg.	0	0	0	2	0	0	0	0	0
Tubificoides spp.	0	0	0	p	0	0	0	0	0
Nephtys hombergii	0	1	0	2	0	4	0	0	0
Nephtyidae spp.	0	0	p	0	p	p	0	0	0
Hediste diversicolor	1	0	0	0	0	0	3	0	1
Nereididae spp.	0	0	0	0	0	0	0	p	0
Eteone longa/flava	1	0	0	2	0	0	0	9	2
Eteoninae spp.	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	p	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0
Pygospio elegans	3	0	1	18	3	17	3	55	8
Streblospio shrubsolii	0	0	0	0	0	0	0	2	0
Spionidae spp.	0	0	p	p	0	p	0	0	p
Scoloplos (Scoloplos) armiger	0	0	1	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	0	0	0
Insecta	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	1
Harpinia antennaria	0	0	1	0	0	0	0	0	0
Bodotria arenosa	0	3	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	0	0	0	1	1	0	2	7
Copepoda spp.	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0
Abra alba	0	0	0	0	0	0	1	1	0
Abra tenuis	0	1	0	5	0	0	0	47	5
Limecola balthica	1	3	1	21	16	13	0	7	6
Tellinoidea spp. Juv.	0	0	0	44	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	0	0	0	0	0	0	0	0
Retusa spp.	0	0	0	1	0	0	1	0	0
Peringia ulvae	0	2	0	15	2	0	0	0	15
Hydrobia spp.	0	0	0	0	0	0	0	4	0
Gastropoda spp.	0	0	0	0	0	0	0	0	p
Nematoda	2	2	0	0	2	10	22	10	68
Nemertea	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0

AFDW Biomass per 0.01m²	CS3LA	CS3LB	CS3LC	CS3MA	CS3MB	CS3MC	CS3UA	CS3UB	CS3UC
Enchytraeidae spp.	0	0	5.39E-06	0	0	0	0	0	0
Tubificoides benedii	0.000205	1.62E-05	5.39E-06	0.000151	0.000232	2.16E-05	0.00097	0.002776	0.00173
Tubificoides pseudogaster agg.	0	0	0	3.23E-05	0	0	0	0	0
Tubificoides spp.	0	0	0	0.000259	0	0	0	0	0
Nephtys hombergii	0	0.001803	0	0.012145	0	0.012408	0	0	0
Nephtyidae spp.	0	0	0.000928	0	0.003553	0.00952	0	0	0
Hediste diversicolor	0.009089	0	0	0	0	0	0.024287	0	0.055756
Nereididae spp.	0	0	0	0	0	0	0	0.007569	0
Eteone longa/flava	1.36E-05	0	0	8.16E-05	0	0	0	0.00238	2.72E-05
Eteoninae spp.	0	0	0	0	0	0	0	0	0
Phyllodocidae spp.	0	0	0	0	0	0	0	0.000672	0
Sphaerodoropsis baltica	0	0	0	0	0	0	0	0	0
Sphaerodoridium minutum	0	0	0	0	0	0	0	0	0
Manayunkia aestuarina	0	0	0	0	0	0	0	0	0
Pygospio elegans	2.22E-05	0	1.11E-05	0.000966	4.44E-05	0.000444	3.33E-05	0.004185	5.55E-05
Streblospio shrubsolii	0	0	0	0	0	0	0	0.000064	0
Spionidae spp.	0	0	0.000016	0.000752	0	0.000496	0	0	0.000016
Scoloplos (Scoloplos) armiger	0	0	0.000314	0	0	0	0	0	0
Acari spp.	0	0	0	0	0	0	0	0	0
Collembola	0	0	0	0	0	0	0	0	0
Diptera larvae	0	0	0	0	0	0	0	0	0
Insecta	0	0	0	0	0	0	0	0	0
Bathyporeia spp.	0	0	0	0	0	0	0	0	0
Corophium volutator	0	0	0	0	0	0	0	0	0
Gammaridae sp.	0	0	0	0	0	0	0	0	0.000624
Harpinia antennaria	0	0	0.000016	0	0	0	0	0	0
Bodotria arenosa	0	6.08E-05	0	0	0	0	0	0	0
Cumacea spp.	0	0	0	0	0	0	0	0	0
Decapoda spp. Juv.	0	0	0	0	0	0	0	0	0
Cyathura carinata	0	0	0	0	0.001022	1.42E-05	0	0.001221	0.001974
Copepoda spp.	0	0	0	0	0	0	0	0	0
Ascidiacea spp.	0	0	0	0	0	0	0	0	0
Abra alba	0	0	0	0	0	0	0.045235	0.050864	0
Abra tenuis	0	0.000192	0	0.001093	0	0	0	0.01893	0.002135
Limecola balthica	0.003335	0.002412	0.000791	0.160388	0.118594	0.042815	0	0.113187	0.019968
Tellinoidea spp. Juv.	0	0	0	0.000278	0	0	0	0	0
Mytilidae spp. Juv.	0	0	0	0	0	0	0	0	0
Bivalvia spp. Juv.	0	0	0	0	0	0	0	0	0
Retusa spp.	0	0	0	0.000511	0	0	0.000248	0	0
Peringia ulvae	0	2.75E-05	0	0.00239	1.37E-05	0	0	0	0.00081
Hydrobia spp.	0	0	0	0	0	0	0	0.000398	0
Gastropoda spp.	0	0	0	0	0	0	0	0	1.38E-05
Nematoda	1.84E-05	1.84E-05	0	0	1.84E-05	1.84E-05	1.84E-05	1.84E-05	0.000202
Nemertea	0	0	0	0	0	0	0	0	0
Dalyelliidae spp.	0	0	0	0	0	0	0	0	0