

An assessment of the soft sediment fauna six years after construction of the Princess Amalia Wind Farm



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SUMMARY

During the present study, the macrobenthic fauna was investigated six years after the construction of the Princess Amalia Wind Farm. In April 2013, samples were taken with a boxcorer and a dredge in the turbine site (QT), an adjacent buffer zone (QAW), a northern (QCN) and a southern reference site (QCS). These sites were also sampled in 2003 during the baseline study (T0) and in 2012 (T5). Samples were taken at least 150 m away from the turbines.

Sediment characteristics of the turbine site were intermediate between the northern and the southern reference area. Density and species richness of the macrobenthic fauna in the boxcore samples of the turbine site were also intermediate between the northern and the southern reference site, whereas biodiversity indices and biomass values did not differ significantly between areas.

Also in the dredge samples, which contain the larger K-strategic species, the density decreased from north to south, but biomass as well, whereas no significant differences in the diversity were observed between the areas. In addition, no systematic differences in length-frequency distribution of sea urchins could be detected between the areas. Length-frequency distributions of the bivalve molluscs *Spisula elliptica*, *Chamelea striatula* and *Donax vittatus* did not show a clear difference between wind farm area and reference areas either and average densities of bivalve species were lower in the wind farm area compared to the reference areas. These results indicate that six years after installation of the wind farm, K-strategic species could not yet profit from the shelter from fishing activities.

It can therefore be concluded that the installation of the Princess Amalia Wind Farm did not have significant negative effects on the soft bottom benthic community. Moreover, after six years of closure of the windfarm for fisheries, no changes in benthos could be detected. The question is whether six years is too short for a recovery to a non-disturbed community to occur, or if the expected recovery potential was overestimated.

SAMENVATTING

Tijdens deze studie werd het macrobenthos onderzocht zes jaar na constructie van het Prinses Amaliawindpark. In April 2013 werden monsters genomen met een boxcorer en een bodemschaaf in het turbinegebied (QT), de aanliggende bufferzone (QAW), een noordelijk (QCN) en een zuidelijk referentiegebied (QCS). Deze gebieden werden eveneens bemonsterd in 2003 gedurende de baseline study (T0) en in 2012 (T5). Monsters werden genomen op een afstand van minimaal 150 m van de turbines.

Sedimentsamenstelling in het turbinegebied lag tussen de sedimentsamenstelling van het noordelijke en zuidelijke referentiegebied. Dichtheid en soortenrijkdom van het macrobenthos in de boxcoremonsters van het turbinegebied lagen eveneens tussen de waarden van het noordelijke en zuidelijke referentiegebied, terwijl biodiversiteitsindices en biomassa geen significante verschillen tussen gebieden vertoonden.

In de schaaftmonsters, die de grotere K-strategische soorten bevatten, nam de dichtheid eveneens af van noord naar zuid, maar ook de biomassa, terwijl geen significante verschillen in de biodiversiteit tussen gebieden werden waargenomen. Bovendien konden geen systematische verschillen in lengte-frequentieverdeling van hartegels tussen gebieden worden vastgesteld. Lengte-frequentieverdelingen van de bivalven *Spisula elliptica*, *Chamelea striatula* en *Donax vittatus* gaven evenmin een duidelijk verschil tussen het windpark en de referentiegebieden te zien, en de gemiddelde dichtheid van bivalven was zelfs duidelijk lager in het windpark dan in de referentiegebieden. Deze resultaten geven aan dat zes jaar na installatie van het windpark, K-strategische soorten nog niet konden profiteren van de afwezigheid van visserij.

Derhalve kan geconcludeerd worden dat de installatie van het Prinses Amaliawindpark geen significant negatieve effecten op het macrobenthos van de zachte bodem heeft. Verder konden zes jaar na de afsluiting van het windpark voor visserij geen veranderingen in het benthos vastgesteld worden. De vraag is of zes jaar te kort is voor herstel naar een onverstoorde gemeenschap of dat het potentiële herstel te hoog was ingeschat.

1. INTRODUCTION

As part of the Monitoring- and Evaluation Program (MEP) of the Princess Amalia Wind Farm (PAWP), a number of research topics were identified. One of those topics was to characterise the benthic invertebrates living in the seabed. The hypothesis was that, due to the closure of the wind farm area for fisheries, the benthic community would develop differently compared to the surrounding environment. Bottom fisheries, especially beam trawling, which is very common in this part of the North Sea, is known to have detrimental effects on the benthos due to heavy bottom disturbance. Longer-living species, in particular, are affected by fisheries. A large area, completely closed to fisheries, would thus be expected to especially benefit longer-living species.

To investigate this hypothesis, a baseline study of the subtidal benthic fauna was carried out in 2003 by the Institute of Estuarine and Coastal Studies (University of Hull, UK). Samples were taken in the proposed Princess Amalia Wind Farm turbine site (QT), an adjacent buffer zone (QAW) and two reference sites situated north (QCN) and south (QCS) of the site. Results from this baseline study were reported in February 2004 (Jarvis *et al.*, 2004). Construction of the foundations started in the fall of 2006 and were completed in the spring of 2007; the area was officially closed for fisheries on October 16th of 2007. Five years (T5) after completion of the construction of the foundations of the Princess Amalia Wind Farm (2012), the monitoring study was repeated in the same four areas by eCOAST (Vanagt *et al.*, 2013a). The results did not show any effect of the closure for fisheries on the soft sediment benthos, with values for biodiversity, abundance and biomass measured inside the wind farm, remaining similar to those from reference areas. It was concluded that 5 years is possibly too short to allow full recovery of a mature benthic community.

Therefore, in early 2013, six years (T6) after the construction of the Princess Amalia Wind Farm (2013), a new monitoring study was performed in the same four areas (QT, QAW, QCN and QCS). The object of this report is twofold:

- to report on the development of the benthic infauna in the Princess Amalia Wind Farm;
- to contrast the new findings with the baseline condition prior to the construction of the wind farm, and with the T5 monitoring results.

1.1 Princess Amalia Wind Farm

The Princess Amalia Wind Farm is the second offshore wind farm in the Dutch sector of the North Sea and the first to be located outside the 12 nautical mile limit. PAWP is located in Block Q7 of the Dutch Continental Shelf, at a distance of 23 to 26.4 km from the shore (off the coast of IJmuiden, The Netherlands), in water depths between 19 and 24 m. A total of 60 turbines (4.0 m diameter monopole foundations) were placed in an area of 17 km². The minimum distance between turbines is 550 m. The Princess Amalia Wind Farm has a designed power output of 435 GWh per annum.

The installation of the foundations and transition pieces took place from October 2006 till May 2007. Foundations measuring 54 metres, a diameter of 4 metres and 320 tons in weight were sunk into the sea-floor. The transition pieces, weighing 115-tons, were placed on the foundations using the Jumping Jack. To support the turbine foundations, a 15 m diameter scour-protection consisting of mixed size rocks was deposited on the soft sediment around the base of each monopile. Cables and wind turbines were installed from May 2007 to April 2008. The wind farm has been operational since June 2008.

1.2 Scope of the study

The aim of this study was to evaluate the potential impacts arising from the construction of the Princess Amalia Wind Farm or from the resulting closure of the area for fisheries. More specifically, we investigated the potential effects these may have had on the occurrence of the invertebrates living in and on the seabed. Comparisons were made between the baseline study, the T5 study and the current situation with respect to infaunal assemblage, epifaunal communities, faunal characteristics, evidence of anthropogenic effects (i.e. shell damage and shorter shells due to trawling) and sediment types.

By comparing the results obtained in the baseline study and the T5 study with the results of the present study and by comparing the data from the turbine site with the reference areas, we examined whether the installation of the wind farm impacted on the soft sediment benthos. A second related objective was to assess whether the wind farm provides shelter for certain longer-living species, such as large bivalves and sea urchins. Shell damage and length-frequency distribution of the bivalves were also assessed as it can be expected that less shells with scars and larger individuals may be found when the disturbance caused by trawling decreases (Witbaard & Klein, 1994).

2. MATERIAL AND METHODS

2.1 Survey design

For the present study, the same sampling strategy was chosen as used in the baseline study (Jarvis *et al.*, 2004) and the study five years after the construction (Vanagt *et al.*, 2013a), to facilitate comparison of the data. Moreover, both reports mentioned that the used strategy was appropriate for the goals of the research. The baseline design identified reference areas similar in sediment characteristics to those present under the footprint of the wind farm. Sediment texture (i.e. median particle size) was thought to be one of the main structuring factors of benthic fauna distribution (Gray & Elliot, 2009).

Two reference areas were used, one 40 km to the north of the turbine site (QCN) and another 30 km to the south (QCS). Both reference areas have the same distance to the shore as the turbine site. In addition, three pairs of sampling sites were located around the windfarm area (QAW), to reveal either a possible impact of increased fishing activity on the margins of the exclusion zone or a positive spill-over effect from inside the windfarm area. In the turbine site, samples were always taken at least 150 m away from the monopoles.

The projected sampling sites are indicated in Figure 1.

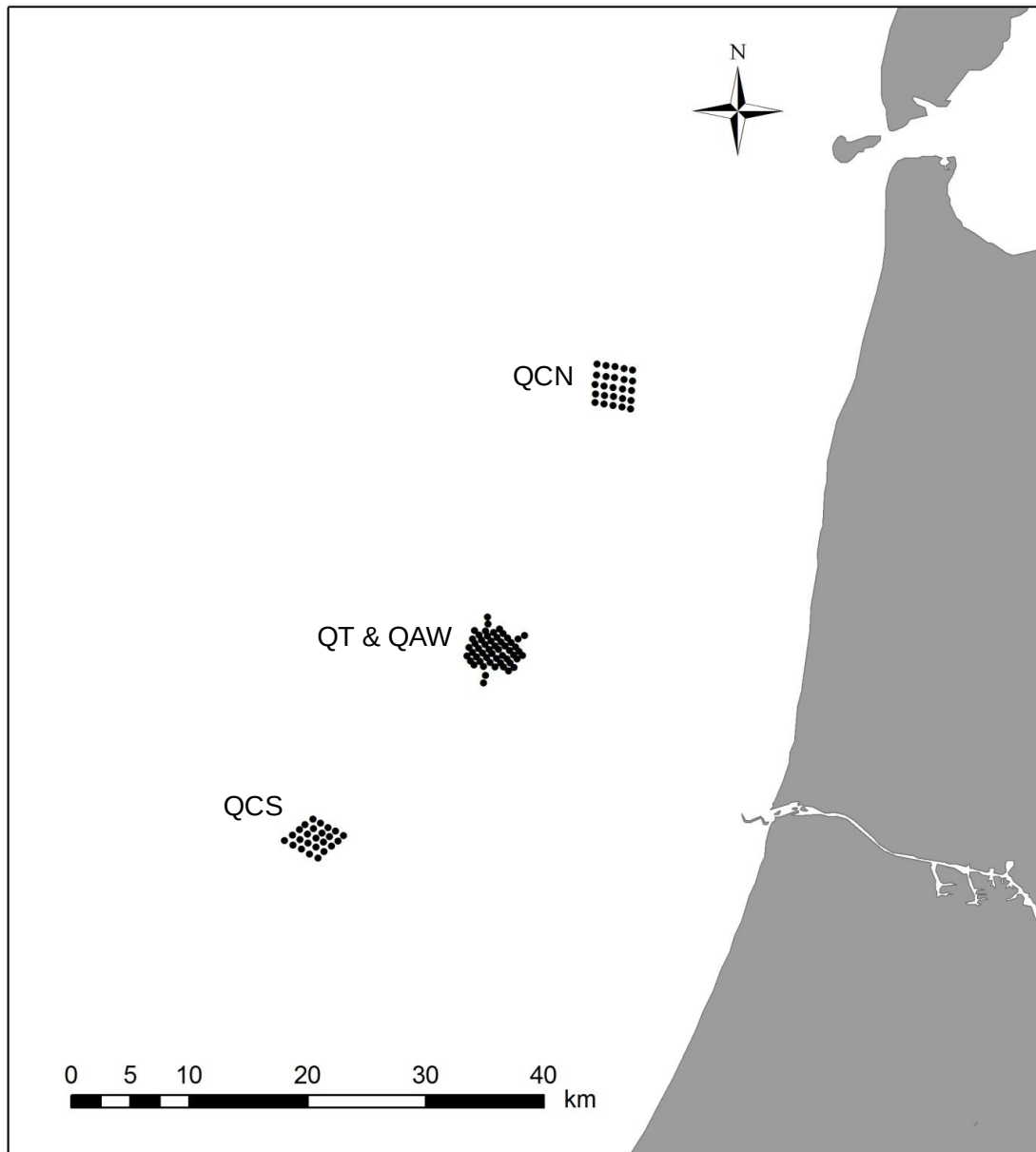


Figure 1: Projected sampling sites in the Dutch Coastal zone.

2.2 Sampling methods

2.2.1 Boxcore sampling

For the survey of the small infaunal invertebrates, the Reineck box with a circular corer (0.078m² sampling surface)¹ was chosen. A total of 199 samples of the projected 200 samples (see further) were collected at 103 stations (79 non-replicated stations and 24 replicated stations) from the turbine site, the adjacent buffer zone and the two reference (control) sites.

The overall sampling effort for the monitoring surveys was as follows (Figure 2):

Non-replicated stations

- Turbine site: 39 stations (39 samples)
- Northern reference area: 20 stations (20 samples)
- Southern reference area: 20 stations (20 samples)

Replicated stations:

- Turbine site: 8 stations (40 samples)
- Adjacent waters: 6 stations (30 samples)
- Northern reference area: 5 stations (25 samples)
- Southern reference area: 5 stations (25 samples)

At every pre-determined sampling station, the Boxcore was lowered and a sample was taken. Upon retrieval of the sampler, the contents of the box corer's sample holder were inspected by a qualified surveyor and the quality of the sample was assessed. Samples disturbed or too low in volume were rejected. Valid samples were washed over a 1 mm sieve. The residue was photographed for possible future reference and stored in a HdPE jar with suitable fixing and preserving solution (4% formo-saline solution).

Boxcore samples were taken from the 6th till the 22nd of April 2013. This is one month later than in 2012. Samples were taken in a north to south direction. Only one station (QT17) was skipped, because it was located only 10 m from the cable to the OHVS.

¹ The Reineck box corer consists of a round metal box (29,5 cm diameter), which is attached to a weighted tubular steel frame. Upon deployment and when contact is made with the seabed, the projecting box is driven into the sediment by the weight of the corer. Once the tension has been taken by the lifting cable, a mechanism rotates a counterbalanced arm that swings a cutting plate through the sediment and under the box to retain the sediment contained within. The sampling device is then lifted from the seabed and through the water column to the survey vessel. The cutting plate has a rubberised upper surface, which seals the sediment sample within the box corer by sitting flush against the lower edge of the corer during the recovery from the seabed to the vessel.

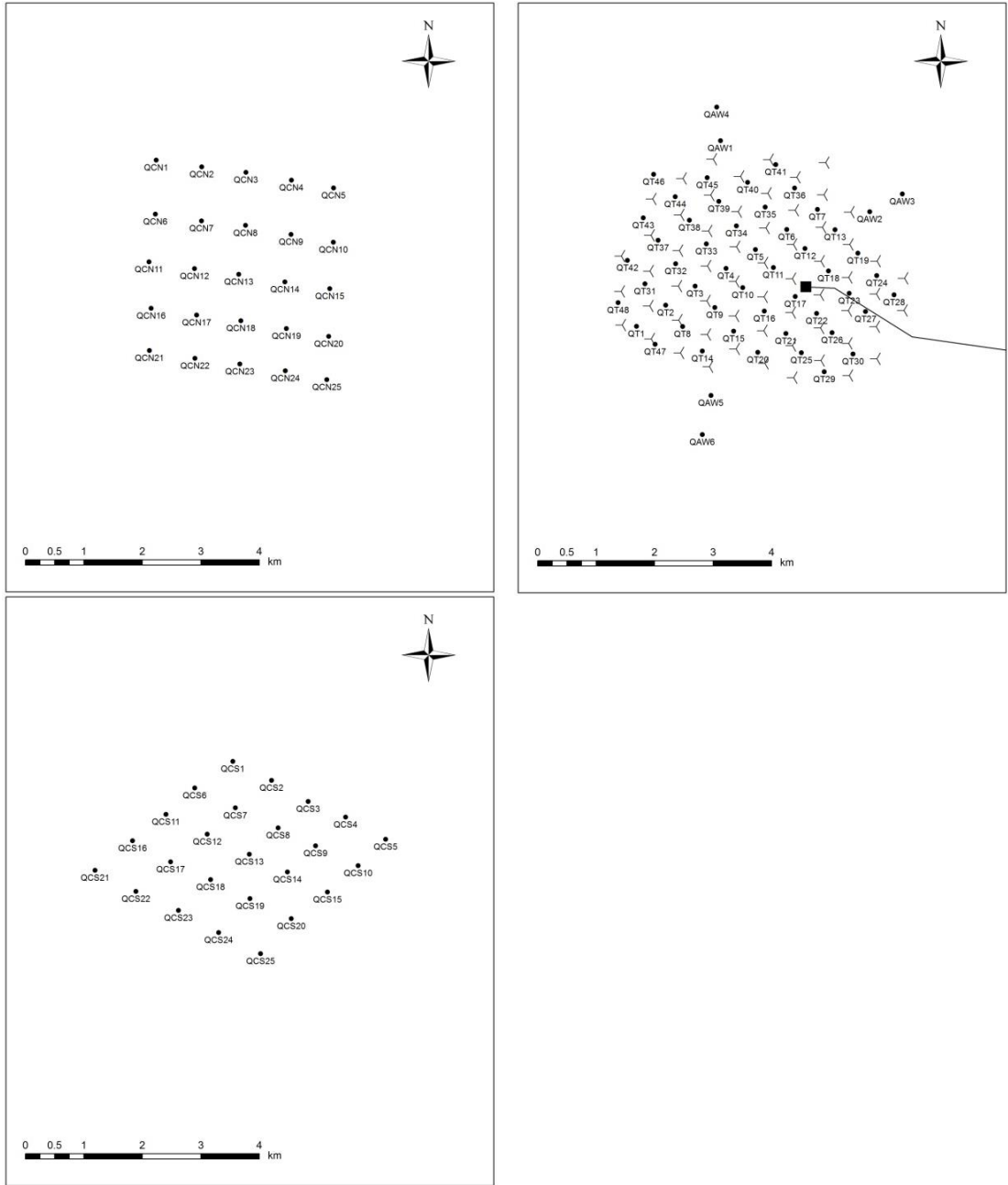


Figure 2: Sample positions of the boxcores in the four areas.

2.2.2 Triple D Dredge sampling

To survey less abundant and larger infaunal invertebrates, the Triple D dredge was chosen. This dredge has a cutting plate with a width of 1 m and a penetration depth of 15 cm, the retaining net has a mesh size of 6 mm. The dredge was towed for a distance of 50-800 m, depending on the sampled volume. A total of 39 samples were collected at 39 different stations.

The overall sampling effort for the monitoring surveys was as follows (Figure 3):

- Turbine site: 15 dredge tows
- Adjacent waters: 6 dredge tows
- Northern reference area: 9 dredge tows
- Southern reference area: 9 dredge tows

At the pre-determined sampling stations, the dredge was lowered and towed over a distance of 50-800 m through the seabed. Standard tow length was 100 m. If the sampled volume was too low or too high, tow length in the specific area was adapted to 50, 200 or 400 m. Because adjacent stations required similar tow length, first a tow length equal to the previous station was carried out. If the sample volume was still too low, a second haul was carried out. Once on deck, the retaining net was emptied and, if approved to be a successful sample, the content of the net was placed in a sample container and photographed for possible future reference. All dredge samples were sorted onshore, identified to species level if possible, wet weight per species determined and length of individuals measured. Depending on the total volume of the sample, a subsample was taken. The processed part of the sample was fixated with a 4% formalin-saline solution.

Dredge samples were taken from the 23th till 26th of April in the order QCN, QCS, QT and QAW. This was one month later than in 2012. Samples were temporarily stored on ice in labeled, closed buckets till processing on land. At the end of each sampling day, samples were brought to land to be processed by the processing crew the next day.

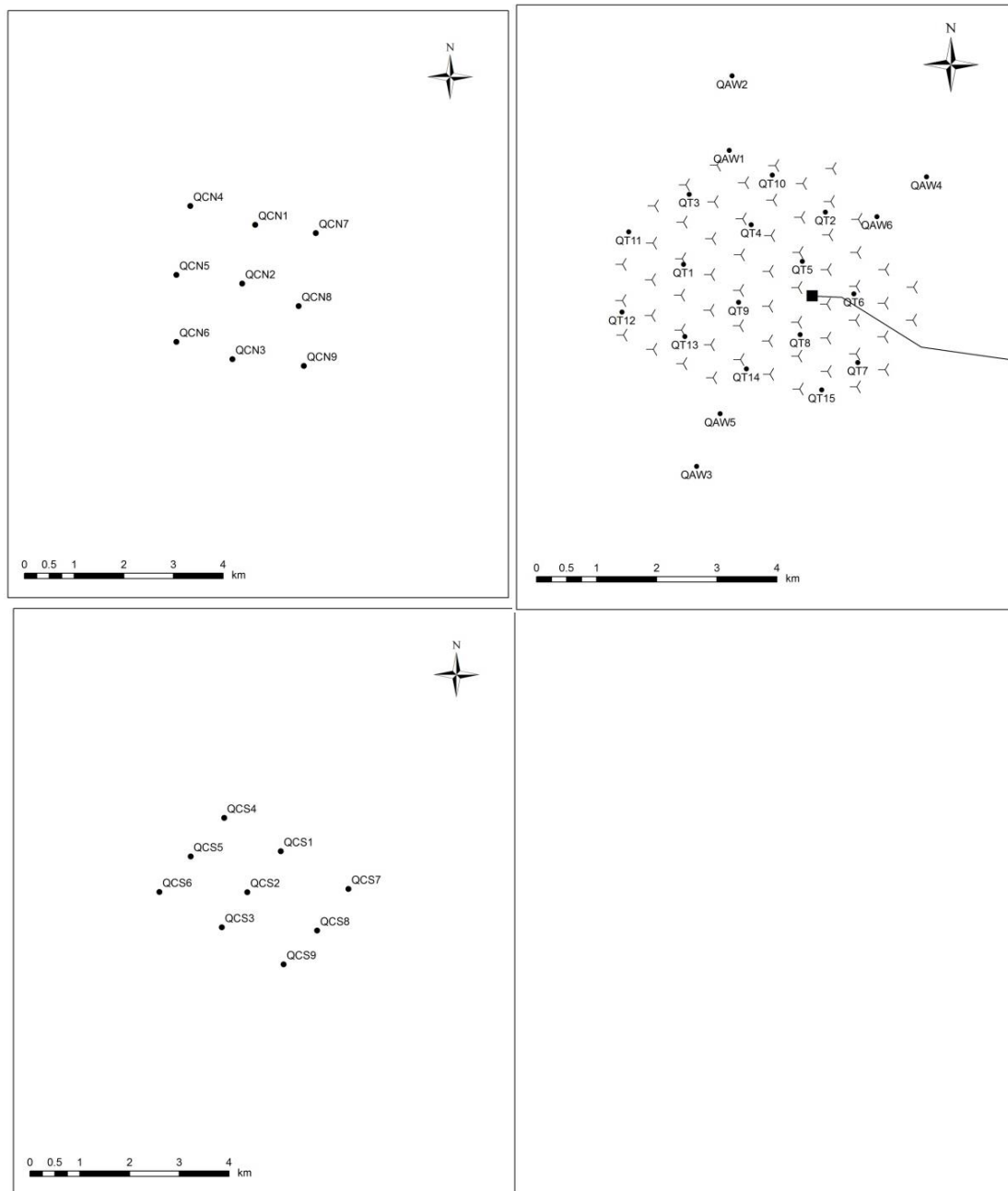


Figure 3: Sample positions of the dredges in the four areas.

2.3 Laboratory methods

2.3.1 Sediment analyses

Sediment particle size of the fraction less than 2000 μm was determined with laser granulometry (Malvern Mastersize 2000 laser granulometer).

To assess the organic matter content, the PrepAsh was used: an instrument for gravimetric analysis, which increases precision while decreasing the time of analysis.

This is mainly accomplished by the completely automatised run of 29 samples and one reference sample. The weight change of the sample is plotted while the temperature gradually increases according a predefined program.

2.3.2 Boxcore samples

In accordance with the research plan, only the non-replicate boxcore samples were sorted in the lab. The replicate samples were collected for possible further reference and would only be analysed if the data from the non-replicated sites suggested there might be patterns at a small spatial scale that were relevant for the research questions.

Sorting

After fixation with a 4% formo-saline solution, the benthos samples were stained with Rose Bengal (1%), which has the ability to stain proteins in animals that were caught alive. After 24h, the organisms were picked out.

The samples were thoroughly rinsed in a 1 mm sieve to remove as much fixation liquid as possible. The rinsed sediment was stored in a triage bin, where the organisms were picked out and preserved in 70% ethanol. The residue was kept for possible future audits.

Identification

All organisms were identified to species level whenever possible and counted. Identification was performed with a binocular microscope and based on the most recent systematic literature. For nomenclature and taxonomy, the World Register of Marine Species (WoRMS) was followed. All identified organisms were stored per species in separated tubes/jars.

Biomass

In this study, we opted to determine biomass (ash free dry weight) in an indirect way. Depending on the taxonomic class, a different method was used. This is according to the methods used for the T0 data (Jarvis *et al.*, 2004), T5 data of OWEZ (Daan *et al.*, 2007) and the T5 data of PAWP (Vanagt *et al.*, 2013a), and where deviating from these methods, it is in accordance with the guidelines by the National Marine Biological Analytical Quality Control Scheme (NMBAQCS).

Echinoids and *Ophiura* spp.

Lengths and widths (if possible) were measured of molluscs and echinoids, respectively. The central disk was measured of *Ophiura* spp. All measurements were done with a digital caliper with an accuracy of 0.01 mm.

Molluscs, polychaetes, larger crustaceans, gastropods and *Asterias rubens*

For molluscs a different method was used compared to the T0 and T5: biomass data of these organisms were determined with the Blotted wet weight method. Organisms were weighted per sample and per species. Individuals were dried on filter paper until no surface moisture was present. The organisms were gently placed in an aluminium cup (small organisms) or a porcelain cup (larger organisms) and weighted to 0.0001 gram accurate. Wet weight was transformed to ashfree dry weight (AFDW) by using applicable conversion factors for the different taxa (Ricciardi & Bourget, 1998).

2.3.3 Dredge samples

Sorting, identification and biomass

All 39 dredge samples were sorted, identified and weighted (wet weight) in a field laboratory. Some species (polychaetes and bivalves) were re-identified in the laboratory if there was some uncertainty about the identification. In addition, five complete samples were re-sorted and re-identified in the laboratory for quality control purposes. Shell lengths of the three most common bivalve mollusks were measured.

Shell damage

To assess whether bivalves suffered from shell damage, all species of bivalves that were regularly encountered were examined for scars under a dissecting microscope. In addition, width of sea urchins was measured to assess length-frequency distributions.

2.4 Statistical analyses

Density and biomass (Ash Free Dry Weight, AFDW) for the boxcore samples were standardised to the number of individuals per m² (ind/m²) and for the dredge samples to the number of individuals per 100 m². In addition, diversity indices were calculated per sample (Shannon-Wiener, Pielou's Evenness and Gini-Simpson index). The Shannon index is based on the relative abundances of the species in a community and increases with increasing diversity. Pielou's evenness ranges from 0 to 1 and raises with decreasing variation in communities. The Gini-Simpson index equals the probability that two individuals represent different taxa, which raises with increasing diversity. Differences between the four different areas were assessed with Kruskal-Wallis ANOVA followed by post-hoc multiple comparisons using Statistica (StatSoft, 2004).

Multivariate analyses were carried out with the Primer v6 program (Clarke & Gorley, 2006). Before analysis, data were fourth-root transformed. Bray-Curtis similarity matrices were used to build up non-metric multidimensional scaling (MDS) plots. MDS plots give information on relationships between data points. SIMPER analysis allows to detect which species contribute to the distance between certain communities (dissimilarity percentage) and clustering in a community (similarity percentage). ANOSIM analyses

(Analysis of Similarities) were performed to determine significant differences ($p < 0.05$) between groups (areas) and sampling years (years).

2.5 Quality control

During the analyses of benthic samples - sorting and identification - quality controls were carried out. 10% of the boxcore samples and 12% of the dredge samples were re-analysed by a colleague analyst.

All controls were within the 90% similarity level set as a minimum acceptance criterion by NMBAQCS (Worsfold & Hall, 2010).

3. RESULTS

3.1 Physical variables

Sampling depth of the boxcore samples ranged from 17.0 m (QT 29) to 24.2 m (QCS 13.3), with a mean of 20.7 ± 1.4 m for all samples (Table 1). Despite the small range, sampling depth was still significantly deeper in the southern reference area than in the northern reference area and the turbine site (Figure 4).

Table 1: Sampling depth of the boxcore samples.

Area	Sampling depth (m)			
	Mean	St. Dev.	Min.	Max.
QCN	20.2	0.78	19.0	21.4
QT	20.3	1.44	17.0	23.0
QAW	20.3	1.13	19.1	22.3
QCS	21.8	1.48	18.9	24.2
Total	20.7	1.44	17.0	24.2

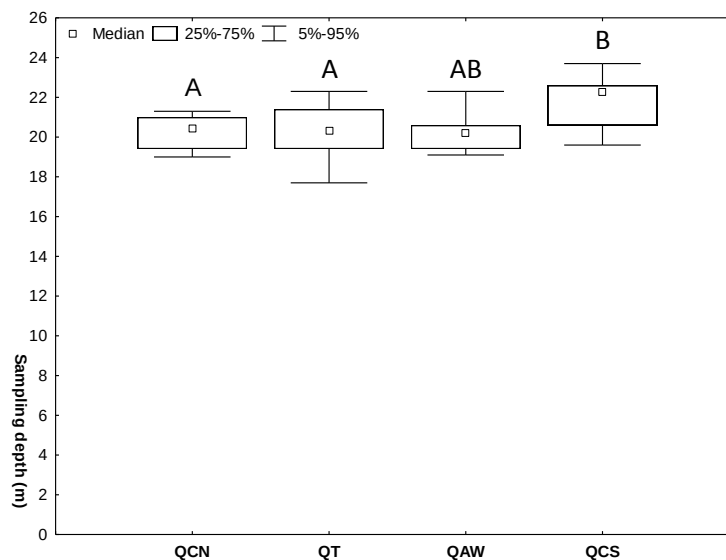


Figure 4: Box-whisker plots of the sampling depth for boxcore samples per area.

Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

Median grain size ranged from $226 \mu\text{m}$ (QCN 10) to $339 \mu\text{m}$ (QCS 18), with a mean particle size of $282 \pm 25 \mu\text{m}$ for all samples (Table 2); this can be classified as medium sand according to the Wentworth-scale. There was a slight north-south trend of coarsening sands, with a significantly higher median grain size in the southern reference

area and significantly lower median grain size in the northern reference area than in the the turbine site (Figure 5).

Table 2: Physical variables of the boxcore samples.

Area	Median particle size (μm)		Clay (%)		Sand (%)		Organic matter (%)	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
QCN	258	25.4	1.26	1.73	98.1	2.34	0.688	0.161
QT	280	15.2	0.203	0.674	99.6	1.07	0.710	0.104
QAW	285	12.3	0.000	0.000	100	0.00	0.653	0.0432
QCS	309	12.7	0.158	0.762	99.7	1.30	0.652	0.144

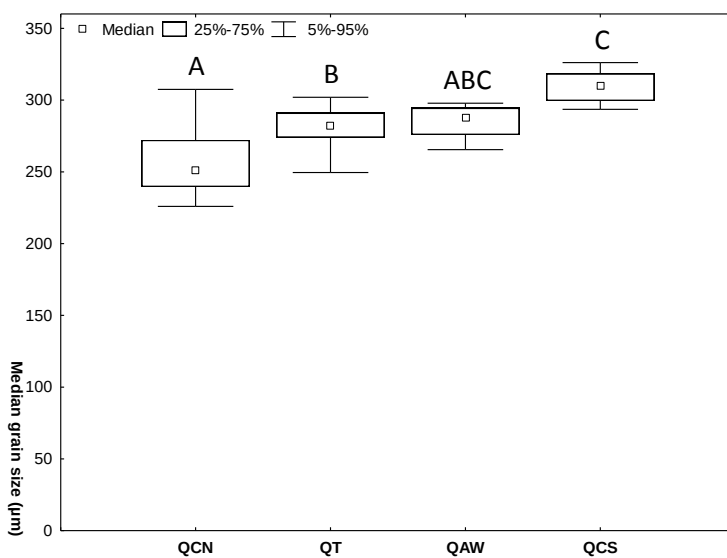


Figure 5: Box-whisker plots of the median grain size per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

Clay percentages (particle size less than $63 \mu\text{m}$) were very low, the mean ranged between 0% (QAW) and 1.3% (QCN). Sandy sediments dominated the three areas, with mean percentages varying between 98.1 and 100.0%. No significant differences in clay and sand percentages were observed between the areas.

Organic matter content was comparable between the different areas, with an overall mean of $0.688 \pm 0.129\%$. The lowest value was measured for QCN 3.1 with a value of 0.425%, the highest value (1.19%) was measured in QCN 8. Despite the limited range, organic matter content was significantly lower in the southern reference area than in the turbine site (Figure 6).

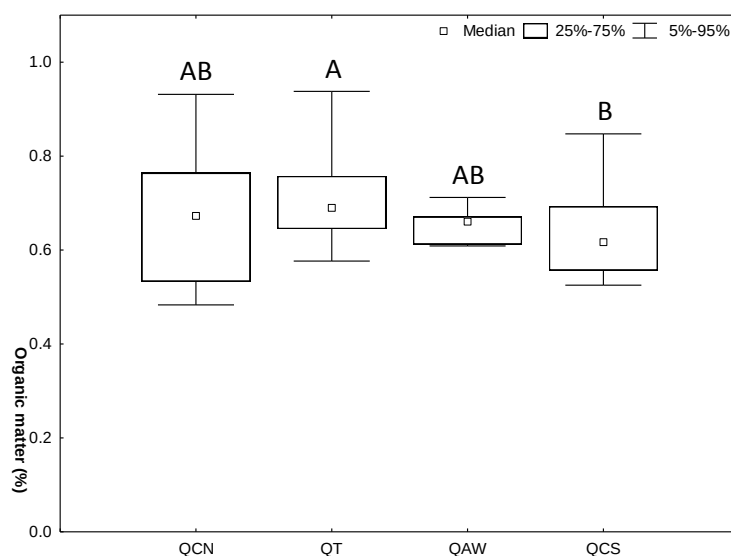


Figure 6: Box-whisker plot of the organic matter content per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

3.2 Boxcore samples

General diversity – species composition

A total number of 71 different invertebrate taxa was found in the windfarm area and the two reference areas. The number of species per sample varied between 3 (QCS 8) and 20 (QCN 4 & 7) with an average of 11.7 ± 3.3 species per sample (Table 3). Species richness was significantly higher in the northern than in the southern reference area and the turbine site (Figure 7). Most of the taxa found were polychaete worms (31 taxa) and crustaceans (24 taxa); the latter contained amongst others 13 amphipod species and 7 decapod species (Figure 8).

Table 3: Biodiversity data of the boxcore samples per area.

Area	Samples	Number of species			Pielou's Evenness	Shannon Index	Gini-Simpson Index
		Total	Mean	St. Dev.			
QCN	25	50	13.7	2.89	0.772	2.00	0.790
QT	47	65	11.3	3.10	0.823	1.96	0.822
QAW	6	27	12.2	3.87	0.768	1.89	0.788
QCS	25	44	10.3	3.22	0.836	1.90	0.818
Total	103	71	11.7	3.32	0.811	1.95	0.811

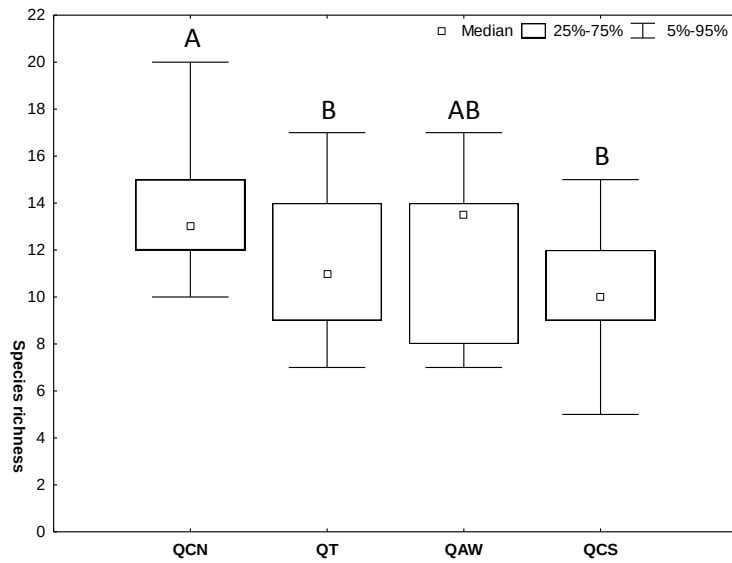


Figure 7: Box-whisker plot of species richness per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

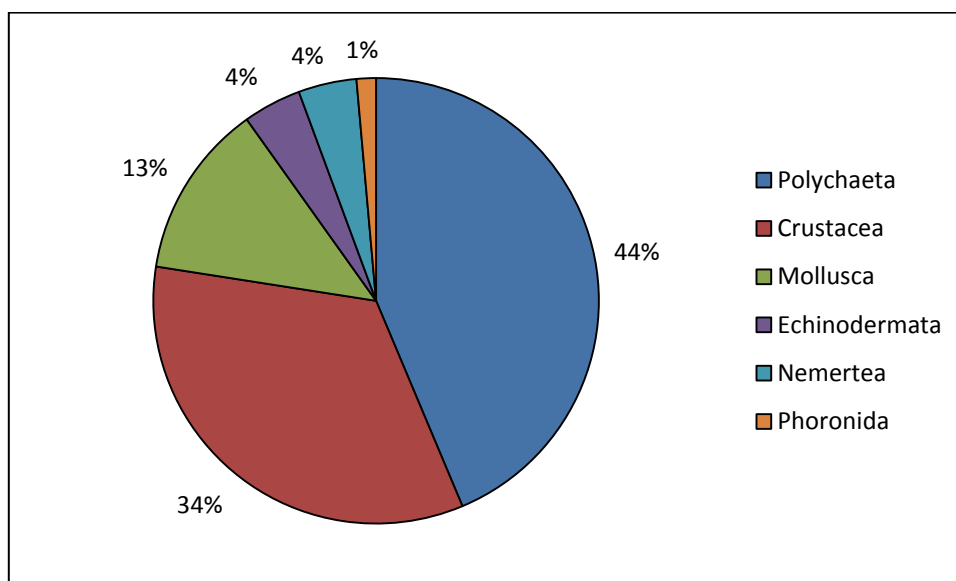


Figure 8: Proportion of species richness of the taxa present in the boxcore samples. Percentages represent the relative contribution of the different taxa to the species richness.

Pielou's evenness (Figure 9), Shannon Index (Figure 10) and Gini-Simpson Index (Figure 11) were all similar for the different areas.

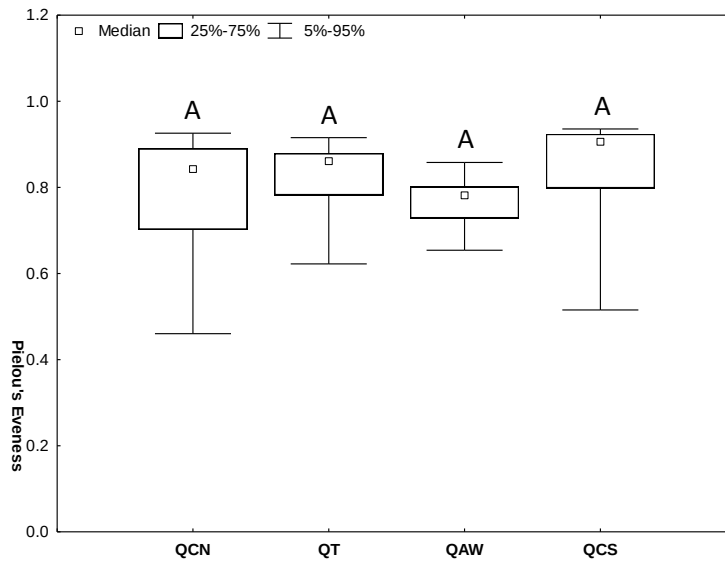


Figure 9: Box-whisker plot of Pielou's Evenness per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

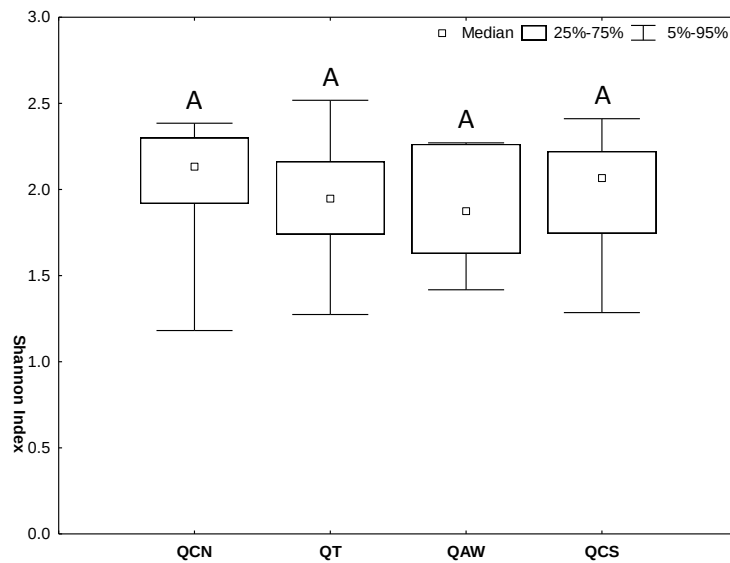


Figure 10: Box-whisker plot of Shannon Index per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

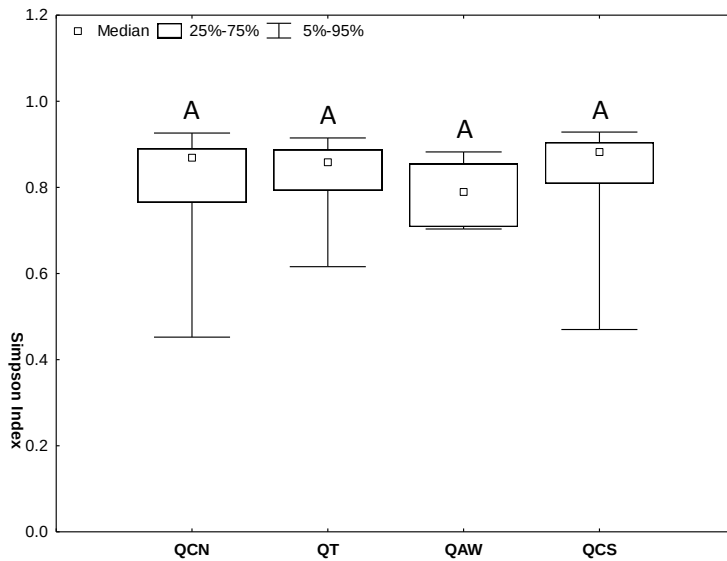


Figure 11: Box-whisker plot of Gini-Simpson Index per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

A ‘species accumulation curve’ was used to examine if the amount of analysed samples was sufficient to get a representative idea of the biodiversity present (Figure 12). The maximum number of species was estimated using an extrapolation technique (Bootstrapping). The graph shows that at 103 samples, the number of species in the samples is close to an asymptotic value, which is the estimated total number of species present. This means that the sampling effort was sufficient. Looking at estimated versus observed number of species (endpoint of curve versus asymptotic value²) over all areas together, 92% of the estimated number of species was encountered in the samples. In the northern and southern reference site it was 91%, in the turbine site 90%.

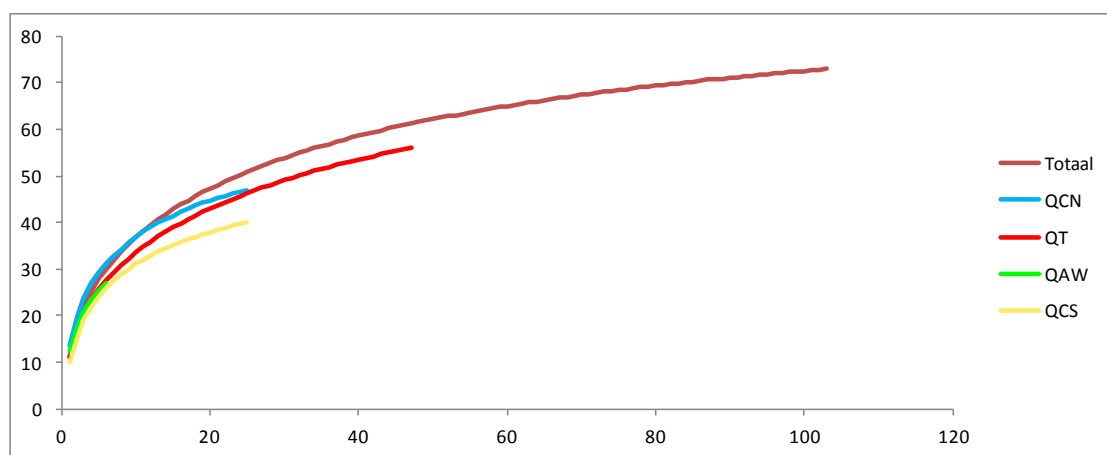


Figure 12: Estimated number of species (Y-axis) in relation to the number of samples (X-axis), determined with Bootstrapping.

² The number of species at the endpoint of the curve, i.e. at the total number of collected samples for an area, is the observed number of species. The curve bends asymptotically to a maximum at an infinite number of samples, which is the estimated total number of species.

Long-lived species

True K-strategists were not present in the boxcore samples. However, a number of species having a relatively long lifespan were present, especially in the dredge samples (see further). Fish were absent from the boxcores, as were most larger crustaceans. Longer-lived bivalves were very scarce in the boxcore samples. E.g. *Chamelea striatula* was present in only 4 boxcore samples with 1 individual each. In only one boxcore sample more than 1 individual of the bivalve *Spisula elliptica* was found.

Density and biomass

Mean invertebrate densities ranged from 388 ± 311 individuals/m² in QCS to 798 ± 519 individuals/m² in QCN (Table 4). The maximum density in one sample was observed in QCN 4 with 2090 individuals/m², which was mainly due to a high densities of the amphipods *Urothoe poseidonis* (910 individuals/m²) and *Bathyporeia elegans* (679 individuals/m²). Density was significantly higher in the northern reference area than in the southern reference area and the turbine site (Figure 13).

Table 4: Density and biomass data of the boxcore samples.

Area	Density (N/m ²)				Biomass (g AFDW/m ²)			
	Mean	St. Dev.	Min.	Max.	Mean	St. Dev.	Min.	Max.
QCN	798	519	256	2090	11.3	11.0	0.592	32.0
QT	422	184	179	1000	7.15	6.04	0.143	25.4
QAW	568	224	308	910	18.9	14.6	1.61	37.8
QCS	388	311	115	1460	11.6	18.7	0.209	85.7
Total	513	363	115	2090	9.91	12.1	0.143	85.7

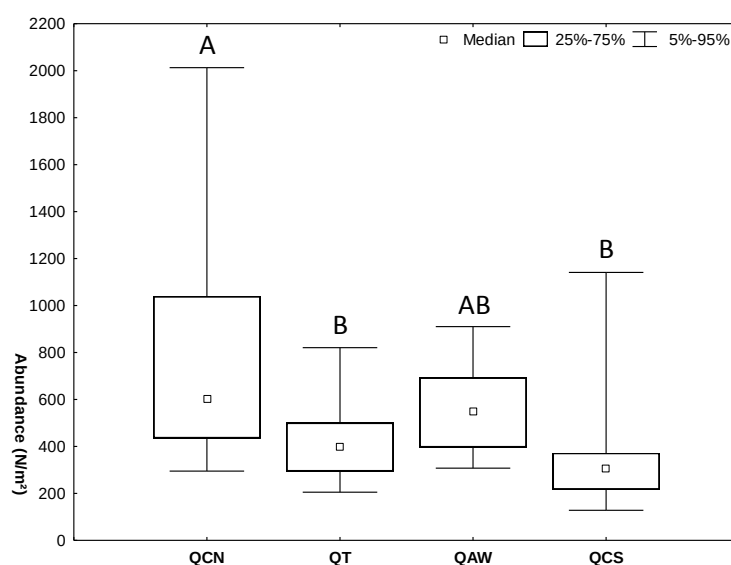


Figure 13: Box-whisker plot of abundance per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

The mean biomass (AFDW) was highest in QAW (18.9 ± 14.6 g/m²) and lowest in the turbine site (7.15 ± 6.04 g/m²). High biomasses were mostly due to the presence of *Echinocardium cordatum*. There were no statistically significant differences in biomasses between the areas (Figure 14).

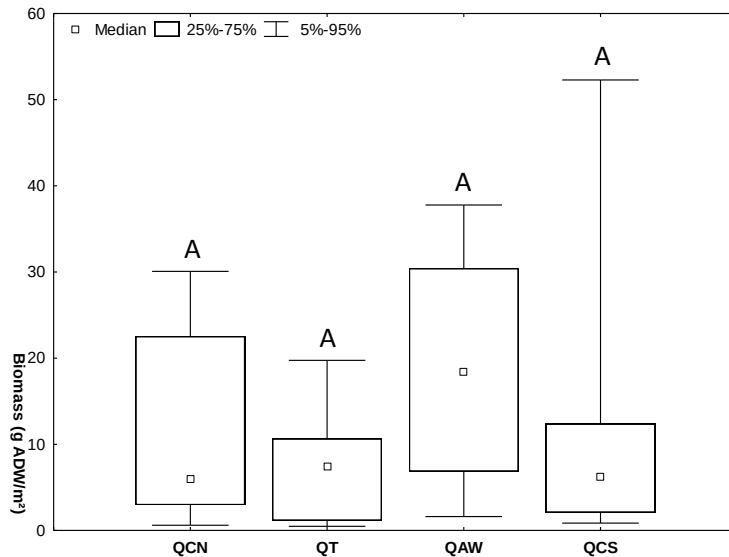


Figure 14: Box-whisker plot of biomass per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

Multivariate analyses

The multivariate ANOSIM data-analysis showed statistical differences in density and biomass between the different areas ($p < 0.001$). Looking at the MDS-plot, it is clear that the samples are arranged along a north – south gradient (Figure 15). Dissimilarity between areas was derived from the ANOSIM and SIMPER results. The dissimilarity between the different areas was mainly caused by differences in densities of the amphipods *Bathyporeia elegans*, *Urothoe poseidonis* and *Bathyporeia guillamsoniana* and the polychaetes *Magelona filiformis*, *Exogone hebes* and *Lanice conchilega* (Table 5). When these analyses were performed on the biomass data, similar dissimilarity percentages were obtained.

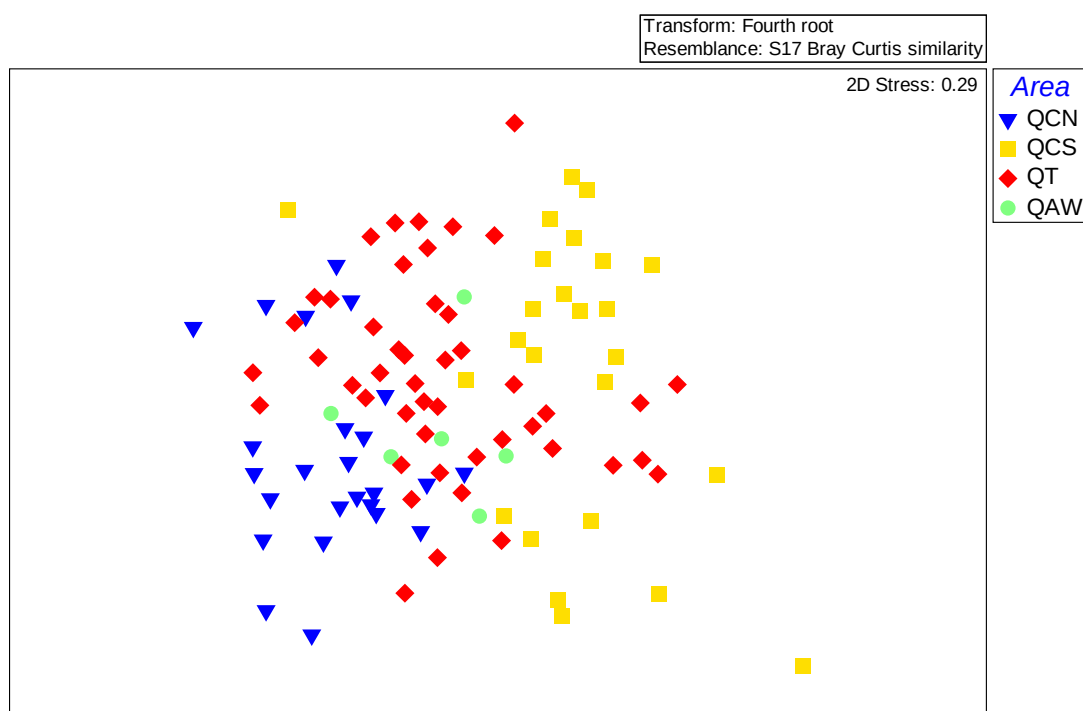


Figure 15: MDS plot based on density data with indication of the different areas (note the stress factor of 0.29, which suggest a relatively low relevance of the sample clusters).

The most abundant taxa were *Bathyporeia elegans*, *Nephtys cirrosa*, *Urothoe poseidonis* and *Scoloplos armiger*. These species led to a similarity of $\pm 40\%$ in each area³. A total of 27 species (37%) occurred in all areas. The taxa listed in Table 6 were specific to one or two areas (North-South gradient from left to right) and occurred in more than one sample.

³ In multivariate analyses, the areas QT and QAW were treated as one area, because of the low sample size of QAW.

Table 5: Results ANOSIM and SIMPER analyses of the boxcore samples.

Area	R	p	Dissimilarity (%)	Indicator species	Mean density Area 1 – Area 2	
QCN - QCS	0.517	0.001	66.7	<i>Bathyporeia elegans</i>	1.79	0.51
				<i>Urothoe poseidonis</i>	1.32	0
				<i>Urothoe brevicornis</i>	0.74	0.05
				<i>Exogone hebes</i>	0	0.85
				<i>Lanice conchilega</i>	0.74	0.04
				<i>Magelona filiformis</i>	0.81	0.34
QT - QCN	0.225	0.001	57.8	<i>Urothoe poseidonis</i>	0.07	1.32
				<i>Magelona filiformis</i>	0.35	0.81
				<i>Bathyporeia elegans</i>	1.33	1.79
				<i>Lanice conchilega</i>	0.18	0.74
				<i>Chaetozone christiei</i>	0.37	0.73
				<i>Bathyporeia guilliamsoniana</i>	0.57	0.82
QT - QCS	0.390	0.001	62.5	<i>Bathyporeia elegans</i>	1.33	0.51
				<i>Exogone hebes</i>	0	0.85
				<i>Megaluropus agilis</i>	0.4	0.74
				<i>Spiophanes bombyx</i>	0.67	0.32
				<i>Bathyporeia guilliamsoniana</i>	0.57	0.58
				<i>Ophelia borealis</i>	0.58	0.67

Table 6: Taxa specific to one or two areas, which appear in more than one sample.

QCN	QT and QAW	QCS
<i>Angulus fabula</i> <i>Donax vittatus</i> <i>Eumida sanguinea</i> <i>Phyllodoce groenlandica</i> <i>Poecilochaetes serpens</i>	<i>Chamelea striatula</i> <i>Ensis directus</i> <i>Hypereteone foliosa</i> <i>Malmgreniella darbouxi</i> <i>Nemertea sp. R</i> <i>Nemertea sp. S</i> <i>Perioculodes longimanus</i> <i>Urothoe poseidonis</i>	
	<i>Capitella capitata</i> <i>Ensis ensis</i> <i>Eunereis longissima</i> <i>Ophiura ophiura</i> <i>Syllis prolifera</i>	
	<i>Leucothoe incisa</i> <i>Nephtys longosetosa</i> <i>Pestarella tyrrhena</i> <i>Phoronis muelleri</i> <i>Psammodrillus balanoglossoides</i> <i>Spio goniocephala</i> <i>Spisula elliptica</i>	
		<i>Aricidea minuta</i> <i>Exogone hebes</i> <i>Paraonis fulgens</i>

3.3 Dredge samples

General diversity – species composition

During the benthic dredge surveys, a total of 60 different species were identified, with an average of 24 ± 4 species per sample (Table 7). Species richness was similar in the different areas (Figure 16). 18 taxa were fishes, 13 bivalves, 11 decapods, five polychaetes, four echinoderms, two gastropods and one Nemertea.

Table 7: Biodiversity data of the dredge samples per area.

Area	Samples	Number of species			Pielou's Evenness	Shannon Index	Gini-Simpson Index
		Total	Mean	St. Dev.			
QCN	9	43	25.6	4.16	0,752	2,426	0,838
QT	15	50	23.0	4.87	0,760	2,358	0,855
QAW	6	36	23.7	3.20	0,704	2,222	0,833
QCS	9	38	24.6	2.70	0,789	2,523	0,890
Total	39	60	24.1	4.04	0,756	2,391	0,856

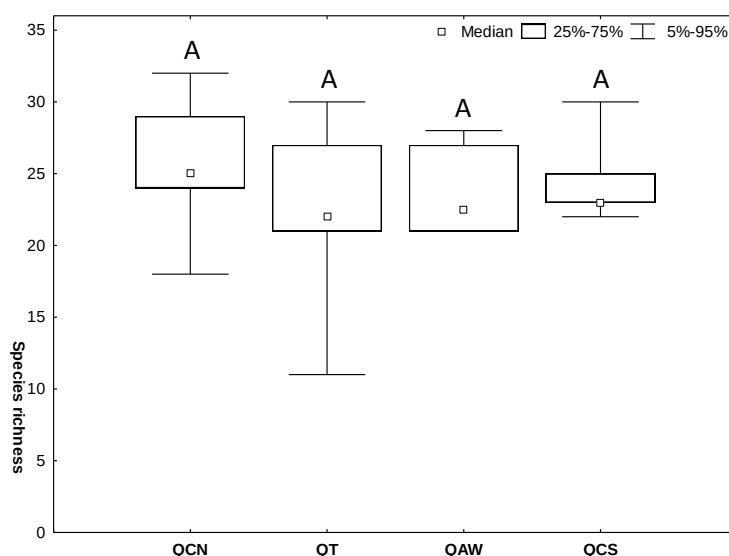


Figure 16: Box-whisker plot of species richness per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

There is little variation in diversity between the different sampling areas. There were no statistically significant differences in Pielou's Evenness (Figure 17), Shannon Index (Figure 18) and Gini-Simpson Index (Figure 19) between the areas.

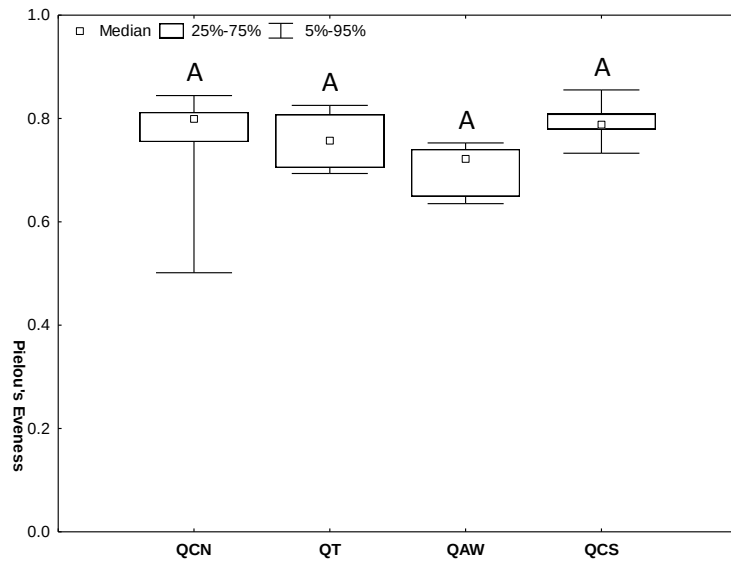


Figure 17: Box-whisker plot of Pielou's Evenness per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

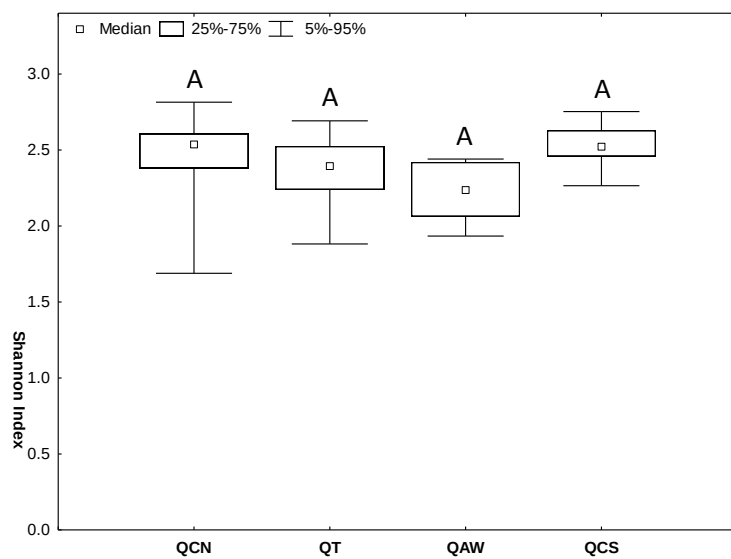


Figure 18: Box-whisker plot of Shannon Index per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

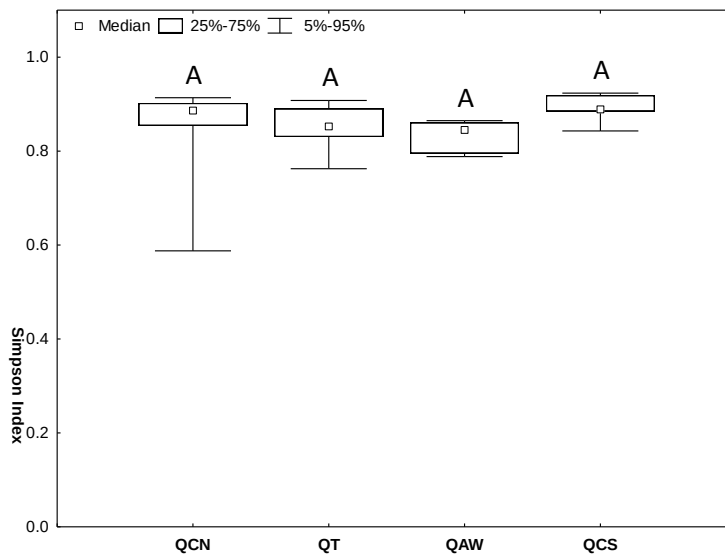


Figure 19: Box-whisker plot of Gini-Simpson Index per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

The species accumulation curve shows that an asymptotic value is almost reached with an effort of 39 samples (Figure 20). At that point, 91% of the estimated number of species was encountered in the samples.

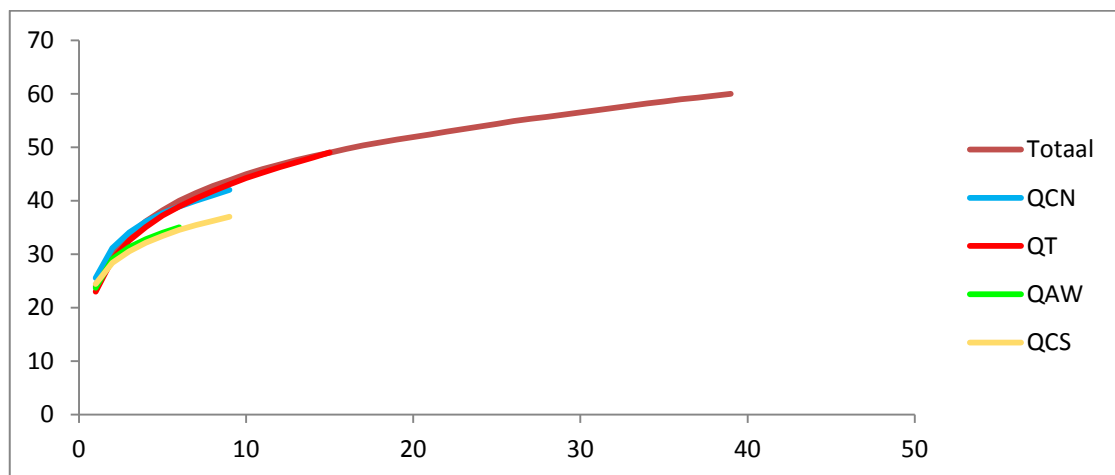


Figure 20: Dredge samples, estimated number of species (Y-axis) in relation to the number of samples (X-axis), determined with Bootstrapping.

Long-lived species

Although real K-strategists, such as rays and the Icelandic cyprine, were not present in the samples, as expected the dredge samples contained more long-lived species than the boxcore samples. The commercial fish species plaice, *Pleuronectes platessa*, and dab, *Limanda limanda*, showed only small differences in density between the impact and north and south reference areas. The lesser weaver, *Echiichthys vipera*, which is a more sedentary fish species, showed a clear north-south gradient, without a higher abundance in the

impact area. The burrowing prawn, *Pestarella tyrrhena*, a crustacean with restricted mobility, was absent in the northern reference area and showed no clear difference in density between the other areas. It was present in 7 dredge samples, but only in 2 boxcore samples with a total of 5 individuals. The bivalve *Chamelea striatula*, present in only 4 boxcore samples, was present in the majority of the dredge samples. The bivalve *Spisula elliptica*, rare in the boxcore samples, was found with several individuals in the majority of the dredge samples. A few siphons of the bivalve *Lutraria* sp. were present in the dredge samples. Overall, the average density of bivalves in the wind farm area (QT) was markedly lower (11 ind./100m²) than in the other three regions (QCN: 103 ind./100m², QCS: 21 ind./100m² and QAW: 41 ind./100m²).

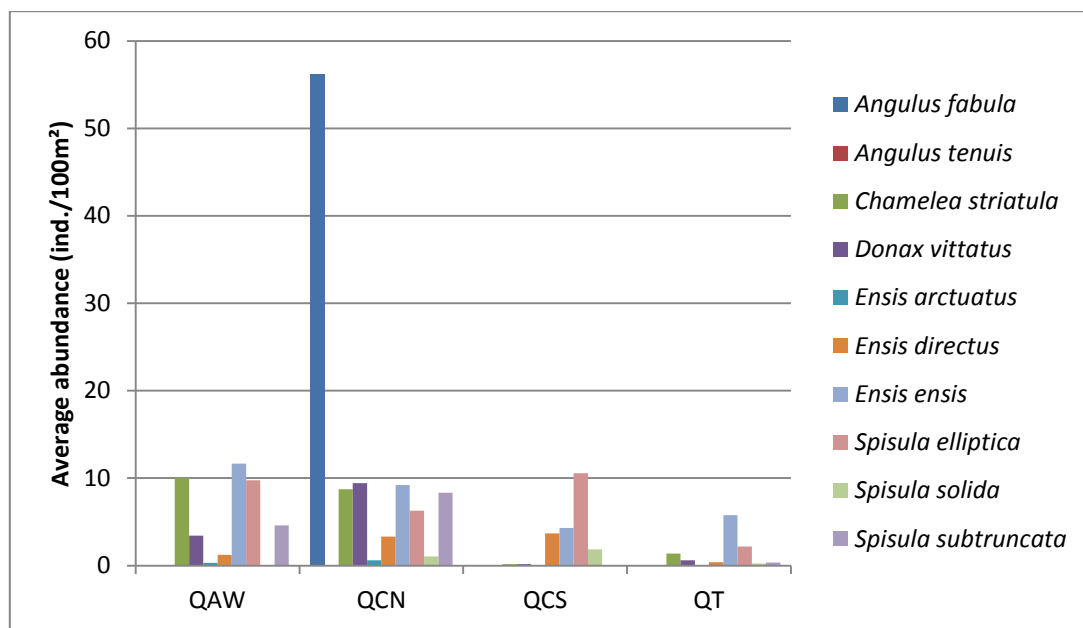


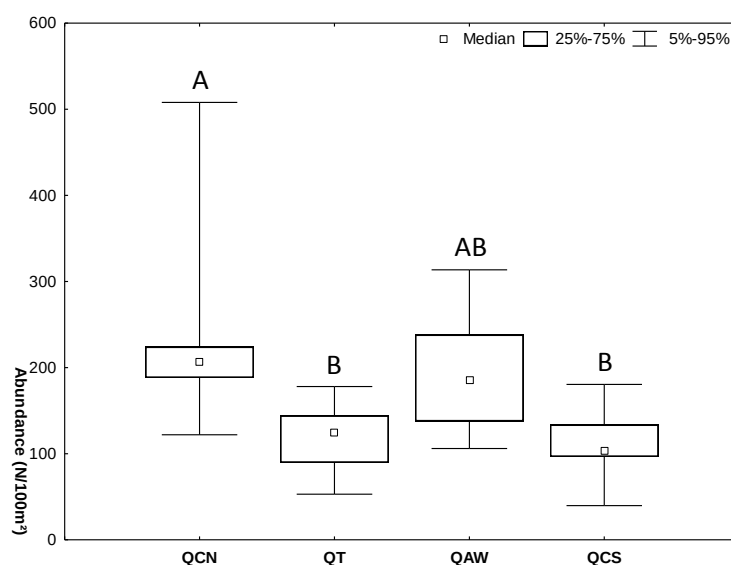
Figure 21: Average density of bivalve species in the dredge samples per area

Density and biomass

The mean dredge densities ranged from 111 ± 46 individuals/100 m² in QCS to 241 ± 118 individuals/100 m² in QCN. The highest density was observed in QCN 7 with 508 individuals/100 m², which was due to a high density of *Angulus fabula* (322 individuals/100 m²). Densities were significantly higher in the northern reference area compared to the turbine site and the southern reference area (Figure 22). The most abundant species was *Ophiura ophiura*, followed by *Ophiura albida*, *Angulus fabula* and *Crangon crangon*.

Table 8: Density and biomass data of the dredge sampling.

Area	Density (N/100m ²)				Biomass (g AFDW/100m ²)			
	Mean	St. Dev.	Min.	Max.	Mean	St. Dev.	Min.	Max.
QCN	241	118	122	508	57.2	17.6	27.3	85.3
QT	121	36.3	53.0	178	34.6	10.8	11.9	53.1
QAW	194	75.2	106	314	39.2	13.1	25.5	58.6
QCS	111	46.3	39.8	181	23.1	12.2	5.57	38.7
Total	158	86.7	39.8	508	37.9	17.5	5.57	85.3

Figure 22: Box-whisker plot of abundance per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

The mean dredge biomass ranged from 23.1 ± 12.2 g AFDW/100 m² in QCS to 57.2 ± 17.6 g AFDW/100 m² in QCN (Table 8). The highest biomass was observed in QCN with 85.2 g AFDW/100 m². The biomass was significantly higher in the northern reference area compared to the turbine site and the southern reference area (Figure 23). The length-frequency distribution of *Echinocardium cordatum* in the different areas was similar (Figure 24), although slightly more large specimens of around 45 mm were captured in QCN.

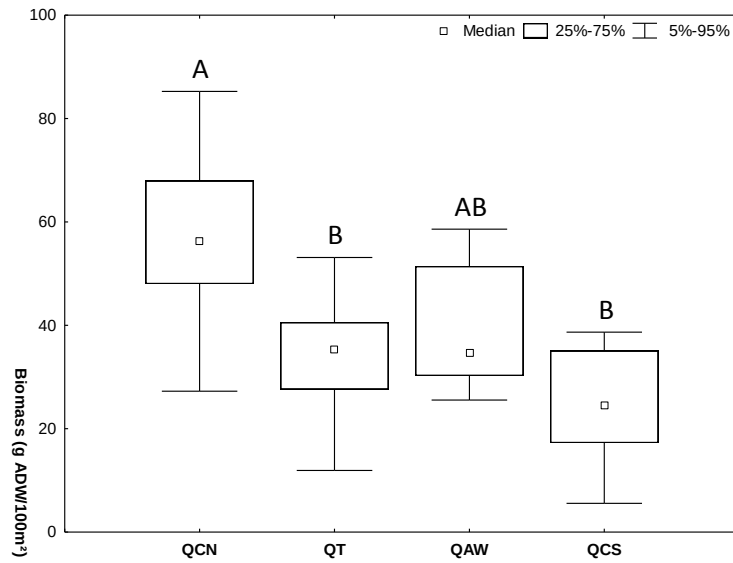


Figure 23: Box-whisker plot of biomass per area. Statistically significant differences (post-hoc multiple comparisons; $p < 0.05$) are indicated with different letters.

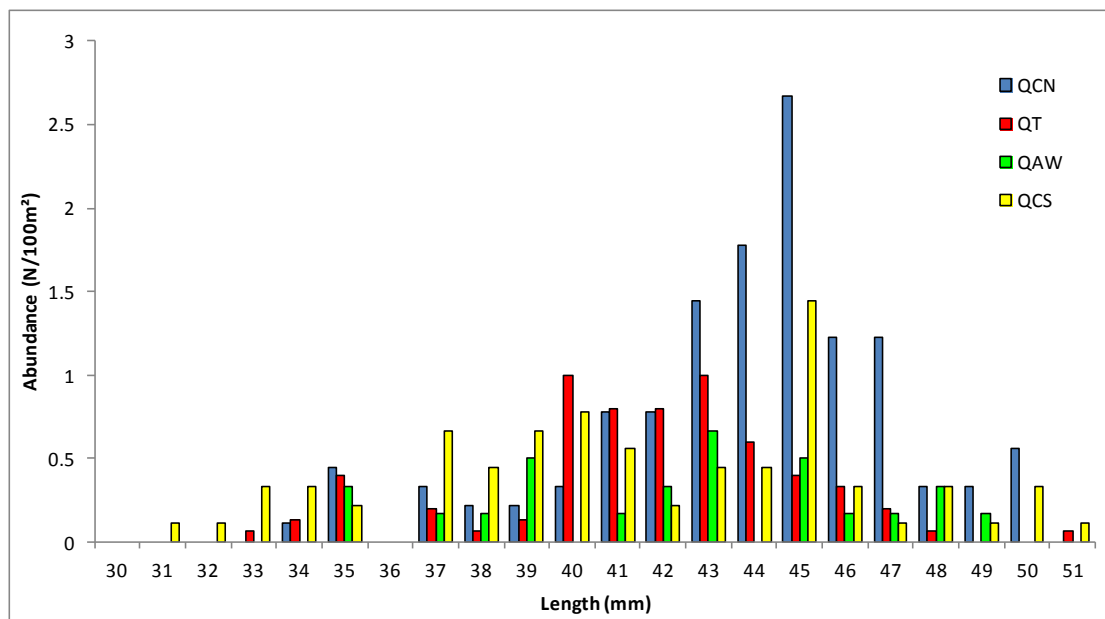


Figure 24: Length-frequency distribution of *Echinocardium cordatum* per area (shells smaller than 30 mm excluded).

The length-frequency distribution of common bivalve mollusks in the different areas was similar for *Spisula elliptica* (Figure 25). For *Chamelea striatula* there were more larger specimens in the northern reference area (Figure 26). Small specimens of *Donax vittatus* were only present in the northern reference area (Figure 27).

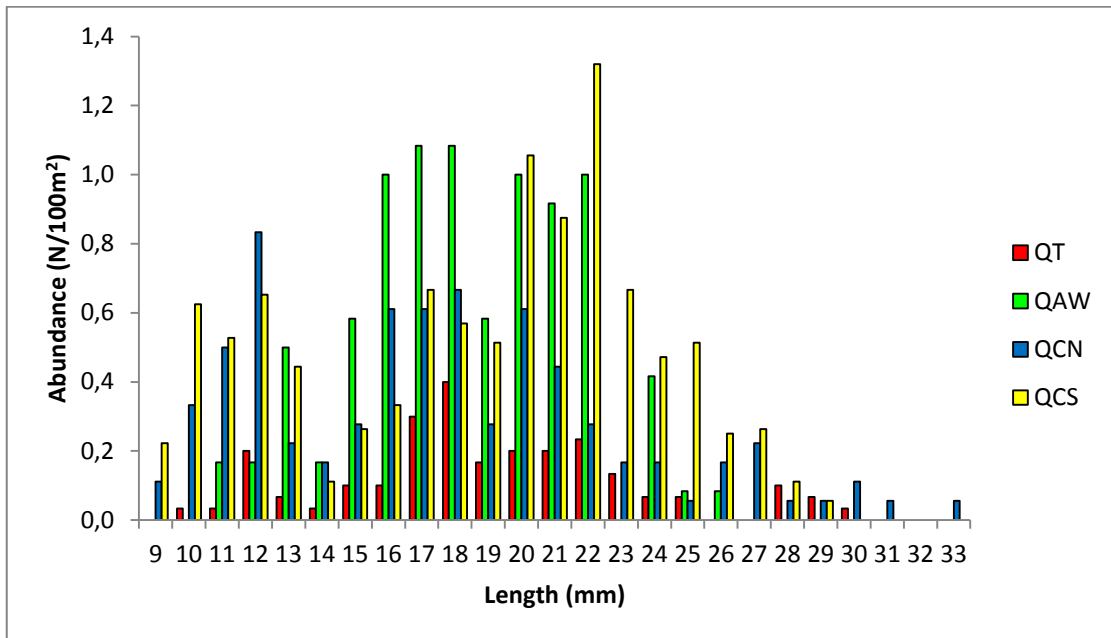


Figure 25: Length-frequency distribution of *Spisula elliptica* per area.

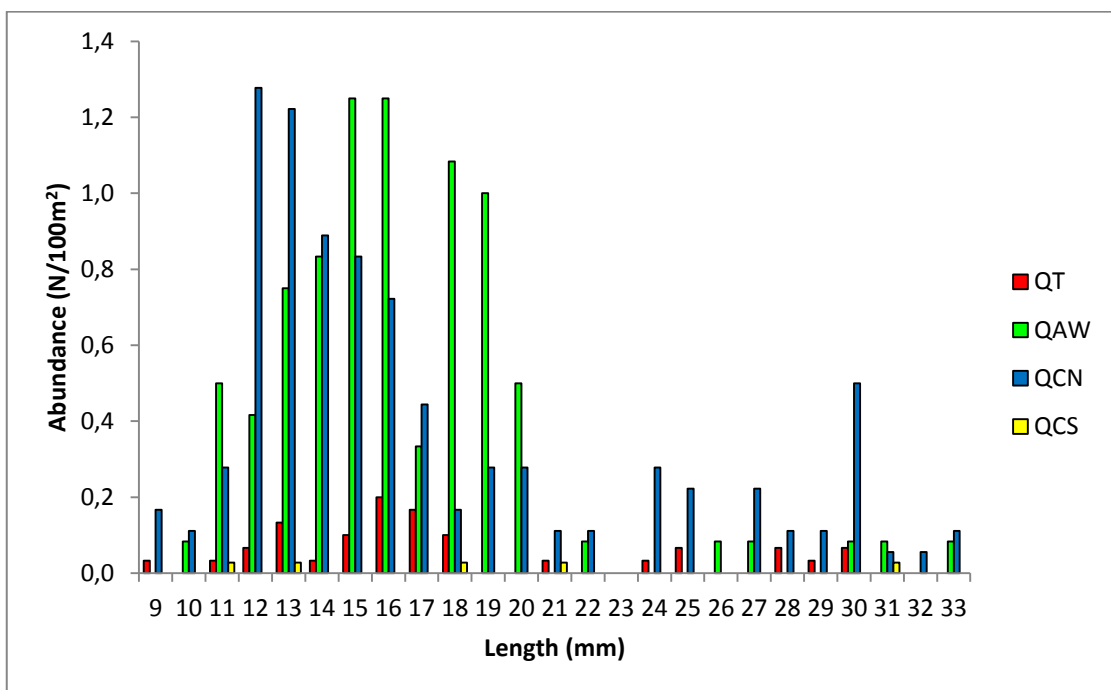


Figure 26: Length-frequency distribution of *Chamelea striatula* per area.

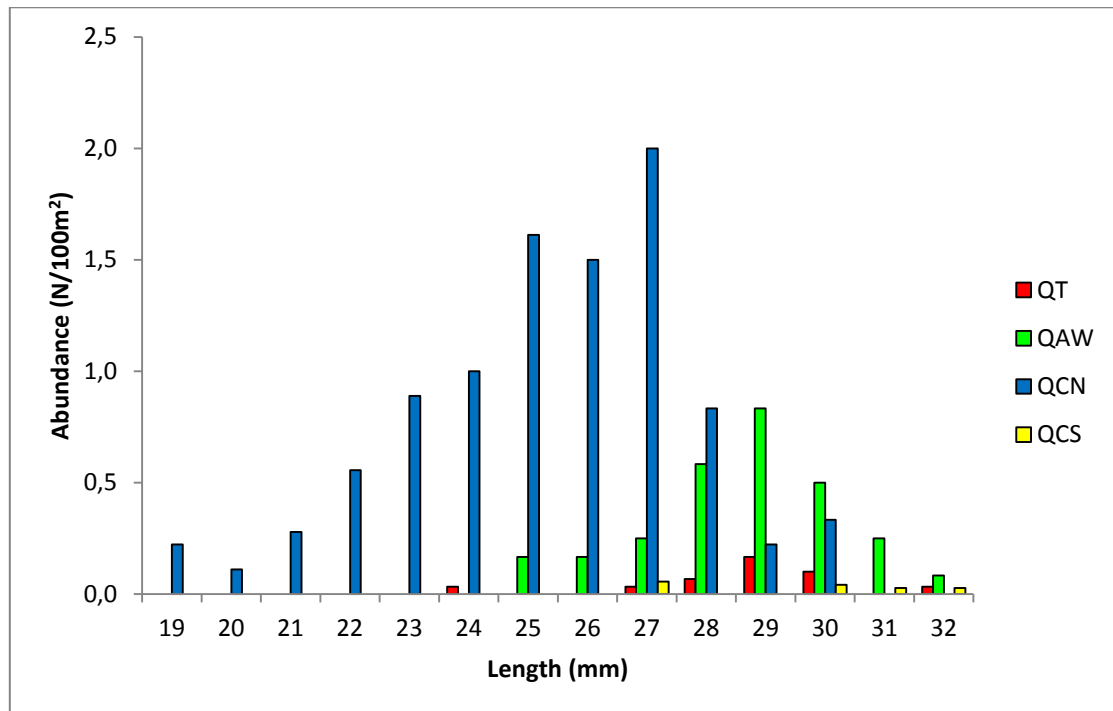


Figure 27: Length-frequency distribution of *Donax vittatus* per area.

Multivariate analyses

The ANOSIM analysis showed, as with the boxcore analysis, differences in densities between the different areas (Table 9). In contrast to the boxcore samples, the MDS-plot did not reveal a gradient from north to south, however, the areas were clearly separated (Figure 28). Dissimilarity between areas were mainly caused by differences in densities of *Lanice conchilega*, *Angulus fibula*, *Donax vittatus*, *Spisula subtruncata* and *Chamelea striatula*.

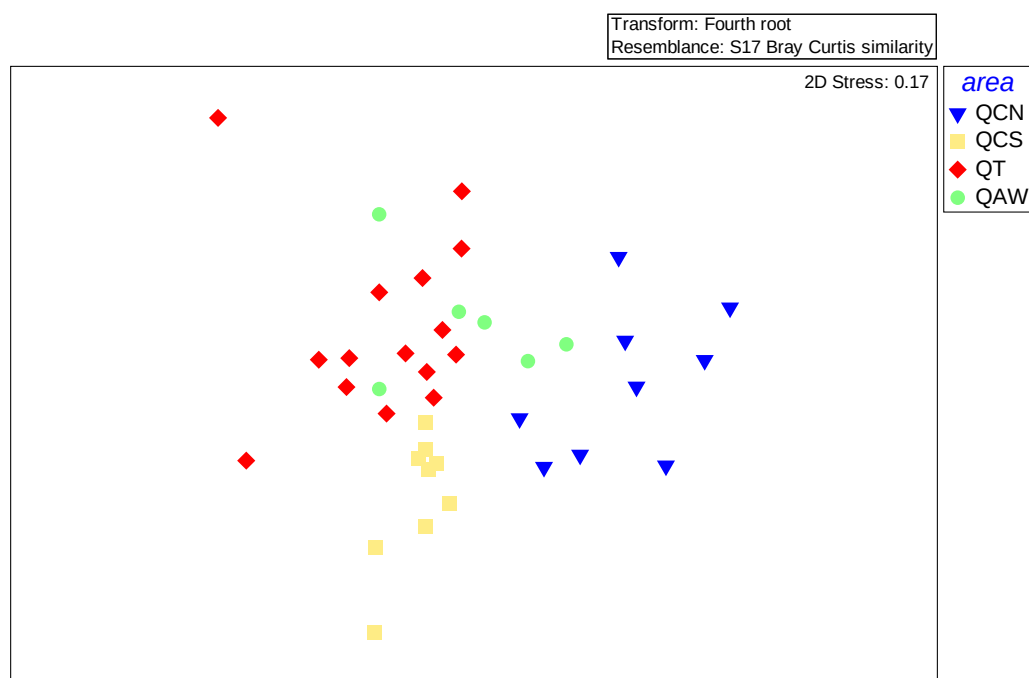


Figure 28: MDS plot based on density data in the dredge samples with indication of the different areas.

Table 9: Results ANOSIM and SIMPER analyses of the dredge samples.

Area	<i>R</i>	<i>p</i>	Dissimilarity (%)	Indicator species	Mean density Area 1 – Area 2	
QT - QCN	0.588	0.001	36.1	<i>Lanice conchilega</i>	0	1.3
				<i>Angulus fabula</i>	0	1.24
				<i>Donax vittatus</i>	0.63	1.67
				<i>Spisula subtruncata</i>	0.52	1.42
				<i>Echinocardium cordatum</i>	1.03	1.74
QT - QCS	0.293	0.009	31.5	<i>Ophiura ophiura</i>	2.45	1.44
				<i>Spisula solida</i>	0.14	1.14
				<i>Asterias rubens</i>	1.23	0.52
				<i>Ensis directus</i>	0.52	1.3
				<i>Chamelea striatula</i>	0.99	0.34
QCN - QCS	0.797	0.001	36.7	<i>Chamelea striatula</i>	1.65	0.34
				<i>Spisula subtruncata</i>	1.42	0.08
				<i>Lanice conchilega</i>	1.3	0
				<i>Donax vittatus</i>	1.67	0.41
				<i>Angulus fabula</i>	1.24	0

Within the areas, there was a similarity of $\pm 75\%$, due to the presence of *Ophiura albida*, *Ophiura ophiura*, *Ensis ensis* and *Pomatoschistus* sp. Species listed in Table 10 were specific to one or two areas and occurred in more than one sample.

Table 10: Dredge sample taxa specific to one or two areas and appearing in more than one sample.

QCN	QT and QAW	QCS
<i>Alcyonidium condylocinereum</i> <i>Angulus fabula</i> <i>Lanice conchilega</i>		
	<i>Ammodytes</i> sp. <i>Ensis magnus</i> <i>Euspira nitida</i> <i>Lineus bilineatus</i> <i>Macra stultorum</i> <i>Metridium senile</i> <i>Scolecopsis bonnieri</i>	
	<i>Sprattus sprattus</i>	
		<i>Aphia minuta</i> <i>Arnoglossus laterna</i> <i>Corystes cassivelaunus</i> <i>Echiichthys vipera</i> <i>Pestarella tyrrhena</i>

Shell damage

Several species of Bivalvia were regularly encountered: *Angulus fabula*, *Chamelea striatula*, *Donax vittatus*, *Spisula elliptica*, *Spisula solida* and *Spisula subtruncata*. *Ensis* sp. was also abundant, however, most shells were severely damaged during sampling and therefore, possible shell repair could not be evaluated for this genus. The number of damaged shells was very low overall (Table 11). *Angulus fabula*, the most fragile species, most frequently showed shell repair. For *Angulus fabula*, shell repair was only observed in the northern reference area, however, this species did not occur in the other areas. *Spisula elliptica* also showed shell repair on a few occasions and *Spisula subtruncata* also showed shell repair once. However, *Spisula solida*, *Donax vittatus* and *Chamelea striatula* never showed shell repair.

Table 11: Number of damaged shells showing shell repair and total number of encountered individuals for the frequently encountered Bivalvia per area.

	QCN		QT		QAW		QCS	
	Repair	Total	Repair	Total	Repair	Total	Repair	Total
<i>Angulus fabula</i>	10	511						
<i>Chamelea striatula</i>		6		3		2		96
<i>Donax vittatus</i>		14		108		36		6
<i>Spisula elliptica</i>	1	97	2	58		97	2	324
<i>Spisula solida</i>		14		6				56
<i>Spisula subtruncata</i>		92		11	1	51		1

3.4 Comparison between data from 2012 and 2013

Boxcore

The ANOSIM analysis of the data of 2012 and 2013 together indicated that there was not a great difference between the two sampling years (Table 12). The samples of both years were not clearly separated in the MDS-plot (Figure 29). However, the different areas were clearly separated from each other, with the highest dissimilarity between the northern and the southern reference area (Table 13). In the MDS-plot, the samples of the two reference areas were plotted farthest from each other, with the samples of the turbine site plotted in between (Figure 30). Indeed, the two-way crossed ANOSIM analysis indicated that the differences between areas were far more important than differences between years (Table 14).

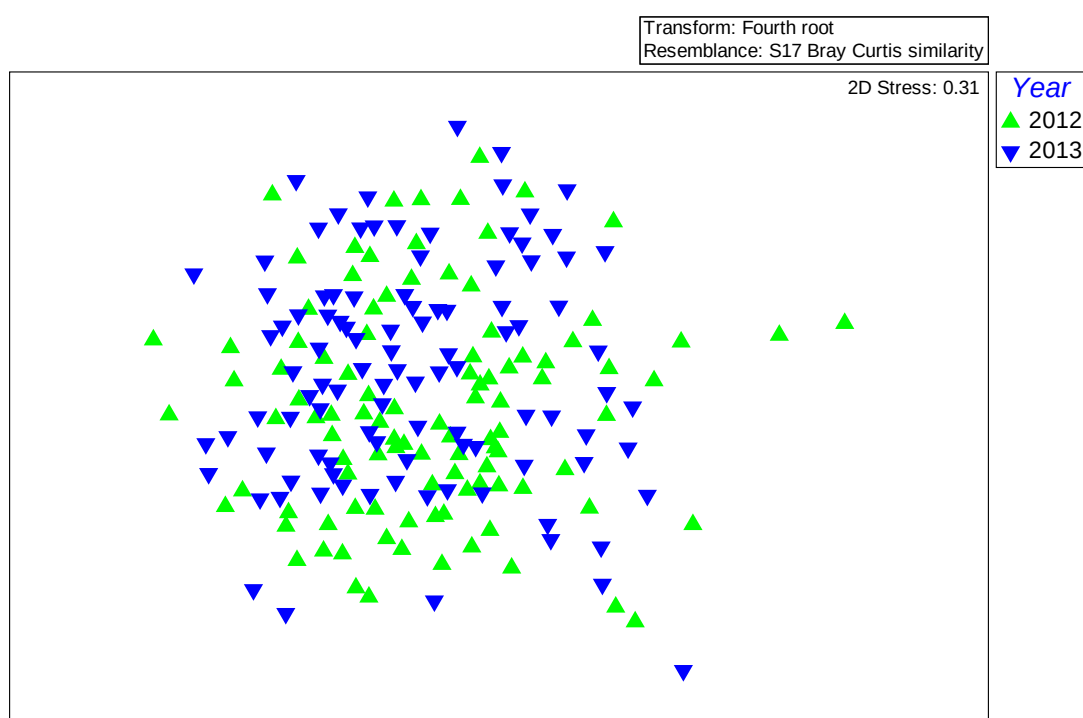


Figure 29: MDS plot based on density data in the boxcore samples with indication of the different sampling years.

Table 12: Results ANOSIM and SIMPER analyses of the boxcore samples of the different years.

Year	<i>R</i>	<i>p</i>	Dissimilarity (%)	Indicator species	Mean density Area 1 – Area 2	
2012 - 2013	0.115	0.001	60.0	<i>Bathyporeia elegans</i>	1.92	2.36
				<i>Bathyporeia guilliamsoniana</i>	1.08	1.19
				<i>Echinocardium cordatum</i>	1.15	1.19
				<i>Urothoe brevicornis</i>	0.80	0.94
				<i>Ophelia borealis</i>	0.72	1.01

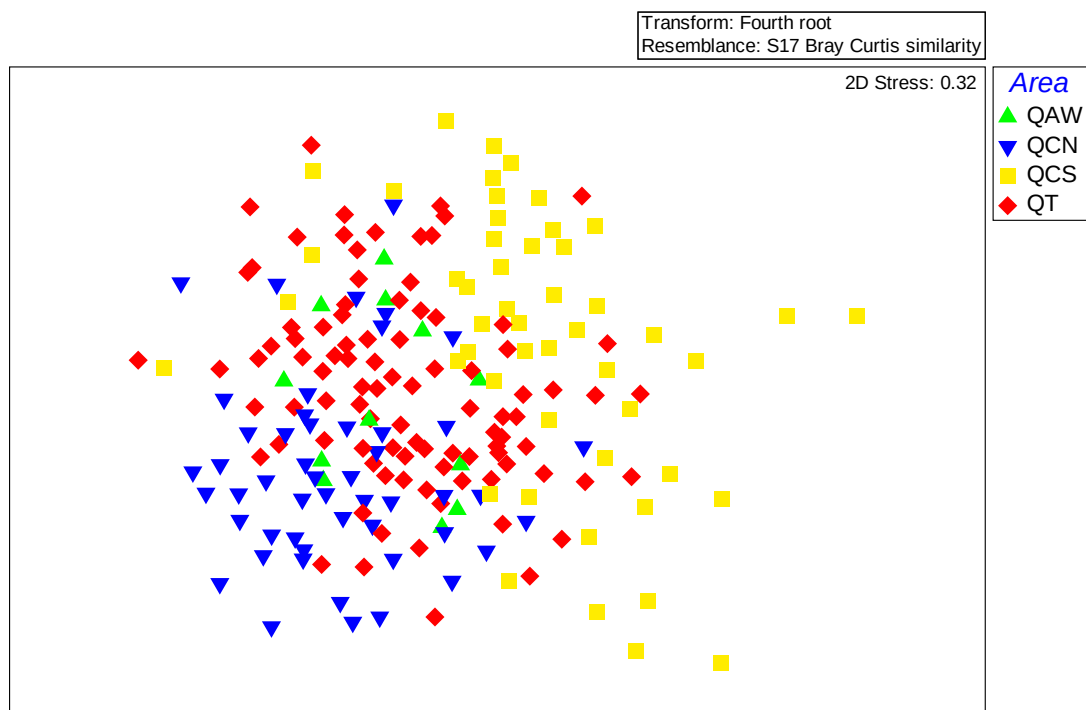


Figure 30: MDS plot based on density data in the boxsamples with indication of the different areas.

Table 13: Results ANOSIM and SIMPER analyses of the boxcore samples of the different areas.

Area	<i>R</i>	<i>p</i>	Dissimilarity (%)	Indicator species	Mean density Area 1 – Area 2	
QT – QCN	0.205	0.001	57.5	<i>Urothoe poseidonis</i>	0.07	1.83
				<i>Bathyporeia guilliamsoniana</i>	0.94	1.76
				<i>Bathyporeia elegans</i>	2.36	2.84
				<i>Chaetozone christiei</i>	0.81	1.53
				<i>Magelona johnstoni</i>	0.69	1.33
QT – QCS	0.358	0.001	62.8	<i>Bathyporeia elegans</i>	2.36	0.97
				<i>Scoloplos armiger</i>	2.68	1.93
				<i>Echinocardium cordatum</i>	1.05	1.27
				<i>Ophelia borealis</i>	0.81	1.28
				<i>Bathyporeia guilliamsoniana</i>	0.94	0.93
QCN – QCS	0.383	0.001	65.6	<i>Bathyporeia elegans</i>	2.84	0.97
				<i>Urothoe poseidonis</i>	1.83	0.08
				<i>Chaetozone christiei</i>	1.53	0.35
				<i>Bathyporeia guilliamsoniana</i>	1.76	0.93
				<i>Magelona johnstoni</i>	1.33	0.35

Table 14: Results two-way crossed ANOSIM analyses of the boxcore samples of the different years and areas.

Effect	<i>R</i>	<i>p</i>
Year	0.199	0.001
Area	0.355	0.001
QT - QCN	0.257	0.001
QT - QCS	0.408	0.001
QCN - QCS	0.419	0.001

Benthic dredge

In contrast to the boxcore samples, the dredge samples of the 2012 and 2013 strongly differed from each other, mainly due to lower densities of sea urchins in 2013 (Table 15). Samples of both years were clearly separated in the MDS-plot (Figure 31). Also the samples of the different areas differed from each other, with the samples from the northern and southern reference area differing most strongly from each other (Table 16). In the MDS-plot the samples of the northern and the southern reference area were again plotted farthest from each other, with the samples of the turbine site plotted in between (Figure 32). The two-way crossed ANOSIM analysis indicated that the differences between years even exceeded the difference between areas (Table 17).

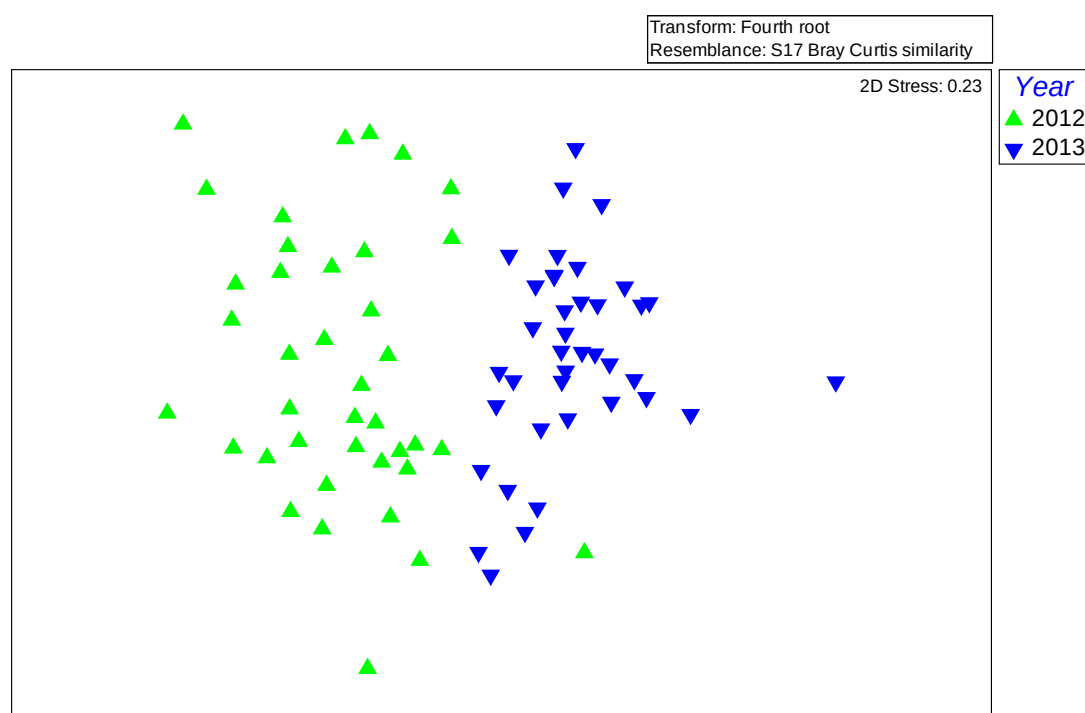


Figure 31: MDS plot based on density data in the dredge samples with indication of the different years.

Table 15: Results ANOSIM and SIMPER analyses of the dredge samples of the different years.

Year	<i>R</i>	<i>p</i>	Dissimilarity (%)	Indicator species	Mean density Area 1 – Area 2	
2012 - 2013	0.548	0.001	40.4	<i>Echinocardium cordatum</i>	2.43	1.23
				<i>Donax vittatus</i>	1.36	0.82
				<i>Pomatoschistus spp.</i>	0.81	1.56
				<i>Euspira nitida</i>	0.91	0.31
				<i>Ensis directus</i>	0.03	0.85

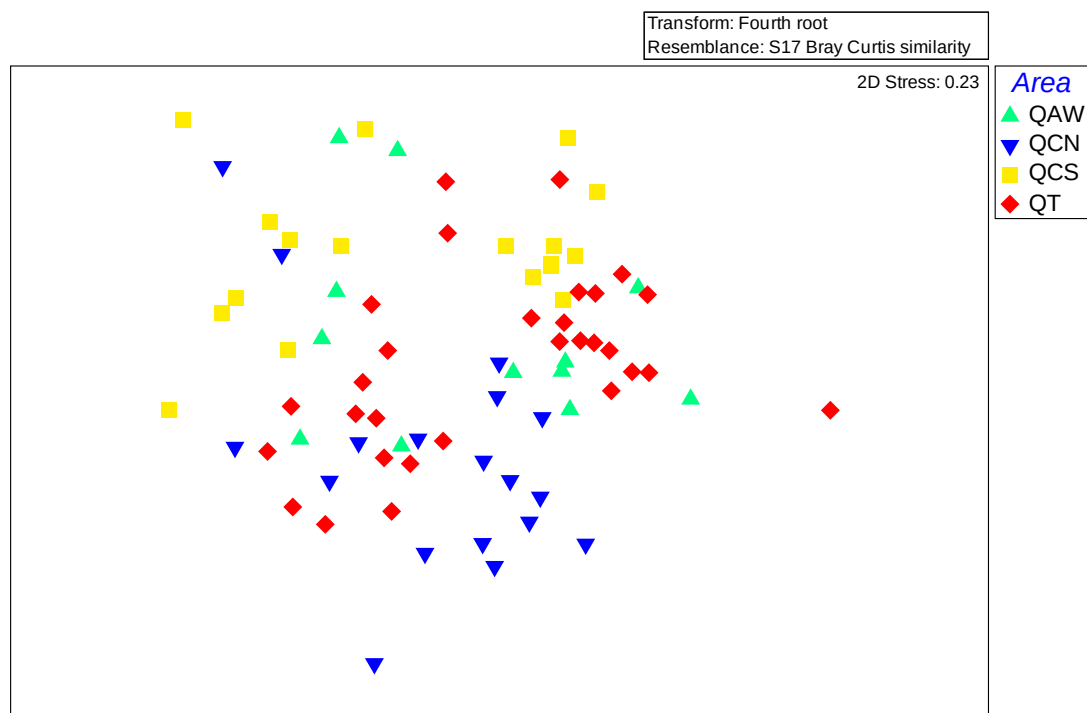


Figure 32: MDS plot based on density data in the dredge samples with indication of the different areas.

Table 16: Results ANOSIM and SIMPER analyses of the dredge samples of the different areas.

Area	<i>R</i>	<i>p</i>	Dissimilarity (%)	Indicator species	Mean density Area 1 – Area 2	
QT - QCN	0.209	0.001	37.3	<i>Donax vittatus</i>	1.03	1.90
				<i>Lanice conchilega</i>	0.13	1.06
				<i>Echinocardium cordatum</i>	1.81	1.93
				<i>Angulus fabula</i>	0.05	0.96
				<i>Euspira nitida</i>	0.54	0.93
QT - QCS	0.282	0.001	38.2	<i>Echinocardium cordatum</i>	1.81	1.78
				<i>Ophiura ophiura</i>	2.40	1.43
				<i>Asterias rubens</i>	1.16	0.37
				<i>Ophelia borealis</i>	1.19	2.01
				<i>Donax vittatus</i>	1.03	0.42
QCN - QCS	0.505	0.001	36.7	<i>Donax vittatus</i>	1.90	0.42
				<i>Chamelea striatula</i>	1.41	0.35
				<i>Lanice conchilega</i>	1.06	0.11
				<i>Ophelia borealis</i>	1.20	2.01
				<i>Angulus fabula</i>	0.96	0.06

Table 17: Results two-way crossed ANOSIM analyses of the dredge samples of the different years and areas.

Effect	<i>R</i>	<i>p</i>
Year	0.693	0.001
Area	0.453	0.001
QT - QCN	0.434	0.001
QT - QCS	0.397	0.001
QCN - QCS	0.661	0.001

4. DISCUSSION

4.1 Benthic macroinvertebrate community in Princess Amalia wind farm in 2013

The sampled sediments could all be classified as medium sands and there was a limited north to south gradient from finer to coarser sediment. Clay and organic matter fractions were low at all sampling sites. The southern reference area, which was characterised by coarser sediment, had the lowest species richness, the lowest density and the lowest biomass in the boxcore samples. The sediments in the turbine site (QT) were intermediate in grain size and abundance; biomass and species richness were intermediate. The sediment was finest in the northern reference area, where the highest density, biomass and species richness were observed. Two small crustacean species, *Urothoe poseidonis* and *Bathyporeia elegans*, were responsible for the high abundances in the northern reference area. The observed correlation between sediment grain size and benthos diversity, abundance and biomass has been well documented for the southern bight of the North Sea (Van Hoey *et al.*, 2004).

In the dredge samples, the highest abundances were also found in the northern reference area. However, species richness and biomass were similar in all investigated areas. Biomass was dominated by *Echinocardium cordatum* and the length-frequency distribution of this species was comparable between areas, albeit with a slightly higher presence of large specimens in the northern reference area.

Sandy subtidal areas are usually dominated by polychaete worms such as *Nephtys* sp., *Scoloplos armiger*, *Magelona* sp., *Chaetozone* sp., *Ophelia borealis* and *Lanice conchilega*, amphipod genera such as *Urothoe* and *Bathyporeia* and the echinoid *Echinocardium cordatum* (Heip & Craeymeersch, 1995). In the present study, the macrobenthic community was also dominated by these taxa, indicating that a typical subtidal macrobenthic community for sand sediment was present.

4.2 The evolution of benthos in the Princess Amalia Wind Farm

Because the same sampling areas and stations were monitored, the results of the present study (T6) could be directly compared to both the data collected during the baseline study (T0) (Jarvis *et al.*, 2004) and that of the previous campaign in the Princess Amalia Windpark (T5) (Vanagt *et al.*, 2012). In all these studies, a small north to south transition from finer to coarser sediment was observed. This gradual north to south transition along the Dutch coast was described earlier by Creutzberg *et al.* (1984).

In the baseline boxcore samples, 109 benthic invertebrate taxa were identified (Jarvis *et al.*, 2004), compared to 58 taxa in the T5 study (Vanagt *et al.*, 2013a) and 71 taxa in the present study. However, the number of treated samples was 200 in T0 versus 102 in T5

and T6. The species-accumulation curve indicates that with a similar effort as in the T0, the amount of benthic taxa would have been close to 100 in 2013. The average species richness per sample was comparable between T0, T5 and T6. Densities in the boxcore samples were higher in T0 than in T5 and T6, which was due to high densities of e.g. *Spiophanes bombyx* during T0. T0 sampling was in May, T5 in March and T6 in April. The timing of T0 sampling later in spring may account for higher densities. As warming of seawater was particularly delayed during spring 2013 (T6) it is not likely that timing of sampling one month later than for T5 has led to a significant increase in densities. Despite the higher densities in T0, the biomasses were similar during all campaigns if large crabs (*Liocarcinus* spp.), razor clams (*Ensis* spp.) and sea urchins (*Echinocardium cordatum*) were not taken into account. Soft sediment benthos is known to potentially show large year-to-year variations (Holzhauer *et al.*, 2013), stressing the importance of reference areas in impact studies. In all three monitoring years, the pattern of a north-to-south gradient was found. The construction of the wind farm did not change this gradient.

In the dredge samples, 30 taxa were encountered in T6 versus 27 taxa in T5 and 32 taxa in T0 if polychaetes, Nemertea and fishes were not taken into account. The average species richness was slightly higher in dredge samples in T5 and T6 than in T0. Densities from dredge samples in QCN were higher in T0 than in T5 and T6, due to high densities of *Donax vittatus* in T0. However, densities in the other areas were higher in T5 and T6 than in T0, which was mainly caused by higher densities of *Echinocardium cordatum* in T5 and higher densities of *Ophiura ophiura* and *Ophiura albida* in T6. In the combined analyses of the T5 and T6 data, the year-to-year variation was much larger than the variation between areas. This was mainly due to *Echinocardium cordatum*. Epibenthic species are more mobile than endobenthic species, which could be an explanation for a larger yearly variation.

4.3 Influence of other wind farms in the southern bight of the North Sea

Short-term effects of the construction of Offshore Windfarm Egmond aan Zee (OWEZ) on the composition of the local benthic fauna living in and on top of the sediment were evaluated a few months after the installation of the wind farm (Daan *et al.*, 2007). Benthic fauna was, as in the present study, sampled with a boxcorer and a dredge within the wind farm and in six reference areas north and south of the wind farm. A high similarity between the fauna within the wind farm and the majority of the reference areas was observed. Density and diversity within the wind farm were well within the range of values observed in the reference areas. There was no indication that the macroinvertebrate community in OWEZ differed in any way from the reference areas.

This study was repeated in 2011, five years after construction (Bergman *et al.*, 2012). Again, no significant differences were found between the wind farm area and the reference areas. There was, however, an indication that bivalves showed a higher diversity, abundance and biomass in the wind farm area. These results are thus in agreement with the results obtained in the Princess Amalia Windpark. The authors

concluded that five years is not sufficient for full recovery of the benthos, because of depleted adult stocks (Bergman *et al.*, 2012). After the T5, a similar conclusion was drawn for Princess Amalia (Vanagt *et al.*, 2013a).

In the wind farms on the Bligh Bank and the Thornton Banks in Belgium, no differences in sediment and macrobenthos between turbine and reference sites could be found in the first years after construction (Coates & Vincx, 2010). These results are in line with the present study. However, a lower median grain size and higher macrobenthic densities were observed in 2010 at distances one and seven meters away from the scour protection system (boulders) of one turbine on the Thornton Bank (Coates *et al.*, 2011). Changes in the close vicinity to the turbines were explained by decreased current speeds caused by changing hydrodynamics or by the relatively stable sand pits created during dredging. In 2011, an accumulation of juvenile starfish, together with the polychaetes *Spio* spp. and *Spiophanes bombyx* was obvious at stations less than 50 m away from the scour protection of one turbine on the Thornton Bank (Coates *et al.*, 2012). Lower current speeds and changing granulometric characteristics appeared to create a substantial change in the macrobenthic community six years after construction, especially in a southwest direction. This indicates that alterations in soft sediment macrobenthos could start from the immediate vicinity of the turbines and spread from there. These findings have evident implications for future sampling designs, where it might be advisable to include distance from the turbine foundations as a parameter for positioning sampling locations.

The Horns Rev wind farm is situated 14 to 20 km off Blåvands Huk, the most western point of Denmark. In this area, the sediment consisted of medium sand without organic matter. One and two years after the wind farm became operational, benthic fauna was monitored by SCUBA divers (Bech *et al.*, 2005). The macrobenthic community at Horns Rev did not show signs of stress response due to the impact from construction and operating activities. The density of the most abundant bivalves and bristle worms increased in the wind farm area, whereas the reference areas remained unchanged. This indicated that a potential decrease in predation pressure from birds contributed to increasing differences between densities for their favoured prey. Indeed, bird observations showed predominant foraging activity outside the wind farm area. The sampling depth in Horns Rev was maximum 10.4 m, which is much less than the sampling depth in the present study, where the influence of birds is expected to be much less important. Later research in Horns Rev showed no statistical difference in community structure and abundance and biomass of designated indicator organisms over a longer period, between 1999 and 2005 (Leonhard & Pedersen, 2006). Despite the difference in sampling strategy - in Horns Rev the samples were taken by SCUBA divers at distances of 5, 25 and 100 m from the turbine, while in PAWP, the samples were taken with boxcores at a minimum distance of 150 m from the turbine – almost half of the soft substrate species found in Horns Rev were also encountered during the present study. Only a few species from Horns Rev were related to hard substrate, such as *Eulalia viridis*, *Jassa marmorata*, *Balanus* spp. and *Mytilus edulis*. The most abundant species in Horns Rev, *Goodallia triangularis* and *Pisone remota*, were not observed in the present study. High abundances as recorded for those species (in some years averages higher than 600 ind./m²) were not recorded in PAWP.

4.4 Shell damage as indicator for reduced beam trawling

The incidence of sand grains incorporated into repairs in the shell matrix of bivalves increased with the expansion of the Dutch Beam trawling fleet in the southern bight of the North Sea (Witbaard & Klein, 1994). The same damage could also be seen to occur in starfish. (Kaiser, 1996). Examination of shell scars of long-lived species could provide a historical picture of fishing disturbance, whereas damaged starfish or specimens with regenerating arms could be a useful short term (1 – 2 year) indicator (Witbaard & Klein, 1994; Kaiser, 1996). Because the closure of wind farms for fisheries was expected to increase opportunities for long-living bivalve species, shell damage was assessed during the present study. However, only a few shells of the species *Angulus fibula*, *Spisula elliptica* and *Spisula subtruncata* were encountered that possessed scars and the number of scarred shells was not sufficient to perform statistical analyses. In 2012, no indication of differences in shell damage between the wind farm area and the reference area could be found either (Vanagt et al., 2013a).

4.5 The effect of wind turbines on soft sediment benthos

The study design in the Princess Amalia Wind Farm, with the first post-construction monitoring at T5, was not best suited to assess the potential immediate impact of the construction on the soft sediment benthos. Five and six years after construction, no indications can be found of a direct positive or negative effect of the presence of wind turbines on the benthos. This was also the case for Horns Rev (Leonhard & Pedersen, 2006), whereas in Belgium higher diversity was found very close to the turbines (Coates *et al.*, 2010 and 2012). While the authors hypothesized this was due to changes in hydrodynamic conditions, looking at the species composition, it seems more likely this is due to the presence of hard substrate, in the form of the turbines itself and/or the scour stones. This would question their subsequent hypothesis that changes in the benthic community could start from the vicinity of the turbines.

We conclude that the only clear immediate effect of the construction and operation of the wind turbines, is the negligible loss of soft sediment surface due to the scour protection around the foundation poles. In return, these scour stones add a biodiversity similar to those found on ship wrecks for example (Vanagt *et al.*, 2013b).

4.6 The effect of closure of the Princess Amalia Wind Farm for fisheries

Although an immediate impact of the construction and operation of the wind farm was not expected, there was strong belief that the closure of the wind farm for fisheries would turn the area into a refuge for certain benthic species, and that biodiversity would increase as a result of the recovery of permanently disturbed benthic communities in the Southern North Sea (Hiddink *et al.*, 2006; Dannheim, 2007).

It was expected that especially larger, K-strategic species would profit from the shelter from fishing activities. K-strategic species are characterised by a slower growth rate, are longer-lived, grow bigger and generally begin to reproduce later than r-strategy species. *Nephtys caeca* and other big polychaetes may for example grow to seven years old, *Chamelea striatula* 12 years and *Echinocardium cordatum* 10 or even up to 20 years in some instances (Van Moorsel, 2005).

Although the monitoring of ship movements indicated that the fishing prohibition in the wind farm is well obeyed (Koldenhof and de Jong, 2013), such a positive effect could not (yet) be observed. *Echinocardium cordatum*, for instance, was found in comparable densities and length classes in the turbine area and in the reference areas. Densities of this species were higher during both the T0 and T5. The same holds true for other K-strategic species, such as the above mentioned *Nephtys caeca* and *Chamelea striatula*. Moreover, bivalves densities were significantly lower in the wind farm than in the reference areas. Similar observations were made in all other wind farms investigated in the Southern North Sea: there is no visible shift from r-strategists to K-strategists, nor do we see an increase in occurrence within the K-strategic species.

This led Bergman *et al.* (2012) to conclude that recovery takes more than five or six years, maybe even up to 20 years (Duineveld *et al.*, 2007). One of the reasons could be the lack of adult stock. We found several long-living species in fair quantities in this study, both in the wind farm area and in the reference areas. It seems that for these species there is sufficient breeding stock. For species that have gone virtually extinct, a much longer period of time may be required to elapse before larvae would settle by accident in the undisturbed wind farm area.

However, all studies seem to point out that the closure of wind farms for fisheries does not have a significant impact on the *average* benthos community, as defined by species that live less than five years.

We conclude that the wind farm areas do not result in an enriched benthic community, even after a significant wait of six years. Whether a recovery to an unknown ‘undisturbed’ state could happen, cannot be determined at the moment. This would require further monitoring, at for instance T10 or even T15.

4.7 Remarkable findings

Two of the polychaete species found in this study have seldom been recorded from the coastal sea area of the Netherlands before. *Aricidea wassii* is a small species which has only recently been recorded in Dutch waters (Holtmann *et al.*, 1996). *Psammodrillus balanoglossoides* is a minute species with a body width of about 0.5 mm, which can be easily lost during sieving of macrobenthos samples. It is rarely recorded from the Dutch coast and known as a predominantly intertidal species (Westheide, 1990; Wolff, 1973).

Phoronids have been recorded from the wider area of the windfarm before, mentioned as *Phoronis* sp. (Jarvis *et al.*, 2004). We identified specimens as *Phoronis muelleri*, a species

known from the southern North Sea, among other sea areas, but often collected as damaged, unidentifiable specimens.

The burrowing crustacean *Pestarella tyrrhena* is not often recorded from Dutch waters (Holtmann *et al.*, 1996; Jarvis *et al.*, 2004; Vanagt *et al.*, 2013); its occurrence seems restricted to coastal waters. Further offshore, only its relative *Callianassa subterranea* is common.

The tanaidacean *Tanaissus lilljeborgi* has only been recorded from Dutch offshore waters before by Jarvis *et al.* (2004). This minute species with a body width of about 0.5 mm may be easily lost during sieving of macrobenthos samples. Wolff (1973) only found it in samples collected for the study of interstitial fauna.

The fish species *Ciliata mustela*, *Myoxocephalus scorpius* and *Taurulus bubalis* usually are associated with hard substrates. Their presence in the dredge samples probably should be ascribed to the nearby presence of wind turbine piles and scour protection.

5. CONCLUSIONS

Biodiversity and abundance of soft sediment benthos vary between different wind farms in the southern bight of the North Sea, yet densities and biomasses within a windfarm are in most cases not consequently different from those in reference areas, which indicates no measurable effects of wind farms on density and biomass of common benthos species. This pattern was confirmed during the present study.

Sediment characteristics of the turbine site were intermediate between the northern and the southern reference area. Density and species richness of the macrobenthic fauna in the boxcore samples of the turbine site were also intermediate between the northern and the southern reference area, while no significant differences were observed in biodiversity indices, nor in terms of biomass. Also in the dredge samples, which contain larger K-strategic species, the density decreased from north to south, as well as biomass, but no significant differences in the diversity were observed between the areas. These results indicate that six years after installation of the wind farm, K-strategic species could not yet profit from the shelter from fishing activities. Bivalves with scars were rarely observed during the present study and the possible influence of reduced trawling could thus not be evaluated. The length-frequency distribution of sea urchins did not indicate that larger animals were found in the turbine site. Length-frequency distributions of the bivalve molluscs *Spisula elliptica*, *Chamelea striatula* and *Donax vittatus* did not show a clear difference between wind farm area and reference areas either, and overall densities of bivalves was lower in the wind farm area than in the reference areas. None of the expected effects of reduced fishing activities could therefore be detected.

In this report, we question whether wind farm areas could indeed harbor a benthic community that resembles those in the pre-bottom trawling fisheries era. Is T6 too soon after the closure of the area to see major changes and should the study be repeated in several years time, or is the base hypothesis that wind farms will result as refuge areas false?

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7. ANNEX LIST

7.1 Annex 1: Species list

7.2 Annex 2: Sampling coordinates

7.3 Annex 3: Raw data boxcore

7.4 Annex 4: Raw data dredge

7.5 Annex 5: Physical variables

Annex 1: Species list

¹: Species identified in the boxcore samples; ²: species identified in the dredge samples.

Phylum	Class	Species
Annelida	Polychaeta	<i>Aricidea (Aricidea) minuta</i> Southward, 1956 ¹
		<i>Aricidea (Aricidea) wassi</i> Pettibone, 1965 ¹
		<i>Capitella capitata</i> (Fabricius, 1780) ¹
		<i>Chaetozone christiei</i> Chambers, 2000 ¹
		<i>Eteone longa</i> (Fabricius, 1780) ¹
		<i>Eumida sanguinea</i> (Örsted, 1843) ¹
		<i>Eunereis longissima</i> Johnston, 1840 ¹
		<i>Exogone (Parexogone) hebes</i> (Webster & Benedict, 1884) ¹
		<i>Hypereteone foliosa</i> (Quatrefages, 1865) ¹
		<i>Lanice conchilega</i> (Pallas, 1766) ^{1,2}
		<i>Magelona filiformis</i> Wilson, 1959 ¹
		<i>Magelona johnstoni</i> Fiege, Licher & Mackie, 2000 ¹
		<i>Magelona mirabilis</i> (Johnston, 1865) ¹
		<i>Malmgreniella darbouxi</i> Pettibone, 1993 ¹
		<i>Nephtys caeca</i> (Fabricius, 1780) ¹
		<i>Nephtys cirrosa</i> (Ehlers, 1868) ¹
		<i>Nephtys hombergii</i> Savigny in Lamarck, 1818 ¹
		<i>Nephtys longosetosa</i> Örsted, 1842 ¹
		<i>Nephtys</i> sp. ^{1,2}
		<i>Ophelia borealis</i> Quatrefages, 1866 ^{1,2}
		<i>Paraonis fulgens</i> (Levinsen, 1884) ¹
		<i>Phyllodoce groenlandica</i> Örsted, 1842 ^{1,2}
		<i>Poecilochaetus serpens</i> Allen, 1904 ¹
		<i>Psammodrillus balanoglossoides</i> Swedmark, 1952 ¹
		<i>Scolecopsis bonnieri</i> (Mesnil, 1896) ^{1,2}
		<i>Scoloplos (Scoloplos) armiger</i> (Müller, 1776) ¹
		<i>Spio goniocephala</i> Thulin, 1957 ¹
		<i>Spio martinensis</i> Mesnil, 1896 ¹
		<i>Spiophanes bombyx</i> (Claparède, 1870) ¹
		<i>Streptosyllis websteri</i> Southern, 1914 ¹
		<i>Syllis prolifera</i> Krohn, 1852 ¹
		<i>Travisia forbesii</i> Johnston, 1840 ¹
Nemertea	/	<i>Lineus bilineatus</i> (Renier, 1804) ²
		<i>Nemertea</i> spp. A ¹
		<i>Nemertea</i> spp. B ¹
		<i>Nemertea</i> spp. C ¹
Phoronida	/	<i>Phoronis muelleri</i> Selys-Lonchamps, 1903 ¹

Annex 1: species list

Phylum	Class	Species
Arthropoda	Malacostraca (Amphipoda)	<i>Apherusa</i> sp. ¹
		<i>Bathyporeia elegans</i> Watkin, 1938 ¹
		<i>Bathyporeia guilliamsoniana</i> (Bate, 1857) ¹
		<i>Jassa herdmani</i> (Walker, 1893) ¹
		<i>Leucothoe incisa</i> (Robertson, 1892) ¹
		<i>Megaluropus agilis</i> Hoeck, 1889 ¹
		<i>Microprotopus maculatus</i> Norman, 1867 ¹
		<i>Orchomenella nana</i> (Krøyer, 1846) ¹
		<i>Periculodes longimanus</i> (Bate & Westwood, 1868) ¹
		<i>Pontocrates arcticus</i> Sars, 1895 ¹
		<i>Pontocrates arenarius</i> (Bate, 1858) ¹
		<i>Urothoe brevicornis</i> Bate, 1862 ¹
		<i>Urothoe poseidonis</i> Reibish, 1905 ¹
	Malacostraca (Cumacea)	<i>Monopseudocuma gilsoni</i> (Gilson, 1906) ¹
		<i>Pseudocuma</i> (<i>Pseudocuma</i>) <i>longicorne</i> (Bate, 1858) ¹
	Malacostraca (Decapoda)	<i>Corystes cassivelaunus</i> (Pennant, 1777) ²
		<i>Crangon allmanni</i> Kinahan, 1860 ²
		<i>Crangon crangon</i> (Linnaeus, 1758) ²
		<i>Liocarcinus holsatus</i> (Fabricius, 1798) ^{1,2}
		<i>Macropodia rostrata</i> (Linnaeus, 1761) ²
		<i>Pagurus bernhardus</i> (Linnaeus, 1758) ^{1,2}
		<i>Pestarella tyrrhena</i> (Petagna, 1792) ^{1,2}
		<i>Philocheras trispinosus</i> (Hailstone & Westwood, 1835) ²
		<i>Pinnotheres pisum</i> (Linnaeus, 1767) ^{1,2}
		<i>Processa modica modica</i> Williamson & Rochanaburanon, 1979 ^{1,2}
		<i>Thia scutellata</i> (Fabricius, 1793) ^{1,2}
	Malacostraca (Mysida)	<i>Gastrosaccus spinifer</i> (Goës, 1864) ¹
	Malacostraca (Tanaidacea)	<i>Tanaissus lilljeborgi</i> (Stebbing, 1891) ¹
Mollusca	Bivalvia	<i>Angulus fabula</i> (Gmelin, 1791) ^{1,2}
		<i>Angulus tenuis</i> (da Costa, 1778) ²
		<i>Chamelea striatula</i> (da Costa, 1778) ^{1,2}
		<i>Donax vittatus</i> (da Costa, 1778) ^{1,2}
		<i>Ensis directus</i> (Conrad, 1843) ^{1,2}
		<i>Ensis ensis</i> (Linnaeus, 1758) ^{1,2}
		<i>Ensis magnus</i> Schumacher, 1817 ²
		<i>Lutraria</i> sp. ²
		<i>Mactra stultorum</i> (Linnaeus, 1758) ²
		<i>Mytilus edulis</i> Linnaeus, 1758 ²
		<i>Spisula elliptica</i> (Brown, 1827) ^{1,2}
		<i>Spisula solida</i> (Linnaeus, 1758) ²
		<i>Spisula subtruncata</i> (da Costa, 1778) ^{1,2}
		<i>Tellimya ferruginosa</i> (Montagu, 1808) ¹

Phylum	Class	Species
	Gastropoda	<i>Euspira catena</i> (da Costa, 1778) ² <i>Euspira nitida</i> (Donovan, 1804) ^{1,2}
Echinodermata	Asteroidea	<i>Asterias rubens</i> Linnaeus, 1758 ²
	Echinoidea	<i>Echinocardium cordatum</i> (Pennant, 1777) ^{1,2}
	Ophiuroidea	<i>Ophiura albida</i> Forbes, 1839 ^{1,2} <i>Ophiura ophiura</i> (Linnaeus, 1758) ^{1,2}
Chordata	Actinopterygii	<i>Agonus cataphractus</i> (Linnaeus, 1758) ² <i>Ammodytes tobianus</i> Linnaeus, 1758 ² <i>Aphia minuta</i> (Risso, 1810) ² <i>Arnoglossus laterna</i> (Walbaum, 1792) ² <i>Buglossidium luteum</i> (Risso, 1810) ² <i>Callionymus</i> sp. ² <i>Ciliata mustela</i> (Linnaeus, 1758) ² <i>Echiichthys vipera</i> (Cuvier, 1829) ² <i>Hyperoplus lanceolatus</i> (Le Sauvage, 1824) ² <i>Limanda limanda</i> (Linnaeus, 1758) ² <i>Myoxocephalus scorpius</i> (Linnaeus, 1758) ² <i>Pleuronectes platessa</i> Linnaeus, 1758 ² <i>Pomatoschistus</i> sp. ² <i>Solea solea</i> (Linnaeus, 1758) ² <i>Sprattus sprattus</i> (Linnaeus, 1758) ² <i>Syngnathus rostellatus</i> Nilsson, 1855 ² <i>Taurulus bubalis</i> (Euphrasen, 1786) ² <i>Trachurus trachurus</i> (Linnaeus, 1758) ²

Station	Date	Time	Coordinates
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QCN 3.3	6/04/2013	16:58	N52.8042079880833 E4.37627697363495
QCN 3.4	6/04/2013	14:18	N52.8041710238903 E4.37555202282965
QCN 4	6/04/2013	15:23	N52.8037700336426 E4.38728702254593
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QCN 6	6/04/2013	16:31	N52.7981939725577 E4.35199602507054
QCN 7	6/04/2013	16:22	N52.7968739904463 E4.36376203782856
QCN 8	6/04/2013	16:15	N52.7959910407662 E4.37499697320163
QCN 9	6/04/2013	16:07	N52.7946889959275 E4.38651303760707
QCN 10	6/04/2013	14:59	N52.7932530082762 E4.39695202745497
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QT 2.2	21/04/2013	15:39	N52.5822710338979 E4.20152300968766

Annex 2: Coordinates

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QT 2.4	21/04/2013	15:51	N52.5827980041503 E4.20184998773038
QT 3	21/04/2013	15:56	N52.58698602207 E4.20870303176343
QT 4	10/04/2013	17:35	N52.5888980180025 E4.21500496566295
QT 5	10/04/2013	17:18	N52.5916949752718 E4.22241800464689
QT 6.0	21/04/2013	0.75	N52.5948339980095 E4.23442801460623
QT 6.1	21/04/2013	18:27	N52.5944800302386 E4.2344519868493
QT 6.2	21/04/2013	18:31	N52.5944940280169 E4.23477401956915
QT 6.3	21/04/2013	18:37	N52.5945370271801 E4.23457402735948
QT 6.4	21/04/2013	18:42	N52.5943689700216 E4.23461903817951
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QT 19	10/04/2013	16:33	N52.59166396223 4.25206001847982
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QT 21.1	22/04/2013	11:02	N52.5789480283856 4.23282497562468
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QT 21.3	22/04/2013	11:13	N52.5784809887409 4.23311398364603
QT 21.4	22/04/2013	11:19	N52.5787219684571 4.23276403918862
QT 22	22/04/2013	11:33	N52.5816839653998 4.24042702652513
QT 23	22/04/2013	11:57	N52.5843769870698 4.2486329935491
QT 24	22/04/2013	12:03	N52.5869469624012 4.25560195930302
QT 25	22/04/2013	0.42	N52.5744160171598 4.23469296656548
QT 26	22/04/2013	11:41	N52.5783700123429 4.24671898595988

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QT 29	22/04/2013	0.44	N52.5715619791299 4.24156302586197
QT 30	22/04/2013	0.42	N52.574220970273 4.24947202205657
QT 31	21/04/2013	15:15	N52.5867229979485 4.19753196649253
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QT 44.4	21/04/2013	13:43	N52.5995400175452 4.20541397295892
QT 45	20/04/2013	11:58	N52.6029139850288 4.21397399157285
QT 46	20/04/2013	13:08	N52.6035130396485 4.20006103813648
QT 47	10/04/2013	17:58	N52.5782440323382 4.19992198236286
QT 48	21/04/2013	15:07	N52.5832219608128 4.1899299994111
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Annex 2: Coordinates

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QAW 2.1	7/04/2013	16:44	N52.5968139711767 E4.25528696738183
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QAW 1.1	7/04/2013	17:26	N52.6086870208382 E4.21703900210559
QAW 1.2	7/04/2013	17:31	N52.6081140339374 E4.21657003462314
QAW 1.3	7/04/2013	17:39	N52.6086870208382 E4.2180380411446
QAW 1.4	7/04/2013	17:46	N52.6089499611407 E4.21740696765482
QAW 4.0	7/04/2013	17:55	N52.6140839606523 E4.21654103323817
QAW 4.1	7/04/2013	18:01	N52.6137709803879 E4.2165149655193
QAW 4.2	7/04/2013	18:06	N52.6138070225715 E4.21676600351929
QAW 4.3	7/04/2013	18:09	N52.6139859762042 E4.21596301719546
QAW 4.4	7/04/2013	18:13	N52.6138979662209 E4.21674898825585
QAW 5.0	7/04/2013	18:55	N52.5693710334599 E4.21406703069806
QAW 5.1	7/04/2013	19:01	N52.5690629985183 E4.21387902460992
QAW 5.2	7/04/2013	19:09	N52.5695110112428 E4.21369403600692
QAW 5.3	7/04/2013	19:15	N52.5690289679914 E4.21323202550411
QAW 5.4	7/04/2013	19:02	N52.5690550357103 E4.21336596831679
QAW 6.0	7/04/2013	19:26	N52.5630990229547 E4.21101601794362
QAW 6.1	7/04/2013	19:33	N52.5631889607757 E4.21149001456797
QAW 6.2	7/04/2013	19:38	N52.5636069662868 E4.21127401292324
QAW 6.3	7/04/2013	19:45	N52.5635160226374 E4.21087997965514
QAW 6.4	7/04/2013	19:05	N52.563026016578 E4.21147802844643
QCS 1	9/04/2013	12:13	N52.4591709673404 E3.99965702556073
QCS 2	9/04/2013	12:02	N52.4561249837279 E4.00968798436224
QCS 3.0	9/04/2013	11:25	N52.4529159720987 E4.01839996688067
QCS 3.1	9/04/2013	11:37	N52.4529029801487 E4.01836903765797
QCS 3.2	9/04/2013	11:43	N52.4525159876793 E4.01815798133611
QCS 3.3	9/04/2013	11:49	N52.4526920076459 E4.01798103936016
QCS 3.4	9/04/2013	11:54	N52.452539037913 E4.01767803356051
QCS 4	9/04/2013	11:15	N52.4504530336707 E4.02789699845016
QCS 5	9/04/2013	11:05	N52.4467739649116 E4.03762897476553
QCS 6	9/04/2013	12:22	N52.4551319796591 E3.98968499153852
QCS 7	9/04/2013	12:32	N52.4520310107618 E4.0001109894365
QCS 8	9/04/2013	12:45	N52.4489270243793 E4.01069900952279
QCS 9	9/04/2013	12:55	N52.4458320066332 E4.02010702528059
QCS 10	9/04/2013	13:03	N52.4429330416023 E4.03071801178157

Annex 2: Coordinates

QCS 11.0	9/04/2013	15:33	N52.4513049703091 E3.98257898166775
QCS 11.1	9/04/2013	15:04	N52.4512420222163 E3.98282297886908
QCS 11.2	9/04/2013	15:46	N52.4515379872173 E3.98247202858328
QCS 11.3	9/04/2013	15:53	N52.4512599594891 E3.98254998028278
QCS 11.4	9/04/2013	16:00	N52.4513140227645 E3.98240296170115
QCS 12	9/04/2013	15:25	N52.448395024985 E3.9929240103811
QCS 13.0	9/04/2013	14:47	N52.4449629709124 E4.00335595943033
QCS 13.1	9/04/2013	14:53	N52.4449039623141 E4.00333601050078
QCS 13.2	9/04/2013	15:05	N52.4449469614773 E4.00289000943303
QCS 13.3	9/04/2013	15:13	N52.4449099972844 E4.00351001881062
QCS 13.4	9/04/2013	15:17	N52.4450109992176 E4.00340499356389
QCS 14	9/04/2013	14:41	N52.442244971171 E4.01273899711668
QCS 15.0	9/04/2013	14:04	N52.4388560000807 E4.02323598973453
QCS 15.1	9/04/2013	14:08	N52.4388460256159 E4.02299299836158
QCS 15.2	9/04/2013	14:16	N52.4386819917708 E4.02320497669279
QCS 15.3	9/04/2013	14:22	N52.4388020206242 E4.02323096059262
QCS 15.4	9/04/2013	14:32	N52.4388659745454 E4.02258798480033
QCS 16	9/04/2013	17:15	N52.447350975126 E3.97425801493227
QCS 17	9/04/2013	17:08	N52.4439070187509 E3.98352999240159
QCS 18	9/04/2013	17:05	N52.4417999759316 E3.99319600313901
QCS 19	9/04/2013	16:58	N52.4383580312132 E4.00364002212882
QCS 20	9/04/2013	16:49	N52.4348340276628 E4.01373300701379
QCS 21	9/04/2013	17:28	N52.4427600391209 E3.96435203030705
QCS 22	9/04/2013	17:34	N52.4392920266836 E3.97501599043607
QCS 23.0	9/04/2013	17:42	N52.4362789839506 E3.98527703247964
QCS 23.1	9/04/2013	17:49	N52.436406975612 E3.98473204113543
QCS 23.2	9/04/2013	17:53	N52.4369089677929 E3.9856070280075
QCS 23.3	9/04/2013	17:58	N52.4363290239125 E3.98617096245288
QCS 23.4	9/04/2013	18:06	N52.4362290278077 E3.9856350235641
QCS 24	9/04/2013	18:13	N52.4330569803714 E3.99567101150751
QCS 25	9/04/2013	18:19	N52.4294290412217 E4.0060410182923

Annex 3a: Box core density data (N/m²)

	QCN1	QCN2	QCN3.1	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Angulus fabula</i>					141			
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.					13			
<i>Aricidea wassi</i>	13	13	38			13		
<i>Bathyporeia elegans</i>	90	51	654	679	51	77	256	308
<i>Bathyporeia guilliamsoniana</i>				51	51		13	38
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.		13						
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>		26			77	13	13	51
<i>Chamelea striatula</i>								13
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>					13			
<i>Echinocardium cordatum</i>	13			13	38	13	38	
<i>Ensis directus</i>				13				
<i>Ensis ensis</i>								
<i>Ensis</i> sp.							13	
<i>Eteone longa</i>		13		13				
<i>Eumida sanguinea</i>								13
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone hebes</i>								
<i>Gastrosaccus spinifer</i>			13					
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>	13			26			26	51
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			13	26	115		38	26
<i>Magelona johnstoni</i>			13	38	26		13	13
<i>Magelona mirabilis</i>				13	13	13		
<i>Magelona</i> sp.				13	13			
<i>Malmgreniella darbouxi</i>	13			13				13
<i>Megaluropus agilis</i>		13			26	26	13	
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>								
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A				13			13	
<i>Nemertea</i> sp. B				64		13	13	13
<i>Nemertea</i> sp. C				38				
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	26	77	26	77	13	51	77	51

Annex 3: Box core data

	QCN1	QCN2	QCN3.1	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.							13	
<i>Ophelia borealis</i>	26	13	13				13	
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>		13				13		
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>				13			13	
<i>Polychaeta</i> sp.		13						
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>						13		
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>				13			13	13
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>						13		
<i>Scoloplos armiger</i>	26	64	26	26		13	38	13
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>							38	13
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								13
<i>Streptosyllis websteri</i>							13	13
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>				13		13		
<i>Tellimya ferruginosa</i>					26			
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>	13		26					
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	26	26	13	13		13	26	
<i>Urothoe poseidonis</i>				910	1397			64
<i>Urothoe</i> sp.			13	13				

	QCN9	QCN10	QCN11.2	QCN12	QCN13.1	QCN14	QCN15.4	QCN16
<i>Angulus fabula</i>		77					128	
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.				13				
<i>Aricidea wassi</i>			13					
<i>Bathyporeia elegans</i>	231	167	90	26	397	38	64	26
<i>Bathyporeia guilliamsoniana</i>	90	38	38	26	26	26		38
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	77			13	26	26	51	13
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>				13		38	26	13
<i>Ensis directus</i>		13					13	
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>		13						
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								13
<i>Hypereteone foliosa</i>			13					
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>		26	141	64				38
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>		77		38	64	26	141	
<i>Magelona johnstoni</i>	167	128		13		13	38	
<i>Magelona mirabilis</i>	26	13						
<i>Magelona</i> sp.	13	13					13	
<i>Malmgreniella darbonxi</i>			77	26				13
<i>Megaluropus agilis</i>	26	26			77	13		26
<i>Microprotopus maculatus</i>				13				
<i>Monopseudocuma gilsoni</i>				13	26			13
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A								
<i>Nemertea</i> sp. B	64		13	26	64	51		
<i>Nemertea</i> sp. C				13				
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	13	13	77	51	51	77	13	51

Annex 3: Box core data

	QCN9	QCN10	QCN11.2	QCN12	QCN13.1	QCN14	QCN15.4	QCN16
<i>Nephtys hombergii</i>			13					
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>			13	13				
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoce</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>			13					
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		51			51	13	13	
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>	13						13	
<i>Scoloplos armiger</i>	77	13		77	26	64		64
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>		13						
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>				13				13
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissius lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>							13	
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>			13			13	13	
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>		13	26	64	38		13	
<i>Urothoe poseidonis</i>	282	551		38	13	1115	872	13
<i>Urothoe</i> sp.						51		

	QCN17	QCN18	QCN19	QCN20	QCN21	QCN22	QCN23.2	QCN24
<i>Angulus fabula</i>				26				
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>	90	513	128	77	103	51	141	103
<i>Bathyporeia guilliamsoniana</i>	13	38		26			26	
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>			38	13	26	38		
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>			13					
<i>Echinocardium cordatum</i>		13		13		13	13	
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.			13					
<i>Eteone longa</i>			13		13			
<i>Eumida sanguinea</i>					13			
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>				26		13		
<i>Hypereteone foliosa</i>								
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>	13		26	13	26	13	38	
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>	13		64	26				38
<i>Magelona johnstoni</i>		13	13	13		13	13	51
<i>Magelona mirabilis</i>					13			
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>		13		13				
<i>Megaluropus agilis</i>	13	64				26	51	
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	26	26	51			13		
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A			13					13
<i>Nemertea</i> sp. B		13		51	38		13	13
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>			13					
<i>Nephtys cirrosa</i>	77	26	51	154	38	51	26	77

Annex 3: Box core data

	QCN17	QCN18	QCN19	QCN20	QCN21	QCN22	QCN23.2	QCN24
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophebia borealis</i>					51			
<i>Ophiura albida</i>						13		
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								13
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoce</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.			13					
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		13		13			13	13
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>					13		13	13
<i>Scoloplos armiger</i>	90	26	38	26	38	38	26	64
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>							13	
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>								
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissius lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>								
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	51	77			13	13	13	
<i>Urothoe poseidonis</i>	51	51	38	115			90	64
<i>Urothoe</i> sp.								

	QCN25	QT1	QT2.4	QT3	QT4	QT5	QT6.2	QT7
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>	141	115	64	77	231		410	38
<i>Bathyporeia guilliamsoniana</i>	51	26			13			26
<i>Bathyporeia</i> sp.						13		
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.					13			
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>					13			13
<i>Chamelea striatula</i>					13			
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	26	13		13	13			
<i>Ensis directus</i>				13				
<i>Ensis ensis</i>								
<i>Ensis</i> sp.			13					
<i>Eteone longa</i>			13					
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>					13	13		
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>	38			26				
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>							13	
<i>Magelona filiformis</i>	51							
<i>Magelona johnstoni</i>	13		13	26			13	
<i>Magelona mirabilis</i>			26			13	13	
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>	13							
<i>Megaluropus agilis</i>	38						13	
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	13			38			13	
<i>Natantia</i> sp.		13				13		
<i>Nemertea</i> sp. A	13	13	13	13			26	13
<i>Nemertea</i> sp. B					13		13	
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	154	64	77	51	64	154	90	90

Annex 3: Box core data

	QCN25	QT1	QT2.4	QT3	QT4	QT5	QT6.2	QT7
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>				13		26	13	
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>					13			
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.	13				13			
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>	26	26		13	26		13	
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>					13			
<i>Psammodrillus balanoglossoides</i>		13						
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								
<i>Scoloplos armiger</i>	13	154	77		90	51	26	
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.			51	115		13		
<i>Spiophanes bombyx</i>		13			13		26	
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>	13							
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>			13		13		26	26
<i>Urothoe poseidonis</i>	423							
<i>Urothoe</i> sp.								

	QT8	QT9	QT10.0	QT11	QT12	QT13	QT14	QT15
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>	64		51	26	13	51	51	26
<i>Bathyporeia guilliamsoniana</i>			26	13	13	13		26
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>				13	26		13	13
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>		13	26	13			38	
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>				13				
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>		13						
<i>Euspira nitida</i>								13
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>		13	26				13	
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>								
<i>Leucothoe incisa</i>							13	
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>		26	26	26				
<i>Magelona johnstoni</i>		13				13		13
<i>Magelona mirabilis</i>						13		
<i>Magelona</i> sp.	13							
<i>Malmgreniella darbouxi</i>				13				
<i>Megaluropus agilis</i>								51
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>				13	13			13
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A		13	13			13		
<i>Nemertea</i> sp. B		13			26	13		13
<i>Nemertea</i> sp. C		26				13		
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	103	64	90	115	64	77	77	128

Annex 3: Box core data

	QT8	QT9	QT10.0	QT11	QT12	QT13	QT14	QT15
<i>Nephtys hombergii</i>				13				
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>	13		13	26		13		13
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>	13							
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>				13				
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								13
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>	26						13	77
<i>Phoronis</i> sp.		64			103			
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.			13					
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>							13	13
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								13
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								13
<i>Scoloplos armiger</i>	38	64	141	26	64	103	77	26
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.						13		
<i>Spiophanes bombyx</i>	26			51	26			13
<i>Spisula elliptica</i>						13		
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>		13		13				
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>			13	13		38		51
<i>Urothoe poseidonis</i>				13				
<i>Urothoe</i> sp.								

	QT16	QT18.0	QT19	QT20	QT21.0	QT22	QT23	QT24
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>		603	346	38		38	192	423
<i>Bathyporeia guilliamsoniana</i>		13	13				26	26
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>				38				
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	13	13						
<i>Chamelea striatula</i>				13			13	
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	13			13	13			
<i>Ensis directus</i>							13	
<i>Ensis ensis</i>		13						
<i>Ensis</i> sp.								
<i>Eteone longa</i>						13		
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>				13				
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>								13
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>	26			13				
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			13			26	167	13
<i>Magelona johnstoni</i>			13			26	26	13
<i>Magelona mirabilis</i>		13						
<i>Magelona</i> sp.	13							
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>							13	38
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>		26		13	13		51	77
<i>Natantia</i> sp.	13		13	13				
<i>Nemertea</i> sp. A	38	13	26				26	13
<i>Nemertea</i> sp. B			13	13	13		26	
<i>Nemertea</i> sp. C	13				13			
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	90	64	51	90	51	38	103	115

Annex 3: Box core data

	QT16	QT18.0	QT19	QT20	QT21.0	QT22	QT23	QT24
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>	13	13	13	38	13	26	13	
<i>Ophiura albida</i>	13							
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>			13					
<i>Phoronis</i> sp.	26			51				
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.			13					
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.				13				
<i>Pontocrates arcticus</i>	13	13		13	26			26
<i>Pontocrates arenarius</i>								13
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								
<i>Scoloplos armiger</i>	115	13	13	51	77	218	77	64
<i>Spio goniocephala</i>						26		13
<i>Spio martinensis</i>	13							
<i>Spio</i> sp.								
<i>Spionidae</i> sp.	13							
<i>Spiophanes bombyx</i>	26	13					64	154
<i>Spisula elliptica</i>							13	
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>				38				
<i>Tanaissus lilljeborgi</i>							13	
<i>Tellinmya ferruginosa</i>							13	
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>								
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	38	13	64	13	13	26	13	
<i>Urothoe poseidonis</i>	26							
<i>Urothoe</i> sp.								

	QT25	QT26	QT27	QT28	QT29	QT30	QT31	QT32
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>	167	179	115	26	90	449	64	51
<i>Bathyporeia guilliamsoniana</i>	13	13	13		13			
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	13						13	13
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.						13		
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	13	13	13	13	38			
<i>Ensis directus</i>								
<i>Ensis ensis</i>								13
<i>Ensis</i> sp.								
<i>Eteone longa</i>		13	13					
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>								
<i>Jassa berdmanni</i>	13							
<i>Lanice conchilega</i>	26			13		13		
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			13	13			26	
<i>Magelona johnstoni</i>	13		13	26				
<i>Magelona mirabilis</i>							26	
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	13	26	26					13
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	38	26			13		13	
<i>Natantia</i> sp.		13						
<i>Nemertea</i> sp. A					26	26		26
<i>Nemertea</i> sp. B	26			26				
<i>Nemertea</i> sp. C			13					
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	51	90	64	38	103	51	51	128

Annex 3: Box core data

	QT25	QT26	QT27	QT28	QT29	QT30	QT31	QT32
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>		13	13	13		26	13	38
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.						26		
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>	13	13	13		13	13		13
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>	13				13			
<i>Scoloplos armiger</i>	77	26	13	90	26	26	26	38
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>					13			
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>					13	13	13	64
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>							13	
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	13	26	26		13			
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QT33.0	QT34	QT35	QT36	QT37	QT38	QT39	QT40.0
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>		90	64	26	38		26	51
<i>Bathyporeia guilliamsoniana</i>		26			13	26		13
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>				13			13	
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	26	13	13					
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								13
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	13	13				13		13
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>	13							
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>							13	
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>								26
<i>Magelona johnstoni</i>		13						26
<i>Magelona mirabilis</i>	13			13				
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>					38	13		26
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>							13	51
<i>Natantia</i> sp.	13			13				
<i>Nemertea</i> sp. A	13		26			13	13	
<i>Nemertea</i> sp. B		26		13	13			13
<i>Nemertea</i> sp. C							26	
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	51	64	179	90	115	103	90	64

Annex 3: Box core data

	QT33.0	QT34	QT35	QT36	QT37	QT38	QT39	QT40.0
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>			13	13	13		26	26
<i>Ophiura albida</i>	13							
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>							26	
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.			244					
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>				13				
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		13	26			13		
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>							26	
<i>Psammodrillus balanoglossoides</i>		13						
<i>Pseudocuma longicorne</i>								
<i>Scolelepis bonnierii</i>								
<i>Scoloplos armiger</i>	38	103	26	51	26	64	64	26
<i>Spio goniocephala</i>						26		13
<i>Spio martinensis</i>								
<i>Spio</i> sp.	26							
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>	64	26	13	13	13		26	51
<i>Spisula elliptica</i>			26	13				
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.			13					
<i>Syllis prolifera</i>							13	
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>		13						
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>						13		
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>				38		13	13	13
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QT41	QT42	QT43	QT44.0	QT45	QT46	QT47	QT48
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>				13				
<i>Bathyporeia elegans</i>	372	77				77		38
<i>Bathyporeia guillemsoniana</i>						13	13	13
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>				13				
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.				13				
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	13	13	13	13	13		26	13
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.	13					13	13	
<i>Eteone longa</i>	13							
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>								
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>			26		13			
<i>Leucothoe incisa</i>								13
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>				13				
<i>Magelona johnstoni</i>		26		13		13		
<i>Magelona mirabilis</i>								
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	51			13				
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	13	13			13			51
<i>Natantia</i> sp.								13
<i>Nemertea</i> sp. A				26				
<i>Nemertea</i> sp. B		13		13				
<i>Nemertea</i> sp. C								13
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	77	38	77	90	38	38	64	141

Annex 3: Box core data

	QT41	QT42	QT43	QT44.0	QT45	QT46	QT47	QT48
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>								13
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>	13							
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.						13		
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.		13						
<i>Pontocrates arcticus</i>	13	13				13		
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								13
<i>Processa modica</i>								13
<i>Psammodrillus balanoglossoides</i>							13	
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>		13			13			
<i>Scoloplos armiger</i>	77		26	64	51	26	141	13
<i>Spio goniocephala</i>			13			13		
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								13
<i>Spiophanes bombyx</i>	38	13	13	13	13			103
<i>Spisula elliptica</i>					13			
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								13
<i>Tanaissus lilljeborgi</i>	13							
<i>Tellimya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>					13		26	26
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	13		13					
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QAW1.4	QAW2.3	QAW3.2	QAW4.1	QAW5.3	QAW6.4	QCS1	QCS2
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.	13							
<i>Aricidea minuta</i>								13
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>	26	346	218	26	115	179		
<i>Bathyporeia guillemsoniana</i>	13	26	13		38	13	26	77
<i>Bathyporeia</i> sp.			26					
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	13		13	13	13		13	
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	13	13			38	13		
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>	13							
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>							64	
<i>Gastrosaccus spinifer</i>			13					
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>								
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			38	13	295			
<i>Magelona johnstoni</i>		13	13		13			
<i>Magelona mirabilis</i>	38						13	13
<i>Magelona</i> sp.			13		13	13		
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	26	13	13	13	13	13		13
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	128	13			38		13	13
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A		13			13	26		
<i>Nemertea</i> sp. B	13		26		13			
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	64	64	141	64	64	26	64	51

Annex 3: Box core data

	QAW1.4	QAW2.3	QAW3.2	QAW4.1	QAW5.3	QAW6.4	QCS1	QCS2
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>	13							
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>			13	26			13	26
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>		13	26					
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								13
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.							13	
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		13	38					
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>							13	
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>	13							
<i>Scolecopsis bonnieri</i>							26	
<i>Scoloplos armiger</i>	64	141	26	141	90	115	51	128
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spionophanes bombyx</i>		13			13		26	
<i>Spisula elliptica</i>							13	
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>					13			
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>					13		13	
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>		13	26		26			
<i>Urothoe poseidonis</i>					90			
<i>Urothoe</i> sp.								

	QCS3.1	QCS4	QCS5	QCS6	QCS7	QCS8	QCS9	QCS10
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>				51	13			
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>								
<i>Bathyporeia guilliamsoniana</i>	77	26		26	13		38	64
<i>Bathyporeia</i> sp.	13							
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>				13				
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>			13	13		128		13
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone hebes</i>	13		26		782		13	
<i>Gastrosaccus spinifer</i>	13							
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>			13					
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>	13	26	13		26			
<i>Magelona johnstoni</i>								13
<i>Magelona mirabilis</i>		13						
<i>Magelona</i> sp.				13				
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	26	13		51			13	13
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>				26			26	
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A	13				26		13	
<i>Nemertea</i> sp. B								
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	51	38	51	38	90		38	13

Annex 3: Box core data

	QCS3.1	QCS4	QCS5	QCS6	QCS7	QCS8	QCS9	QCS10
<i>Nephtys hombergii</i>	13							
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>	26	13	26		13		64	26
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>			13				13	
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>					38			
<i>Phoronis</i> sp.			167				26	26
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>								
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>			13		38		13	
<i>Psammodrillus balanoglossoides</i>	13							
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>	13			13	13			13
<i>Scoloplos armiger</i>	38	90	13	13	77	13	51	26
<i>Spio goniocephala</i>	13	13			13			13
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.	13							
<i>Spiophanes bombyx</i>								
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>	13							
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>	26							
<i>Tellinmya ferruginosa</i>						13		
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>								
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>								
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QCS11.0	QCS12	QCS13.3	QCS14	QCS15.0	QCS16	QCS17	QCS18
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>			26	13		26	90	13
<i>Bathyporeia guilliamsoniana</i>	13		13	13	13			
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.			13					
<i>Chaetozone christiei</i>		13						
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	26	13	13		13	26	13	26
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone hebes</i>		218	1051	13	64			
<i>Gastrosaccus spinifer</i>								13
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>								
<i>Leucothoe incisa</i>			13	13				
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>		13	13	13				
<i>Magelona johnstoni</i>							13	
<i>Magelona mirabilis</i>					26	26		26
<i>Magelona</i> sp.			13	13			13	
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	13		13	51	13			
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>						13		
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A			26		26		13	
<i>Nemertea</i> sp. B								
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	51	77	64	90	64	64	38	26

Annex 3: Box core data

	QCS11.0	QCS12	QCS13.3	QCS14	QCS15.0	QCS16	QCS17	QCS18
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophebia borealis</i>		26	13					
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								13
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>						38		13
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>			38					
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.			26	26	13			
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>				13				13
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>		13	26		13			
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								
<i>Scoloplos armiger</i>		141	77	77	26		13	13
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.		13						
<i>Spiophanes bombyx</i>		13		26	13	13		
<i>Spisula elliptica</i>								13
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>		13	13					
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>	26							
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>		13	13					
<i>Travisia forbesii</i>						13		
<i>Urothoe brevicornis</i>								
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QCS19	QCS20	QCS21	QCS22	QCS23.0	QCS24	QCS25
<i>Angulus fabula</i>							
<i>Apherusa</i> sp.							
<i>Aricidea minuta</i>							
<i>Aricidea</i> sp.							
<i>Aricidea massi</i>					26	38	26
<i>Bathyporeia elegans</i>	26			13	90	64	64
<i>Bathyporeia guilliamsoniana</i>							
<i>Bathyporeia</i> sp.							
<i>Bivalvia</i> sp.							
<i>Brachyura</i> sp.							
<i>Capitella capitata</i>							
<i>Capitellidae</i> sp.							
<i>Chaetozone christiei</i>	38	13		13			
<i>Chamelea striatula</i>							
<i>Cirratulidae</i> sp.							
<i>Crangon</i> sp.							
<i>Donax vittatus</i>							
<i>Echinocardium cordatum</i>	13	13	13	13		13	13
<i>Ensis directus</i>							
<i>Ensis ensis</i>							
<i>Ensis</i> sp.			13				
<i>Eteone longa</i>					13		13
<i>Eumida sanguinea</i>							
<i>Eunereis longissima</i>							
<i>Euspira nitida</i>							
<i>Exogone hebes</i>	64	256		51	26		
<i>Gastrosaccus spinifer</i>						26	
<i>Hypereteone foliosa</i>							
<i>Jassa berdmanni</i>							
<i>Lanice conchilega</i>							
<i>Leucothoe incisa</i>							
<i>Liocarcinus holsatus</i>							
<i>Magelona filiformis</i>				26			
<i>Magelona johnstoni</i>		13			13		26
<i>Magelona mirabilis</i>				13		13	38
<i>Magelona</i> sp.							
<i>Malmgreniella darbonxi</i>							
<i>Megaluropus agilis</i>	38	115		38	13	13	13
<i>Microprotopus maculatus</i>							
<i>Monopseudocuma gilsoni</i>	13	26					
<i>Natantia</i> sp.							
<i>Nemertea</i> sp. A	13	13	13		26		
<i>Nemertea</i> sp. B							
<i>Nemertea</i> sp. C							
<i>Nephtys caeca</i>							
<i>Nephtys cirrosa</i>	90	51	26	26	38	26	64

Annex 3: Box core data

	QCS19	QCS20	QCS21	QCS22	QCS23.0	QCS24	QCS25
<i>Nephtys hombergii</i>							
<i>Nephtys longosetosa</i>	13						
<i>Nereidae</i> sp.							
<i>Ophelia borealis</i>	13	13		13	26		13
<i>Ophiura albida</i>		26					
<i>Ophiura ophiura</i>							
<i>Ophiura</i> sp.							
<i>Orchomenella nana</i>							
<i>Pagurus bernhardus</i>							
<i>Paraonis fulgens</i>			38			13	
<i>Periculodes longimanus</i>							
<i>Pestarella tyrrhena</i>							
<i>Phoronis muelleri</i>							
<i>Phoronis</i> sp.		13					
<i>Phyllodoce groenlandica</i>							
<i>Phyllodoce</i> sp.							
<i>Pinnotheres pisum</i>							
<i>Poecilochaetus serpens</i>							
<i>Polychaeta</i> sp.							
<i>Polynoidae</i> sp.							
<i>Pontocrates arcticus</i>							
<i>Pontocrates arenarius</i>							
<i>Pontocrates</i> sp.							
<i>Processa modica</i>							
<i>Psammodrillus balanoglossoides</i>	26						
<i>Pseudocuma longicorne</i>							
<i>Scolelepis bonnier</i>	26			13			
<i>Scoloplos armiger</i>	128	64	13	51		51	26
<i>Spio goniocephala</i>							
<i>Spio martinensis</i>							
<i>Spio</i> sp.							
<i>Spionidae</i> sp.		13		13			
<i>Spiophanes bombyx</i>	13	90					
<i>Spisula elliptica</i>		13				13	
<i>Spisula subtruncata</i>							
<i>Streptosyllis websteri</i>					13		
<i>Syllidae</i> sp.							
<i>Syllis prolifera</i>							
<i>Tanaissus lilljeborgi</i>							
<i>Tellimya ferruginosa</i>							
<i>Terebellidae</i> sp.				26			
<i>Thia scutellata</i>							
<i>Travisia forbesii</i>							
<i>Urothoe brevicornis</i>						38	
<i>Urothoe poseidonis</i>							
<i>Urothoe</i> sp.							

Annex 3b: Box core biomass data (g AFDW/m²)

	QCN1	QCN2	QCN3.1	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Angulus fabula</i>					3.53474			
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.					0.00021			
<i>Aricidea wassi</i>	0.00021	0.00021	0.00106			0.00021		
<i>Bathyporeia elegans</i>	0.02692	0.01538	0.19615	0.20385	0.01538	0.02308	0.07692	0.09231
<i>Bathyporeia guilliamsoniana</i>				0.00537	0.00537		0.00537	0.00537
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.		0.46369						
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>		0.02809			0.02149	0.00021	0.00745	0.02320
<i>Chamelea striatula</i>								0.48054
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>					0.05056			
<i>Echinocardium cordatum</i>	5.06004			6.65894	26.15482	2.63726	15.09465	
<i>Ensis directus</i>				4.90403				
<i>Ensis ensis</i>								
<i>Ensis</i> sp.							0.52137	
<i>Eteone longa</i>		0.00021		0.00362				
<i>Eumida sanguinea</i>								0.00106
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone hebes</i>								
<i>Gastrosaccus spinifer</i>			0.01282					
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>	0.54439			1.63191			3.43322	0.79765
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			0.00298	0.00851	0.04129		0.01979	0.00341
<i>Magelona johnstoni</i>			0.00341	0.02852	0.03043		0.01149	0.02298
<i>Magelona mirabilis</i>				0.03809	0.01596	0.04171		
<i>Magelona</i> sp.				0.01639	0.10598			
<i>Malmgreniella darbouxi</i>	0.01064			0.00873				0.00043
<i>Megaluropus agilis</i>		0.00385			0.00385	0.00385	0.00385	
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>								
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A				0.00513			0.02103	
<i>Nemertea</i> sp. B				0.01538		0.00590	0.04949	0.00308
<i>Nemertea</i> sp. C				0.06308				
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.12642	0.05704	0.18941	0.21942	0.06491	0.25687	0.24496	0.13237

Annex 3: Box core data

	QCN1	QCN2	QCN3.1	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.							7.21142	
<i>Ophelia borealis</i>	0.12450	0.09343	0.05618				0.10130	
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>		2.39381				2.68367		
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>				0.02086			0.02809	
<i>Polychaeta</i> sp.		0.00426						
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>						0.00385		
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>				0.18150			0.12735	0.08271
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>						0.16685		
<i>Scoloplos armiger</i>	0.05959	0.16408	0.00979	0.05321		0.11386	0.05321	0.05214
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>							0.09407	0.00021
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								0.53822
<i>Streptosyllis websteri</i>							0.00021	0.00021
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>				0.00385		0.00385		
<i>Tellimya ferruginosa</i>					0.02962			
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>	0.04019		0.12079					
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	0.00385	0.00385	0.00385	0.00385		0.00385	0.00385	
<i>Urothoe poseidonis</i>				0.00385	0.00385			0.00385
<i>Urothoe</i> sp.			0.00385	0.00385				

Annex 3: Box core data

	QCN9	QCN10	QCN11.2	QCN12	QCN13.1	QCN14	QCN15.4	QCN16
<i>Angulus fabula</i>		1.60388					3.70390	
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.				0.00021				
<i>Aricidea wassi</i>			0.00021					
<i>Bathyporeia elegans</i>	0.06923	0.05000	0.02692	0.00769	0.11923	0.01154	0.01923	0.00769
<i>Bathyporeia guilliamsoniana</i>	0.00537	0.00537	0.00537	0.00537	0.00537	0.00537		0.00537
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	0.04107			0.01554	0.02192	0.01596	0.04937	0.01319
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>				18.93561		26.60385	18.16047	2.63726
<i>Ensis directus</i>		22.00458					0.32838	
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Enumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>		0.23003						
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								0.01282
<i>Hypereteone foliosa</i>			0.06874					
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>		2.71516	12.29613	12.55173				1.36120
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>		0.01788		0.01107	0.03448	0.01043	0.03192	
<i>Magelona johnstoni</i>	0.26177	0.15153		0.02426		0.02660	0.03554	
<i>Magelona mirabilis</i>	0.04618	0.00596						
<i>Magelona</i> sp.	0.06448	0.14259					0.06597	
<i>Malmgreniella darbonxi</i>			0.02149	0.00170				0.00702
<i>Megaluropus agilis</i>	0.00385	0.00385			0.00385	0.00385		0.00385
<i>Microprotopus maculatus</i>				0.00321				
<i>Monopseudocuma gilsoni</i>				0.00256	0.00512			0.00256
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A								
<i>Nemertea</i> sp. B	0.04923		0.02333	0.02667	0.07974	0.04179		
<i>Nemertea</i> sp. C				0.00026				
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.06023	0.31285	0.66251	0.08194	0.26390	0.06236	0.02001	0.14451

Annex 3: Box core data

	QCN9	QCN10	QCN11.2	QCN12	QCN13.1	QCN14	QCN15.4	QCN16
<i>Nephtys hombergii</i>			0.04405					
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>			0.02596	0.00936				
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>			0.00341					
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		0.00385			0.00385	0.00385	0.00385	
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>	0.04342						0.03746	
<i>Scoloplos armiger</i>	0.16643	0.01256		0.30902	0.04682	0.15536		0.74487
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>		0.01107						
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>				0.00021				0.04278
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>							0.01255	
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>			0.03131			0.03512	0.04887	
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>		0.00385	0.00385	0.00385	0.00385		0.00385	
<i>Urothoe poseidonis</i>	0.00385	0.00385		0.00385	0.00385	0.00385	0.00385	0.00385
<i>Urothoe</i> sp.						0.00385		

Annex 3: Box core data

	QCN17	QCN18	QCN19	QCN20	QCN21	QCN22	QCN23.2	QCN24
<i>Angulus fabula</i>				0.36251				
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>	0.02692	0.15385	0.03846	0.02308	0.03077	0.01538	0.04231	0.03077
<i>Bathyporeia guilliamsoniana</i>	0.00537	0.00537		0.00537			0.00537	
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>			0.02788	0.00766	0.01107	0.00362		
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>			0.02461					
<i>Echinocardium cordatum</i>		2.63726		2.63726		6.65894	12.49021	
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.			2.83194					
<i>Eteone longa</i>			0.00021		0.00021			
<i>Eumida sanguinea</i>					0.00873			
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>				0.02564		0.01282		
<i>Hypereteone foliosa</i>								
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>	0.01298		0.00021	0.75019	4.13553	0.00021	0.09768	
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>	0.00021		0.02724	0.00915				0.01703
<i>Magelona johnstoni</i>		0.00596	0.00596	0.02767		0.03448	0.06278	0.15089
<i>Magelona mirabilis</i>					0.07768			
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>		0.01128		0.05193				
<i>Megaluropus agilis</i>	0.00385	0.00385				0.00385	0.00385	
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	0.00512	0.00512	0.01024			0.00256		
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A			0.00026					0.04564
<i>Nemertea</i> sp. B		0.01923		0.01077	0.06000		0.01590	0.01846
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>			1.25075					
<i>Nephtys cirrosa</i>	0.28965	0.03597	0.11194	0.36605	0.02682	0.12088	0.18813	0.10343

Annex 3: Box core data

	QCN17	QCN18	QCN19	QCN20	QCN21	QCN22	QCN23.2	QCN24
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>					0.18366			
<i>Ophiura albida</i>						0.35392		
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								0.00385
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.			0.00638					
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		0.00385		0.00385			0.00385	0.00385
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>					0.01958		0.05044	0.16962
<i>Scoloplos armiger</i>	0.25283	0.06917	0.06321	0.06108	0.21282	0.13259	0.23857	0.22814
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>							0.00021	
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>								
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>								
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	0.00385	0.00385			0.00385	0.00385	0.00385	
<i>Urothoe poseidonis</i>	0.00385	0.00385	0.00385	0.00385			0.00385	0.00385
<i>Urothoe</i> sp.								

	QCN25	QT1	QT2.4	QT3	QT4	QT5	QT6.2	QT7
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>	0.04231	0.03462	0.01923	0.02308	0.06923		0.12308	0.01154
<i>Bathyporeia guilliamsoniana</i>	0.00537	0.00537			0.00537			0.00537
<i>Bathyporeia</i> sp.						0.00214		
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.					0.00385			
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>					0.01554			0.00830
<i>Chamelea striatula</i>					0.48054			
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	21.87025	8.26092		10.33382	4.17467			
<i>Ensis directus</i>				5.67494				
<i>Ensis ensis</i>								
<i>Ensis</i> sp.			0.80244					
<i>Eteone longa</i>			0.00021					
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>					0.00553	0.00873		
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>	2.92713			0.00021				
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>							12.52731	
<i>Magelona filiformis</i>	0.03107							
<i>Magelona johnstoni</i>	0.04022		0.05469	0.07662			0.00511	
<i>Magelona mirabilis</i>			0.03980			0.02043	0.01745	
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>	0.01852							
<i>Megaluropus agilis</i>	0.00385						0.00385	
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	0.00256			0.00768			0.00256	
<i>Natantia</i> sp.		0.00385				0.00385		
<i>Nemertea</i> sp. A	0.01026	0.09154	0.01282	0.07000			1.02641	0.00026
<i>Nemertea</i> sp. B					0.00667		0.01538	
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.48055	0.11769	0.06597	0.01788	0.09832	0.46544	0.05065	0.11386

Annex 3: Box core data

	QCN25	QT1	QT2.4	QT3	QT4	QT5	QT6.2	QT7
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>				0.08470		0.08598	0.07491	
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>					20.03341			
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.	0.00021				0.00021			
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>	0.00385	0.00385		0.00385	0.00385		0.00385	
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>					0.05669			
<i>Psammodrillus balanoglossoides</i>		0.00021						
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								
<i>Scoloplos armiger</i>	0.00298	0.94705	0.20622		0.25773	0.16728	0.05533	
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.			0.00021	0.00021		0.01979		
<i>Spiophanes bombyx</i>		0.00638			0.14408		0.00021	
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>	0.00613							
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>			0.00385		0.00385		0.00385	0.00385
<i>Urothoe poseidonis</i>	0.00385							
<i>Urothoe</i> sp.								

	QT8	QT9	QT10.0	QT11	QT12	QT13	QT14	QT15
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>	0.01923		0.01538	0.00769	0.00385	0.01538	0.01538	0.00769
<i>Bathyporeia guilliamsoniana</i>			0.00537	0.00537	0.00537	0.00537		0.00537
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>				0.00553	0.02043		0.00489	0.02192
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>		10.67134	5.86334	6.65894			9.29109	
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>				0.00170				
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>		0.14429						
<i>Euspira nitida</i>								0.14668
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>		0.00447	0.10684				0.01000	
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>								
<i>Leucothoe incisa</i>							0.00385	
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>		0.02384	0.01383	0.02001				
<i>Magelona johnstoni</i>		0.05533				0.07108		0.02001
<i>Magelona mirabilis</i>						0.06427		
<i>Magelona</i> sp.	0.02575							
<i>Malmgreniella darbouxi</i>				0.00021				
<i>Megaluropus agilis</i>								0.00385
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>				0.00256	0.00256			0.00256
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A		0.20923	0.01897			0.00026		
<i>Nemertea</i> sp. B		0.01564			0.00026	0.01923		0.00692
<i>Nemertea</i> sp. C		0.01821				0.03103		
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.28880	0.11492	0.19856	0.14472	0.13727	0.06619	0.15664	0.54695

Annex 3: Box core data

	QT8	QT9	QT10.0	QT11	QT12	QT13	QT14	QT15
<i>Nephtys hombergii</i>				0.12854				
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>	0.04384		0.02256	0.09811		0.00021		0.21984
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>	19.41028							
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>				0.00385				
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								0.00385
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>	0.00681						0.02022	0.03363
<i>Phoronis</i> sp.		0.03277			0.05427			
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.			0.00021					
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>							0.00385	0.00385
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								0.10513
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								0.17068
<i>Scoloplos armiger</i>	0.10301	0.10492	1.12561	0.08023	0.34200	0.17430	0.16749	0.18771
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.						0.00021		
<i>Spiophanes bombyx</i>	0.00021			0.08406	0.02596			0.01681
<i>Spisula elliptica</i>						0.27599		
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellinmya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>		0.01544		0.00613				
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>			0.00385	0.00385		0.00385		0.00385
<i>Urothoe poseidonis</i>				0.00385				
<i>Urothoe</i> sp.								

	QT16	QT18.0	QT19	QT20	QT21.0	QT22	QT23	QT24
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>		0.18077	0.10385	0.01154		0.01154	0.05769	0.12692
<i>Bathyporeia guilliamsoniana</i>		0.00537	0.00537				0.00537	0.00537
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>				0.01809				
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	0.01234	0.01171						
<i>Chamelea striatula</i>				2.66038			4.24198	
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	8.84029			7.47944	1.79262			
<i>Ensis directus</i>							0.32626	
<i>Ensis ensis</i>		8.99370						
<i>Ensis</i> sp.								
<i>Eteone longa</i>						0.00128		
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>				0.24411				
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>								0.04256
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>	1.00238			0.00021				
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			0.00894			0.01213	0.12024	0.00830
<i>Magelona johnstoni</i>			0.01362			0.07789	0.10620	0.01000
<i>Magelona mirabilis</i>		0.00596						
<i>Magelona</i> sp.	0.07087							
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>							0.00385	0.00385
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>		0.00512		0.00256	0.00256		0.01024	0.01536
<i>Natantia</i> sp.	0.00385		0.00385	0.00385				
<i>Nemertea</i> sp. A	0.05308	0.00308	0.07513				0.13436	0.03769
<i>Nemertea</i> sp. B			0.01000	0.00026	0.00282		0.02205	
<i>Nemertea</i> sp. C	0.00026				0.00026			
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.06704	0.04022	0.11556	0.30135	0.20005	0.07640	0.12791	0.23964

Annex 3: Box core data

	QT16	QT18.0	QT19	QT20	QT21.0	QT22	QT23	QT24
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>	0.18877	0.12854	0.05831	0.08853	0.01809	0.05427	0.03150	
<i>Ophiura albida</i>	0.22338							
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>			0.00170					
<i>Phoronis</i> sp.	0.00745			0.03150				
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.			0.00511					
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.				0.00021				
<i>Pontocrates arcticus</i>	0.00385	0.00385		0.00385	0.00385			0.00385
<i>Pontocrates arenarius</i>								0.00385
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								
<i>Scoloplos armiger</i>	0.34136	0.05044	0.00192	0.14089	0.45288	0.98536	0.30242	0.08917
<i>Spio goniocephala</i>						0.00064		0.00021
<i>Spio martinensis</i>	0.01043							
<i>Spio</i> sp.								
<i>Spionidae</i> sp.	0.00021							
<i>Spiophanes bombyx</i>	0.00021	0.00021					0.00021	0.01660
<i>Spisula elliptica</i>							0.24672	
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>				0.00447				
<i>Tanaissus lilljeborgi</i>							0.00385	
<i>Tellimya ferruginosa</i>							0.00014	
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>								
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	0.00385	0.00385	0.00385	0.00385	0.00385	0.00385	0.00385	
<i>Urothoe poseidonis</i>	0.00385							
<i>Urothoe</i> sp.								

	QT25	QT26	QT27	QT28	QT29	QT30	QT31	QT32
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>	0.05000	0.05385	0.03462	0.00769	0.02692	0.13462	0.01923	0.01538
<i>Bathyporeia guilliamsoniana</i>	0.00537	0.00537	0.00537		0.00537			
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	0.01639						0.02873	0.01192
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.						0.00021		
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	10.21816	2.63726	10.05348	8.50591	9.96121			
<i>Ensis directus</i>								
<i>Ensis ensis</i>								3.67005
<i>Ensis</i> sp.								
<i>Eteone longa</i>		0.00021	0.00192					
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>	0.00385							
<i>Lanice conchilega</i>	0.00021			0.00021		0.00021		
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			0.00702	0.00681			0.02171	
<i>Magelona johnstoni</i>	0.03512		0.01341	0.11620				
<i>Magelona mirabilis</i>							0.09449	
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	0.00385	0.00385	0.00385					0.00385
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	0.00768	0.00512			0.00256		0.00256	
<i>Natantia</i> sp.		0.00385						
<i>Nemertea</i> sp. A					0.02205	0.02795		0.01333
<i>Nemertea</i> sp. B	0.04333			0.03564				
<i>Nemertea</i> sp. C			0.00692					
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.06193	0.29369	0.19856	0.14855	0.27411	0.16515	0.03852	0.17792

Annex 3: Box core data

	QT25	QT26	QT27	QT28	QT29	QT30	QT31	QT32
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>		0.21027	0.05853	0.04639		0.11897	0.07193	0.19941
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.						0.02149		
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>	0.00385	0.00385	0.00385		0.00385	0.00385		0.00385
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>								
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolelepis bonnieri</i>	0.10428				0.03299			
<i>Scoloplos armiger</i>	0.30646	0.02894	0.01596	0.31348	0.12748	0.00255	0.27560	0.26922
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>					0.00021			
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spionophanes bombyx</i>					0.05065	0.01043	0.00021	0.00021
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>							0.05712	
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	0.00385	0.00385	0.00385		0.00385			
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QT33.0	QT34	QT35	QT36	QT37	QT38	QT39	QT40.0
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea massi</i>								
<i>Bathyporeia elegans</i>		0.02692	0.01923	0.00769	0.01154		0.00769	0.01538
<i>Bathyporeia guilliamsoniana</i>		0.00537			0.00537	0.00537		0.00537
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>				0.00724			0.00021	
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	0.00830	0.00745	0.00021					
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								0.00021
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	8.87945	2.49834				7.27240		2.63726
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>	0.02213							
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>							0.00021	
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>								0.01362
<i>Magelona johnstoni</i>		0.08066						0.02001
<i>Magelona mirabilis</i>	0.00766			0.02894				
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>					0.00385	0.00385		0.00385
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>							0.00256	0.01024
<i>Natantia</i> sp.	0.00385			0.00385				
<i>Nemertea</i> sp. A	0.01897		0.00026			0.03436	0.00026	
<i>Nemertea</i> sp. B		0.01590		0.00154	0.08615			0.06103
<i>Nemertea</i> sp. C							0.05923	
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.08641	0.03703	0.44075	0.12982	0.37733	0.07938	0.50524	0.06789

Annex 3: Box core data

	QT33.0	QT34	QT35	QT36	QT37	QT38	QT39	QT40.0
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>			0.05427	0.02064	0.27007		0.07747	0.17026
<i>Ophiura albida</i>	3.40122							
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>							7.31077	
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.			0.19452					
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>				0.02602				
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		0.00385	0.00385			0.00385		
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>							0.24919	
<i>Psammodrillus balanoglossoides</i>		0.00021						
<i>Pseudocuma longicorne</i>								
<i>Scolelepis bonnieri</i>								
<i>Scoloplos armiger</i>	0.13472	0.40117	0.20601	0.28816	0.29688	0.39670	0.11939	0.01724
<i>Spio goniocephala</i>						0.00021		0.00021
<i>Spio martinensis</i>								
<i>Spio</i> sp.	0.00021							
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>	0.00021	0.00021	0.00021	0.00021	0.00021		0.07044	0.00021
<i>Spisula elliptica</i>			0.13891	0.64004				
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.			0.00021					
<i>Syllis prolifera</i>							0.00021	
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>		0.00261						
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>						0.00613		
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>				0.00385		0.00385	0.00385	0.00385
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QT41	QT42	QT43	QT44.0	QT45	QT46	QT47	QT48
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>				0.00341				
<i>Bathyporeia elegans</i>	0.11154	0.02308				0.02308		0.01154
<i>Bathyporeia guilliamsoniana</i>						0.00537	0.00537	0.00537
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>				0.03469				
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.				0.00385				
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	9.26414	9.72961	6.65894	10.14633	6.65894		18.58218	9.17694
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.	4.04476					0.06903	0.02531	
<i>Eteone longa</i>	0.01745							
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>								
<i>Gastrosaccus spinifer</i>								
<i>Hypereteone foliosa</i>								
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>			0.00043		0.00021			
<i>Leucothoe incisa</i>								0.00385
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>				0.00702				
<i>Magelona johnstoni</i>		0.05618		0.01788		0.03341		
<i>Magelona mirabilis</i>								
<i>Magelona</i> sp.								
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	0.00385			0.00385				
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	0.00256	0.00256			0.00256			0.01024
<i>Natantia</i> sp.								0.00385
<i>Nemertea</i> sp. A				0.01462				
<i>Nemertea</i> sp. B		0.03410		0.00487				
<i>Nemertea</i> sp. C								0.00026
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.03916	0.08279	0.32604	0.13833	0.15068	0.36222	0.05895	0.44650

Annex 3: Box core data

	QT41	QT42	QT43	QT44.0	QT45	QT46	QT47	QT48
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>								0.00021
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>	0.00385							
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.						0.04639		
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.		0.00021						
<i>Pontocrates arcticus</i>	0.00385	0.00385				0.00385		
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								0.00385
<i>Processa modica</i>								0.07108
<i>Psammodrillus balanoglossoides</i>							0.00021	
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>		0.04554			0.07598			
<i>Scoloplos armiger</i>	0.21325		0.05704	0.20388	0.19728	0.10215	0.74445	0.04001
<i>Spio goniocephala</i>			0.00021			0.00021		
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								0.00043
<i>Spiophanes bombyx</i>	0.00021	0.00021	0.01128	0.00511	0.00021			0.00021
<i>Spisula elliptica</i>					0.20153			
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								0.00021
<i>Tanaissus lilljeborgi</i>	0.00385							
<i>Tellimya ferruginosa</i>								
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>					1.27769		0.33296	0.87260
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>	0.00385		0.00385					
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

Annex 3: Box core data

	QAW1.4	QAW2.3	QAW3.2	QAW4.1	QAW5.3	QAW6.4	QCS1	QCS2
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.	0.00385							
<i>Aricidea minuta</i>								0.00021
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>	0.00769	0.10385	0.06538	0.00769	0.03462	0.05385		
<i>Bathyporeia guilliamsoniana</i>	0.00537	0.00537	0.00537		0.00537	0.00537	0.00537	0.00537
<i>Bathyporeia</i> sp.			0.00214					
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>	0.00809		0.02618	0.00936	0.00638		0.00021	
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	6.02690	8.77530			29.35407	9.91882		
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>	0.00021							
<i>Enumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone bebes</i>							0.00021	
<i>Gastrosaccus spinifer</i>			0.01282					
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>								
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>			0.00787	0.00724	0.15493			
<i>Magelona johnstoni</i>		0.07619	0.05640		0.05640			
<i>Magelona mirabilis</i>	0.17473						0.01958	0.08917
<i>Magelona</i> sp.			0.06342		0.03788	0.00426		
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	0.00385	0.00385	0.00385	0.00385	0.00385	0.00385		0.00385
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>	0.02560	0.00256			0.00768		0.00256	0.00256
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A		0.01000			0.11872	0.05744		
<i>Nemertea</i> sp. B	0.00026		0.02923		0.02974			
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.19963	0.06385	0.19537	0.21835	0.06768	0.02192	0.49098	0.10364

Annex 3: Box core data

	QAW1.4	QAW2.3	QAW3.2	QAW4.1	QAW5.3	QAW6.4	QCS1	QCS2
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>	0.24219							
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>			0.00021	0.27773			0.00106	1.04197
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>		16.92184	37.20344					
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>								0.00064
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.								
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.							0.00021	
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>		0.00385	0.00385					
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>							0.19123	
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>	0.00256							
<i>Scolecopsis bonnieri</i>							0.10896	
<i>Scoloplos armiger</i>	0.16089	0.43288	0.10215	1.07347	0.48119	0.33413	0.31455	0.50141
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.								
<i>Spiophanes bombyx</i>		0.01043			0.00021		0.03086	
<i>Spisula elliptica</i>							0.19074	
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>								
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>					0.01008			
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>					0.04125		0.89248	
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>		0.00385	0.00385		0.00385			
<i>Urothoe poseidonis</i>					0.00385			
<i>Urothoe</i> sp.								

	QCS3.1	QCS4	QCS5	QCS6	QCS7	QCS8	QCS9	QCS10
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>				0.00489	0.00277			
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>								
<i>Bathyporeia guilliamsoniana</i>	0.00537	0.00537		0.00537	0.00537		0.00537	0.00537
<i>Bathyporeia</i> sp.	0.00214							
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.								
<i>Chaetozone christiei</i>				0.00021				
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>			2.63726	8.27959		52.28368		2.63726
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone hebes</i>	0.00021		0.00106		0.03320		0.00021	
<i>Gastrosaccus spinifer</i>	0.01282							
<i>Hypereteone foliosa</i>								
<i>Jassa herdmani</i>								
<i>Lanice conchilega</i>			0.00021					
<i>Leucothoe incisa</i>								
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>	0.00383	0.02405	0.01043		0.09151			
<i>Magelona johnstoni</i>								0.00681
<i>Magelona mirabilis</i>		0.13748						
<i>Magelona</i> sp.				0.01447				
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	0.00385	0.00385		0.00385			0.00385	0.00385
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>				0.00512			0.00512	
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A	0.00538				0.00026		0.00026	
<i>Nemertea</i> sp. B								
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.06938	0.09960	0.32987	0.12791	0.36946		0.00851	0.00085

Annex 3: Box core data

	QCS3.1	QCS4	QCS5	QCS6	QCS7	QCS8	QCS9	QCS10
<i>Nephtys hombergii</i>	0.41734							
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>	0.00043	0.00958	0.00383		0.00234		0.68443	0.04874
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>			0.00681				0.00298	
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>								
<i>Phoronis muelleri</i>					0.05959			
<i>Phoronis</i> sp.			0.23602				0.00468	0.01234
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>								
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>			0.08842		0.36237		0.08017	
<i>Psammodrillus balanoglossoides</i>	0.00021							
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>	0.30433			0.09556	0.06108			0.15493
<i>Scoloplos armiger</i>	0.34264	0.55674	0.02554	0.00021	1.10177	0.01043	0.22708	0.20112
<i>Spio goniocephala</i>	0.00298	0.02086			0.00936			0.00660
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.	0.02831							
<i>Spiophanes bombyx</i>								
<i>Spisula elliptica</i>								
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>	0.00021							
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>	0.00769							
<i>Tellimya ferruginosa</i>						0.00007		
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>								
<i>Travisia forbesii</i>								
<i>Urothoe brevicornis</i>								
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QCS11.0	QCS12	QCS13.3	QCS14	QCS15.0	QCS16	QCS17	QCS18
<i>Angulus fabula</i>								
<i>Apherusa</i> sp.								
<i>Aricidea minuta</i>								
<i>Aricidea</i> sp.								
<i>Aricidea wassi</i>								
<i>Bathyporeia elegans</i>			0.00769	0.00385		0.00769	0.02692	0.00385
<i>Bathyporeia guilliamsoniana</i>	0.00537		0.00537	0.00537	0.00537			
<i>Bathyporeia</i> sp.								
<i>Bivalvia</i> sp.								
<i>Brachyura</i> sp.								
<i>Capitella capitata</i>								
<i>Capitellidae</i> sp.			0.00021					
<i>Chaetozone christiei</i>		0.02043						
<i>Chamelea striatula</i>								
<i>Cirratulidae</i> sp.								
<i>Crangon</i> sp.								
<i>Donax vittatus</i>								
<i>Echinocardium cordatum</i>	12.08246	6.65894	6.91965		6.65894	12.71765	2.63726	10.88110
<i>Ensis directus</i>								
<i>Ensis ensis</i>								
<i>Ensis</i> sp.								
<i>Eteone longa</i>								
<i>Eumida sanguinea</i>								
<i>Eunereis longissima</i>								
<i>Euspira nitida</i>								
<i>Exogone hebes</i>		0.01192	0.05789	0.00021	0.00383			
<i>Gastrosaccus spinifer</i>								0.01282
<i>Hypereteone foliosa</i>								
<i>Jassa berdmanni</i>								
<i>Lanice conchilega</i>								
<i>Leucothoe incisa</i>			0.00385	0.00385				
<i>Liocarcinus holsatus</i>								
<i>Magelona filiformis</i>		0.10130	0.18047	0.00021				
<i>Magelona johnstoni</i>							0.09747	
<i>Magelona mirabilis</i>					0.08385	0.06746		0.12216
<i>Magelona</i> sp.			0.00021	0.05916			0.06448	
<i>Malmgreniella darbonxi</i>								
<i>Megaluropus agilis</i>	0.00385		0.00385	0.00385	0.00385			
<i>Microprotopus maculatus</i>								
<i>Monopseudocuma gilsoni</i>						0.00256		
<i>Natantia</i> sp.								
<i>Nemertea</i> sp. A			0.03308		0.75744		0.00026	
<i>Nemertea</i> sp. B								
<i>Nemertea</i> sp. C								
<i>Nephtys caeca</i>								
<i>Nephtys cirrosa</i>	0.24581	0.44841	0.57057	0.25602	0.13982	0.19728	0.01000	0.09917

Annex 3: Box core data

	QCS11.0	QCS12	QCS13.3	QCS14	QCS15.0	QCS16	QCS17	QCS18
<i>Nephtys hombergii</i>								
<i>Nephtys longosetosa</i>								
<i>Nereidae</i> sp.								
<i>Ophelia borealis</i>		0.16664	0.04639					
<i>Ophiura albida</i>								
<i>Ophiura ophiura</i>								
<i>Ophiura</i> sp.								0.58847
<i>Orchomenella nana</i>								
<i>Pagurus bernhardus</i>								
<i>Paraonis fulgens</i>						0.00702		0.00404
<i>Periculodes longimanus</i>								
<i>Pestarella tyrrhena</i>			10.02777					
<i>Phoronis muelleri</i>								
<i>Phoronis</i> sp.			0.01447	0.00447	0.00021			
<i>Phyllodoce groenlandica</i>								
<i>Phyllodoceidae</i> sp.								
<i>Pinnotheres pisum</i>								
<i>Poecilochaetus serpens</i>								
<i>Polychaeta</i> sp.								
<i>Polynoidae</i> sp.								
<i>Pontocrates arcticus</i>				0.00385				0.00385
<i>Pontocrates arenarius</i>								
<i>Pontocrates</i> sp.								
<i>Processa modica</i>		0.04992	0.21894		0.07933			
<i>Psammodrillus balanoglossoides</i>								
<i>Pseudocuma longicorne</i>								
<i>Scolecopsis bonnieri</i>								
<i>Scoloplos armiger</i>		1.03771	0.50332	1.08794	0.33115		0.04810	0.05384
<i>Spio goniocephala</i>								
<i>Spio martinensis</i>								
<i>Spio</i> sp.								
<i>Spionidae</i> sp.		0.00021						
<i>Spiophanes bombyx</i>		0.01596		0.00021	0.01617	0.12024		
<i>Spisula elliptica</i>								2.67124
<i>Spisula subtruncata</i>								
<i>Streptosyllis websteri</i>		0.00021	0.00021					
<i>Syllidae</i> sp.								
<i>Syllis prolifera</i>								
<i>Tanaissus lilljeborgi</i>								
<i>Tellimya ferruginosa</i>	0.03836							
<i>Terebellidae</i> sp.								
<i>Thia scutellata</i>		0.03765	0.80173					
<i>Travisia forbesii</i>						0.28795		
<i>Urothoe brevicornis</i>								
<i>Urothoe poseidonis</i>								
<i>Urothoe</i> sp.								

	QCS19	QCS20	QCS21	QCS22	QCS23.0	QCS24	QCS25
<i>Angulus fabula</i>							
<i>Apherusa</i> sp.							
<i>Aricidea minuta</i>							
<i>Aricidea</i> sp.							
<i>Aricidea massi</i>					0.00234	0.00575	0.00192
<i>Bathyporeia elegans</i>	0.00769			0.00385	0.02692	0.01923	0.01923
<i>Bathyporeia guilliamsoniana</i>							
<i>Bathyporeia</i> sp.							
<i>Bivalvia</i> sp.							
<i>Brachyura</i> sp.							
<i>Capitella capitata</i>							
<i>Capitellidae</i> sp.							
<i>Chaetozone christiei</i>	0.00255	0.00153		0.01107			
<i>Chamelea striatula</i>							
<i>Cirratulidae</i> sp.							
<i>Crangon</i> sp.							
<i>Donax vittatus</i>							
<i>Echinocardium cordatum</i>	4.91947	7.45045	6.65894	85.12821		8.98445	4.67160
<i>Ensis directus</i>							
<i>Ensis ensis</i>							
<i>Ensis</i> sp.			2.56779				
<i>Eteone longa</i>					0.00021		0.00064
<i>Eumida sanguinea</i>							
<i>Eunereis longissima</i>							
<i>Euspira nitida</i>							
<i>Exogone hebes</i>	0.00021	0.01213		0.00021	0.00021		
<i>Gastrosaccus spinifer</i>						0.02564	
<i>Hypereteone foliosa</i>							
<i>Jassa berdmanni</i>							
<i>Lanice conchilega</i>							
<i>Leucothoe incisa</i>							
<i>Liocarcinus holsatus</i>							
<i>Magelona filiformis</i>				0.01447			
<i>Magelona johnstoni</i>		0.07896			0.00617		0.06768
<i>Magelona mirabilis</i>				0.07768		0.04959	0.10492
<i>Magelona</i> sp.							
<i>Malmgreniella darbonxi</i>							
<i>Megaluropus agilis</i>	0.00385	0.00385		0.00385	0.00385	0.00385	0.00385
<i>Microprotopus maculatus</i>							
<i>Monopseudocuma gilsoni</i>	0.00256	0.00512					
<i>Natantia</i> sp.							
<i>Nemertea</i> sp. A	0.00026	0.00026	0.08692		0.02974		
<i>Nemertea</i> sp. B							
<i>Nemertea</i> sp. C							
<i>Nephtys caeca</i>							
<i>Nephtys cirrosa</i>	0.39393	0.15472	0.09726	0.11875	0.07959	0.09215	0.17366

Annex 3: Box core data

	QCS19	QCS20	QCS21	QCS22	QCS23.0	QCS24	QCS25
<i>Nephtys hombergii</i>							
<i>Nephtys longosetosa</i>	0.02873						
<i>Nereidae</i> sp.							
<i>Ophelia borealis</i>	0.02618	0.00128		0.00021	0.05980		0.12173
<i>Ophiura albida</i>		7.05359					
<i>Ophiura ophiura</i>							
<i>Ophiura</i> sp.							
<i>Orchomenella nana</i>							
<i>Pagurus bernhardus</i>							
<i>Paraonis fulgens</i>			0.00319			0.00021	
<i>Periculodes longimanus</i>							
<i>Pestarella tyrrhena</i>							
<i>Phoronis muelleri</i>							
<i>Phoronis</i> sp.		0.00681					
<i>Phyllodoce groenlandica</i>							
<i>Phyllodoceidae</i> sp.							
<i>Pinnotheres pisum</i>							
<i>Poecilochaetus serpens</i>							
<i>Polychaeta</i> sp.							
<i>Polynoidae</i> sp.							
<i>Pontocrates arcticus</i>							
<i>Pontocrates arenarius</i>							
<i>Pontocrates</i> sp.							
<i>Processa modica</i>							
<i>Psammodrillus balanoglossoides</i>	0.00021						
<i>Pseudocuma longicorne</i>							
<i>Scolelepis bonnierii</i>	0.09407			0.03171			
<i>Scoloplos armiger</i>	0.74806	0.22559	0.00851	0.23474		0.11492	0.11152
<i>Spio goniocephala</i>							
<i>Spio martinensis</i>							
<i>Spio</i> sp.							
<i>Spionidae</i> sp.		0.00021		0.00681			
<i>Spiophanes bombyx</i>	0.00021	0.00021					
<i>Spisula elliptica</i>		0.18072				1.62017	
<i>Spisula subtruncata</i>							
<i>Streptosyllis websteri</i>					0.00021		
<i>Syllidae</i> sp.							
<i>Syllis prolifera</i>							
<i>Tanaissus lilljeborgi</i>							
<i>Tellima ferruginosa</i>							
<i>Terebellidae</i> sp.				0.07683			
<i>Thia scutellata</i>							
<i>Travisia forbesii</i>							
<i>Urothoe brevicornis</i>						0.00385	
<i>Urothoe poseidonis</i>							
<i>Urothoe</i> sp.							

Annex 4a: Benthic dredge density data (N/100m²)

	QCN1	QCN2	QCN3	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Agonus cataphractus</i>							1	
<i>Ammodytes tobianus</i>								
<i>Angulus fabula</i>	1					0.5	322	178
<i>Angulus tenuis</i>								
<i>Aphia minuta</i>								
<i>Arnoglossus laterna</i>								
<i>Asterias rubens</i>	3	3			1.5	0.5	1	
<i>Buglossidium luteum</i>	2		1	2	1.5	4	7	1
<i>Callionymus species</i>	1	1		1	0.5			
<i>Chamelea striatula</i>	5	23	15	8	5	9.5	5	5
<i>Ciliata mustela</i>								
<i>Corystes cassivelaunus</i>								
<i>Crangon allmanni</i>								
<i>Crangon crangon</i>	6	3	2	1	7	6.5	6	8
<i>Donax vittatus</i>	8	12	7	1	2	11.5	17	17
<i>Echiichthys vipera</i>								
<i>Echinocardium cordatum</i>	22	12	1	14	3	12	18	6
<i>Ensis directus</i>	1	2		10	6.5	6	1	1
<i>Ensis ensis</i>	8	21	13	6	6	13	4	8
<i>Ensis magnus</i>	1					1	2	
<i>Euspira catena</i>						0.5		
<i>Euspira nitida</i>	4					1.5	12	11
<i>Hyperoplus lanceolatus</i>			4	2	2	3	3	4
<i>Lanice conchilega</i>	5	31		37	3	3	3	4
<i>Limanda limanda</i>	8	3	1	2	2.5	5	5	3
<i>Lineus bilineatus</i>		1		2			2	
<i>Liocarcinus holsatus</i>	4	6	4	7	1.5	2	2	3
<i>Lutraria</i> sp.				1		1	3	
<i>Macropodia rostrata</i>						0.5		
<i>Macra stultorum</i>						0.5		
<i>Myoxocephalus scorpius</i>								
<i>Mytilus edulis</i>								
<i>Nephtys</i> sp.	7	8	5	4	4	4.5	10	18
<i>Ophelia borealis</i>	4	3	4	19	26	9.5	1	
<i>Opbiura albida</i>	17	13	16	27	24.5	10.5	3	5
<i>Opbiura opbiura</i>	42	57	34	25	43.5	48.5	39	46
<i>Pagurus bernhardus</i>	7		2	1	3.5	2.5	2	1
<i>Pestarella tyrrhena</i>								
<i>Philocheras trispinosus</i>					0.5			
<i>Phyllodoce groenlandica</i>								
<i>Pinnotheres pisum</i>								
<i>Pleuronectes platessa</i>				1		0.5	3	1

Annex 4: Dredge sample data

	QCN1	QCN2	QCN3	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Pomatoschistus</i> sp.	20	5	4	8	15	15	14	7
<i>Processa modica</i>					1.5	0.5	1	
<i>Scolecopsis bonnieri</i>								
<i>Solea solea</i>	1	1						
<i>Spisula elliptica</i>	6	6	2	1	19	19.5		1
<i>Spisula solida</i>		1	2	2	3.5	1		
<i>Spisula subtruncata</i>	23	2		3	1	13.5	13	17
<i>Sprattus sprattus</i>								
<i>Syngnathus rostellatus</i>		2			1	0.5	1	
<i>Taurulus bubalis</i>								
<i>Thia scutellata</i>	1	7	5	4	3.5	4.5	7	8
<i>Trachurus trachurus</i>								

Annex 4: Dredge sample data

	QCN9	QT1	QT2	QT3	QT4	QT5	QT6	QT7
<i>Agonus cataphractus</i>								
<i>Ammodytes tobianus</i>	1.5							
<i>Angulus fabula</i>	4.5							
<i>Angulus tenuis</i>	0.5							
<i>Aphia minuta</i>		0.5						
<i>Arnoglossus laterna</i>		1	1.5	0.5	2			1.5
<i>Asterias rubens</i>	1	6	5	7	4		1.5	2
<i>Buglossidium luteum</i>	7	9.5	8.5	8	4	4	4	2.5
<i>Callionymus species</i>		1.5	1	0.5	1	4	0.5	0.5
<i>Chamelea striatula</i>	3	2	2	1.5	1	4	0.5	1
<i>Ciliata mustela</i>								
<i>Corystes cassivelaunus</i>		0.5		0.5				0.5
<i>Crangon allmanni</i>	1			1				0.5
<i>Crangon crangon</i>	15	20	11	19.5	17	12	4.5	11.5
<i>Donax vittatus</i>	9.5	1	2.5					
<i>Echiichthys vipera</i>								1
<i>Echinocardium cordatum</i>	13	0.5	1	5	1			17.5
<i>Ensis directus</i>	2.5	0.5	0.5		1		0.5	0.5
<i>Ensis ensis</i>	4	10.5	4	5.5	4	12	4	4
<i>Ensis magnus</i>	1.5		0.5					
<i>Euspira catena</i>								
<i>Euspira nitida</i>	2	0.5						
<i>Hyperoplus lanceolatus</i>		1	0.5		1		0.5	1.5
<i>Lanice conchilega</i>								
<i>Limanda limanda</i>	0.5	1	1.5	1.5	2		0.5	1
<i>Lineus bilineatus</i>								
<i>Liocarcinus holtsatus</i>	3.5			1	1	8	1	
<i>Lutraria sp.</i>	0.5							
<i>Macropodia rostrata</i>								
<i>Macra stultorum</i>								
<i>Myoxocephalus scorpius</i>								
<i>Mytilus edulis</i>								0.5
<i>Nephtys sp.</i>	7	1.5	0.5	3.5	2			2.5
<i>Ophelia borealis</i>	0.5	5.5	2	6	6	8	3	1
<i>Opbiura albida</i>	4	26	14.5	33	30	12	6	6
<i>Opbiura opbiura</i>	56	60	20.5	61	53	60	15	15.5
<i>Pagurus bernhardus</i>	1.5	2.5		2	2		1	1.5
<i>Pestarella tyrrhena</i>		0.5		0.5	1			
<i>Philocheras trispinosus</i>	1	2	2	1			1.5	2.5
<i>Phyllodoce groenlandica</i>		0.5						
<i>Pinnotheres pisum</i>								
<i>Pleuronectes platessa</i>		1	1	1				0.5

Annex 4: Dredge sample data

	QCN9	QT1	QT2	QT3	QT4	QT5	QT6	QT7
<i>Pomatoschistus</i> sp.	10	5.5	5	5.5	8	4	6	5.5
<i>Processa modica</i>								
<i>Scolecopsis bonnieri</i>	0.5							
<i>Solea solea</i>								
<i>Spisula elliptica</i>	2	6	2.5	5	2		1.5	3
<i>Spisula solida</i>		2		0.5				
<i>Spisula subtruncata</i>	2.5	0.5		1				
<i>Sprattus sprattus</i>								0.5
<i>Syngnathus rostellatus</i>	2.5							1
<i>Taurulus bubalis</i>								
<i>Thia scutellata</i>	3.5	7.5	2.5	5.5	1		1.5	3.5
<i>Trachurus trachurus</i>								0.5

Annex 4: Dredge sample data

	QT8	QT9	QT10	QT11	QT12	QT13	QT14	QT15
<i>Agonus cataphractus</i>								
<i>Ammodytes tobianus</i>		0.5					0.5	
<i>Angulus fabula</i>								
<i>Angulus tenuis</i>								
<i>Aphia minuta</i>								
<i>Arnoglossus laterna</i>	1		1	1	1	1	0.5	1
<i>Asterias rubens</i>	3.5	12	2	2	7	2.5	2.5	1
<i>Buglossidium luteum</i>	13.5	7	5	4	9	2.5	1.5	6
<i>Callionymus species</i>	0.5	1.5	1	2	0.5	1	2	1
<i>Chamelea striatula</i>	1	1.5			1		4	1
<i>Ciliata mustela</i>			1					
<i>Corystes cassivelaunus</i>	0.5			1				
<i>Crangon allmanni</i>	0.5						0.5	
<i>Crangon crangon</i>	17.5	20	14	10	12	14	11.5	13
<i>Donax vittatus</i>	0.5		1	3			1	
<i>Echiichthys vipera</i>								1
<i>Echinocardium cordatum</i>	11.5	2.5	5	6		2		15
<i>Ensis directus</i>			2					1
<i>Ensis ensis</i>	3	1.5	4	22	2	3.5	4.5	2
<i>Ensis magnus</i>								
<i>Euspira catena</i>								
<i>Euspira nitida</i>					0.5		0.5	
<i>Hyperoplus lanceolatus</i>			4	1		0.5	0.5	1
<i>Lanice conchilega</i>								
<i>Limanda limanda</i>	1	1			1	1	2	2
<i>Lineus bilineatus</i>					0.5			
<i>Liocarcinus holosatus</i>		0.5	4	4	0.5	0.5		1
<i>Lutraria sp.</i>		0.5						
<i>Macropodia rostrata</i>								
<i>Macra stultorum</i>								
<i>Myoxocephalus scorpius</i>		0.5						
<i>Mytilus edulis</i>								
<i>Nephtys sp.</i>	1.5	2	1		1	0.5	1	4
<i>Ophelia borealis</i>	2	2	10	22	3	3	6	12
<i>Ophiura albida</i>	27	26	10	8	33.5	8.5	20	21
<i>Ophiura ophiura</i>	49	26	45	13	9.5	27	37.5	20
<i>Pagurus bernhardus</i>	3.5	2	3		2	1.5	3	4
<i>Pestarella tyrrhena</i>	0.5							
<i>Philocheras trispinosus</i>		2	1	1	1	0.5	0.5	1
<i>Phyllodoce groenlandica</i>								
<i>Pinnotheres pisum</i>		0.5						
<i>Pleuronectes platessa</i>	0.5	1.5		1	2.5	0.5	1	1

Annex 4: Dredge sample data

	QT8	QT9	QT10	QT11	QT12	QT13	QT14	QT15
<i>Pomatoschistus</i> sp.	10	5.5	9		10	1.5	3.5	5
<i>Processa modica</i>	1	0.5			0.5			
<i>Scolecopsis bonnierii</i>								
<i>Solea solea</i>				1				
<i>Spisula elliptica</i>	0.5	0.5	2		2	0.5	4	3
<i>Spisula solida</i>				1				
<i>Spisula subtruncata</i>	1	1			2			
<i>Sprattus sprattus</i>	1.5	13.5	6					
<i>Syngnathus rostellatus</i>	0.5			1				
<i>Taurulus bubalis</i>		0.5						
<i>Thia scutellata</i>	5	4	1	2	3	1		7
<i>Trachurus trachurus</i>								

Annex 4: Dredge sample data

	QAW1	QAW2	QAW3	QAW4	QAW5	QAW6	QCS1A	QCS2
<i>Agonus cataphractus</i>					0.5			
<i>Ammodytes tobianus</i>				1		1		
<i>Angulus fabula</i>								
<i>Angulus tenuis</i>								
<i>Aphia minuta</i>								
<i>Arnoglossus laterna</i>	1		1	0.5	1.5	2.5	0.25	0.375
<i>Asterias rubens</i>	5	4.5		3	1.5	3.5	0.25	
<i>Buglossidium luteum</i>		7	2	6.5	8	11	1.25	2.75
<i>Callionymus species</i>	2			1	1	0.5	0.5	0.25
<i>Chamelea striatula</i>		0.5	8	0.5	46.5	4.5	0.25	
<i>Ciliata mustela</i>								
<i>Corystes cassivelaunus</i>		0.5	1			1		
<i>Crangon allmanni</i>						0.5		0.125
<i>Crangon crangon</i>	11	18.5	22	11	16.5	14		0.625
<i>Donax vittatus</i>		0.5	5	2	6.5	6.5		0.125
<i>Echiichthys vipera</i>							0.25	
<i>Echinocardium cordatum</i>	1	6	1		6	0.5	0.5	0.875
<i>Ensis directus</i>	1	0.5	4		2		1.25	0.5
<i>Ensis ensis</i>	1	3.5	23	6	21.5	15	0.5	1.625
<i>Ensis magnus</i>		0.5	1			0.5		
<i>Euspira catena</i>								
<i>Euspira nitida</i>				1	1			
<i>Hyperoplus lanceolatus</i>	1			1.5	1	1.5	2	0.75
<i>Lanice conchilega</i>								
<i>Limanda limanda</i>	2		1	1	1.5			0.125
<i>Lineus bilineatus</i>								
<i>Liocarcinus holtsatus</i>	1	0.5	1	1	2.5	2	0.5	0.25
<i>Lutraria sp.</i>					1.5			
<i>Macropodia rostrata</i>								
<i>Macra stultorum</i>						0.5		
<i>Myoxocephalus scorpius</i>								
<i>Mytilus edulis</i>								
<i>Nephtys sp.</i>	4		4	0.5	6	4	2	1.375
<i>Ophelia borealis</i>	5	2.5	15	0.5	3.5	14	20.25	13.125
<i>Ophiura albida</i>	20	38	65	58.5	41	34	9.5	7
<i>Ophiura ophiura</i>	33	47	57	41.5	92	61	0.75	0.75
<i>Pagurus bernhardus</i>	1	1		2	2	2.5		0.25
<i>Pestarella tyrrhena</i>								
<i>Philocheras trispinosus</i>	4	0.5		1	1.5	1	0.25	
<i>Phyllodoce groenlandica</i>								
<i>Pinnotheres pisum</i>								
<i>Pleuronectes platessa</i>	1	1	1	0.5	1	2		0.125

Annex 4: Dredge sample data

	QAW1	QAW2	QAW3	QAW4	QAW5	QAW6	QCS1A	QCS2
<i>Pomatoschistus</i> sp.	9	4	1	10	3	8	3	2
<i>Processa modica</i>					1			
<i>Scolecopsis bonnieri</i>		0.5						
<i>Solea solea</i>								
<i>Spisula elliptica</i>	1		19	10	14.5	14	3.5	4.5
<i>Spisula solida</i>							2	0.75
<i>Spisula subtruncata</i>			4	2	20	1.5	0.25	
<i>Sprattus sprattus</i>								
<i>Syngnathus rostellatus</i>	1	0.5						
<i>Taurulus bubalis</i>								
<i>Thia scutellata</i>	1	0.5	2	0.5	9	0.5	3.75	1.5
<i>Trachurus trachurus</i>								

	QCS3	QCS4B	QCS5	QCS6	QCS7	QCS8	QCS9
<i>Agonus cataphractus</i>							0.25
<i>Ammodytes tobianus</i>							
<i>Angulus fabula</i>							
<i>Angulus tenuis</i>							
<i>Aphia minuta</i>						0.25	
<i>Arnoglossus laterna</i>	1.5	1.5	3.25	1.5	0.5	1.5	
<i>Asterias rubens</i>	0.5	0.5	0.25			0.25	0.5
<i>Buglossidium luteum</i>	10	6.25	16.5	12.5	9.5	11.25	4.25
<i>Callionymus species</i>	2.5	1	1.5	2	0.5	0.75	0.5
<i>Chamelea striatula</i>		0.25			0.75	0.25	
<i>Ciliata mustela</i>							
<i>Corystes cassivelaunus</i>		0.25			0.25		
<i>Crangon allmanni</i>						0.25	
<i>Crangon crangon</i>	9	4.75	6.75	8	2.75	8	4.5
<i>Donax vittatus</i>				0.5	0.25	0.5	0.25
<i>Echiichthys vipera</i>	0.5		1.5	0.5	0.25	0.5	0.5
<i>Echinocardium cordatum</i>	5	0.5	3.25	4	0.5	5.25	2.75
<i>Ensis directus</i>	5	1.75	1.75	3.5	12.25	3	4
<i>Ensis ensis</i>	5.5	5.5	6	6	2.75	4.5	6.5
<i>Ensis magnus</i>							
<i>Euspira catena</i>							
<i>Euspira nitida</i>							
<i>Hyperoplus lanceolatus</i>	5.5	1.5	3	6	0.5	4.5	2.75
<i>Lanice conchilega</i>							
<i>Limanda limanda</i>	0.5	0.75	1	1			
<i>Lineus bilineatus</i>							
<i>Liocarcinus holtsatus</i>	3	1.5	1.5	2	2	0.5	0.25
<i>Lutraria sp.</i>					0.75		
<i>Macropodia rostrata</i>							
<i>Macra stultorum</i>							
<i>Myoxocephalus scorpius</i>							
<i>Mytilus edulis</i>							
<i>Nephtys sp.</i>	3.5	1.25	2.75	3	2.5	4.75	5.75
<i>Ophelia borealis</i>	35.5	12	13.25	34.5	12.5	12.5	17.5
<i>Ophiura albida</i>	40	26.5	22	35	12.25	23.25	24.5
<i>Ophiura ophiura</i>	6.5	9.75	5	4	7.75	8.25	4.25
<i>Pagurus bernhardus</i>	1	0.75	3	2.5	0.25	1	0.25
<i>Pestarella tyrrhena</i>			1.25		0.25	0.25	
<i>Philocheras trispinosus</i>	2	0.25	6.5	3.5	0.25	2	0.25
<i>Phyllodoce groenlandica</i>							
<i>Pinnotheres pisum</i>							
<i>Pleuronectes platessa</i>	2	0.25	1	1	0.5	1	

Annex 4: Dredge sample data

	QCS3	QCS4B	QCS5	QCS6	QCS7	QCS8	QCS9
<i>Pomatoschistus</i> sp.	8	11.25	13.25	14.5	7.5	5.25	2.5
<i>Processa modica</i>			0.25		0.75	0.75	
<i>Scolecopsis bonnierii</i>							
<i>Solea solea</i>					0.25	0.5	0.5
<i>Spisula elliptica</i>	22	8.75	11.5	15.5	11	10.5	8
<i>Spisula solida</i>	3	1	1.25	4	1.25	1.75	1.75
<i>Spisula subtruncata</i>							
<i>Sprattus sprattus</i>							
<i>Syngnathus rostellatus</i>						0.25	
<i>Taurulus bubalis</i>							
<i>Thia scutellata</i>	8.5	6	6.25	3.5	8.5	8.75	4.5
<i>Trachurus trachurus</i>							

Annex 4b: Benthic dredge biomass data (g AFDW/100m²)

	QCN1	QCN2	QCN3	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Agonus cataphractus</i>							0.110	
<i>Ammodytes tobianus</i>								
<i>Angulus fabula</i>	0.092					0.005	11.172	6.693
<i>Angulus tenuis</i>								
<i>Aphia minuta</i>								
<i>Arnoglossus laterna</i>								
<i>Asterias rubens</i>	14.783	14.366			7.833	0.791	4.336	
<i>Buglossidium luteum</i>	0.370	0.055	0.210	0.915	0.423	0.905	1.105	0.450
<i>Callionymus species</i>	1.220	0.055		0.065	0.023			
<i>Chamelea striatula</i>	0.637	1.956	0.951	0.650	0.684	1.148	1.530	0.660
<i>Ciliata mustela</i>								
<i>Corystes cassivelaunus</i>								
<i>Crangon allmanni</i>								
<i>Crangon crangon</i>	0.875	0.842	0.545	0.050	1.592	1.163	1.007	1.221
<i>Donax vittatus</i>	1.057	1.585	1.207	0.127	0.328	1.721	2.090	2.035
<i>Echiichthys vipera</i>								
<i>Echinocardium cordatum</i>	21.605	15.088	1.207	11.246	3.406	10.102	16.813	5.659
<i>Ensis directus</i>	1.361					0.600	1.053	
<i>Ensis ensis</i>	0.214	1.961		6.525	2.464	3.106	0.474	0.182
<i>Ensis magnus</i>	1.033	3.889	2.397	0.803	2.177	1.666	0.476	1.327
<i>Euspira catena</i>						0.230		
<i>Euspira nitida</i>	0.048					0.019	0.189	0.143
<i>Hyperoplus lanceolatus</i>			1.680	0.965	0.178	0.753	0.140	0.370
<i>Lanice conchilega</i>	0.314	1.770		3.449	0.206	0.125	0.144	1.103
<i>Limanda limanda</i>	10.625	4.515	1.305	2.210	1.500	6.535	7.790	3.340
<i>Lineus bilineatus</i>		0.127		0.067			0.058	
<i>Liocarcinus holosatus</i>	5.676	8.102	4.802	7.277	3.127	5.544	3.383	6.798
<i>Lutraria</i> sp.				0.400		0.497	0.927	
<i>Macropodia rostrata</i>						0.066		
<i>Macra stultorum</i>						0.308		
<i>Myoxocephalus scorpius</i>								
<i>Mytilus edulis</i>								
<i>Nephtys</i> sp.	0.938	3.348	0.955	0.041	0.396	1.297	1.105	3.399
<i>Ophelia borealis</i>	0.122	0.070	0.068	0.485	0.891	0.281	0.026	
<i>Ophiura albida</i>	0.650	0.351	0.338	0.878	0.744	0.432	0.111	0.208
<i>Ophiura ophiura</i>	10.049	6.279	7.456	7.040	10.787	11.525	9.555	11.219
<i>Pagurus bernhardus</i>	4.945		2.368	0.322	1.359	1.045	1.747	0.027
<i>Pestarella tyrrhena</i>								
<i>Philocheras trispinosus</i>					0.008			
<i>Phyllodoce groenlandica</i>								
<i>Pinnotheres pisum</i>								
<i>Pleuronectes platessa</i>				2.920		3.065	7.470	5.800

Annex 4: Dredge sample data

	QCN1	QCN2	QCN3	QCN4	QCN5	QCN6	QCN7	QCN8
<i>Pomatoschistus</i> sp.	1.210	0.220	0.120	0.440	0.773	0.793	0.680	0.250
<i>Processa modica</i>					0.058	0.025	0.033	
<i>Scolecopsis bonnier</i>								
<i>Solea solea</i>	6.095	0.925						
<i>Spisula elliptica</i>	0.286	0.425	0.157	0.023	1.529	0.669		0.047
<i>Spisula solida</i>		0.195	0.736	0.258	0.785	0.340		
<i>Spisula subtruncata</i>	0.793	0.066		0.139	0.029	0.457	0.474	0.553
<i>Sprattus sprattus</i>								
<i>Syngnathus rostellatus</i>		0.005			0.010	0.005	0.010	
<i>Taurulus bubalis</i>								
<i>Thia scutellata</i>	0.264	1.766	0.759	0.710	0.528	0.990	1.650	2.063
<i>Trachurus trachurus</i>								

Annex 4: Dredge sample data

	QCN9	QT1	QT2	QT3	QT4	QT5	QT6	QT7
<i>Agonus cataphractus</i>								
<i>Ammodytes tobianus</i>	0.178							
<i>Angulus fabula</i>	0.193							
<i>Angulus tenuis</i>	0.058							
<i>Aphia minuta</i>		0.010						
<i>Arnoglossus laterna</i>		0.478	0.050	0.020	0.470			0.728
<i>Asterias rubens</i>	7.906	12.886	5.077	6.004	9.477		0.742	3.550
<i>Buglossidium luteum</i>	2.220	3.113	2.215	1.973	1.170	1.340	1.130	0.365
<i>Callionymus species</i>		0.813	1.408	0.053	0.070	0.100	0.038	0.220
<i>Chamelea striatula</i>	0.379	0.125	0.269	0.068	0.158	0.127	0.200	0.141
<i>Ciliata mustela</i>								
<i>Corystes cassivelaunus</i>		0.825		0.833				0.718
<i>Crangon allmanni</i>	0.149			0.091				0.083
<i>Crangon crangon</i>	4.043	6.064	3.003	4.942	4.455	3.630	1.337	3.416
<i>Donax vittatus</i>	1.101	0.166	0.419					
<i>Echiichthys vipera</i>								0.050
<i>Echinocardium cordatum</i>	14.445	0.420	0.788	3.609	0.351			15.559
<i>Ensis directus</i>	1.417		1.161					
<i>Ensis ensis</i>	1.196	0.175	0.230		0.808		0.320	0.425
<i>Ensis magnus</i>	0.646	2.090	1.006	0.986	0.898	1.461	0.511	0.782
<i>Euspira catena</i>								
<i>Euspira nitida</i>	0.042	0.006						
<i>Hyperoplus lanceolatus</i>		0.063	0.025		0.740		0.150	0.690
<i>Lanice conchilega</i>								
<i>Limanda limanda</i>	0.540	1.948	1.783	1.368	2.020		1.583	2.015
<i>Lineus bilineatus</i>								
<i>Liocarcinus holsatus</i>	5.676			1.188	2.624	14.124	1.345	
<i>Lutraria</i> sp.	0.206							
<i>Macropodia rostrata</i>								
<i>Macra stultorum</i>								
<i>Myoxocephalus scorpius</i>								
<i>Mytilus edulis</i>								0.176
<i>Nephtys</i> sp.	3.008	0.126	0.009	0.676	0.019			0.292
<i>Ophelia borealis</i>	0.024	0.153	0.091	0.159	0.113	0.389	0.071	0.050
<i>Ophiura albida</i>	0.068	0.913	0.527	1.342	1.073	0.416	0.218	0.172
<i>Ophiura ophiura</i>	12.961	9.165	4.280	12.181	8.723	9.360	2.964	3.003
<i>Pagurus bernhardus</i>	0.706	1.897		1.558	2.556		0.486	1.339
<i>Pestarella tyrrhena</i>		0.074		0.017	0.132			
<i>Philocheras trispinosus</i>	0.025	0.050	0.272	0.041			0.041	0.083
<i>Phyllodoce groenlandica</i>		0.039						
<i>Pinnotheres pisum</i>								
<i>Pleuronectes platessa</i>	0.198	4.418	0.725	7.243				0.255

Annex 4: Dredge sample data

[illegible]

Annex 4: Dredge sample data

	QT8	QT9	QT10	QT11	QT12	QT13	QT14	QT15
<i>Agonus cataphractus</i>								
<i>Ammodytes tobianus</i>		0.300					0.233	
<i>Angulus fabula</i>								
<i>Angulus tenuis</i>								
<i>Aphia minuta</i>								
<i>Arnoglossus laterna</i>	0.028		0.040	0.030	0.485	0.485	0.013	0.055
<i>Asterias rubens</i>	4.511	25.162	2.173	2.483	12.828	3.337	8.454	0.970
<i>Buglossidium luteum</i>	3.600	1.508	1.240	1.320	2.228	0.873	0.055	0.770
<i>Callionymus species</i>	0.023	0.720	0.185	0.175	0.028	0.065	0.148	0.205
<i>Chamelea striatula</i>	0.210	0.119			0.070		0.589	0.469
<i>Ciliata mustela</i>			1.605					
<i>Corystes cassivelaunus</i>	1.163			0.231				
<i>Crangon allmanni</i>	0.050						0.041	
<i>Crangon crangon</i>	4.480	4.653	4.703	2.393	2.566	4.100	2.582	3.548
<i>Donax vittatus</i>	0.058		0.200	0.716			0.204	
<i>Echiichthys vipera</i>								0.060
<i>Echinocardium cordatum</i>	9.524	2.422	2.608	5.635		0.999		12.860
<i>Ensis directus</i>								
<i>Ensis ensis</i>			2.105					1.602
<i>Ensis magnus</i>	0.646	0.246	0.724	4.374	0.356	0.772	0.743	0.870
<i>Euspira catena</i>								
<i>Euspira nitida</i>					0.003		0.006	
<i>Hyperoplus lanceolatus</i>			1.675	0.915		0.058	0.065	0.115
<i>Lanice conchilega</i>								
<i>Limanda limanda</i>	1.363				0.138	1.245	2.328	3.795
<i>Lineus bilineatus</i>					0.012			
<i>Liocarcinus holtsatus</i>		1.196	6.699	5.561	0.858	0.347		2.079
<i>Lutraria</i> sp.								
<i>Macropodia rostrata</i>								
<i>Macra stultorum</i>								
<i>Myoxocephalus scorpius</i>		0.753						
<i>Mytilus edulis</i>								
<i>Nephtys</i> sp.	0.227	0.723	0.289		0.011	0.041	0.056	0.361
<i>Ophelia borealis</i>	0.056	0.035	0.361	0.700	0.057	0.073	0.267	0.392
<i>Ophiura albida</i>	0.952	0.923	0.377	0.293	1.453	0.364	0.705	0.598
<i>Ophiura ophiura</i>	8.473	4.989	8.736	2.334	1.476	5.145	7.124	3.874
<i>Pagurus bernhardus</i>	2.017	1.388	2.031		0.787	1.122	1.222	3.217
<i>Pestarella tyrrhena</i>	0.074							
<i>Philocheras trispinosus</i>		0.058	0.050	0.017	0.017	0.017	0.017	0.017
<i>Phyllodoce groenlandica</i>								
<i>Pinnotheres pisum</i>		0.008						
<i>Pleuronectes platessa</i>	1.738	6.228		4.340	9.018	0.583	2.093	0.450

Annex 4: Dredge sample data

	QT8	QT9	QT10	QT11	QT12	QT13	QT14	QT15
<i>Pomatoschistus</i> sp.	0.690	0.385	0.320		0.668	0.115	0.203	0.235
<i>Processa modica</i>	0.008	0.008			0.008			
<i>Scolecopsis bonnieri</i>								
<i>Solea solea</i>				3.385				
<i>Spisula elliptica</i>	0.032	0.056	0.307		0.080	0.039	0.489	0.303
<i>Spisula solida</i>				0.299				
<i>Spisula subtruncata</i>	0.041	0.046			0.083			
<i>Sprattus sprattus</i>	0.008	0.085	1.390					
<i>Syngnathus rostellatus</i>	0.010			0.020				
<i>Taurulus bubalis</i>		0.440						
<i>Thia scutellata</i>	0.586	0.677	0.124	0.195	0.297	0.215		1.122
<i>Trachurus trachurus</i>								

Annex 4: Dredge sample data

	QAW1	QAW2	QAW3	QAW4	QAW5	QAW6	QCS1A	QCS2
<i>Agonus cataphractus</i>					0.118			
<i>Ammodytes tobianus</i>				0.103		0.338		
<i>Angulus fabula</i>								
<i>Angulus tenuis</i>								
<i>Aphia minuta</i>								
<i>Arnoglossus laterna</i>	0.400		1.235	0.078	0.038	0.410	0.099	0.014
<i>Asterias rubens</i>	6.092	4.932		3.662	7.872	1.586	0.012	
<i>Buglossidium luteum</i>		2.040	0.480	1.805	1.443	2.900	0.325	1.061
<i>Callionymus species</i>	0.465			0.150	0.385	0.030	0.035	0.010
<i>Chamelea striatula</i>		0.064	0.515	0.010	3.478	0.550	0.009	
<i>Ciliata mustela</i>								
<i>Corystes cassivelaunus</i>		0.652	1.716			1.939		
<i>Crangon allmanni</i>						0.041		0.006
<i>Crangon crangon</i>	5.561	5.255	4.983	3.102	4.488	4.076		0.182
<i>Donax vittatus</i>		0.096	0.822	0.399	0.891	1.303		0.036
<i>Echiichthys vipera</i>								
<i>Echinocardium cordatum</i>	0.643	5.211	1.547		3.660	0.606	0.591	0.669
<i>Ensis directus</i>		0.591	1.071			0.307		
<i>Ensis ensis</i>	0.511	0.362	2.209		1.714		0.529	0.352
<i>Ensis magnus</i>	0.150	0.462	2.747	0.718	2.115	2.048	0.035	0.239
<i>Euspira catena</i>								
<i>Euspira nitida</i>				0.200	0.019			
<i>Hyperoplus lanceolatus</i>	0.075			0.710	0.525	0.365	0.821	0.076
<i>Lanice conchilega</i>								
<i>Limanda limanda</i>	1.295		1.160	2.485	1.653			0.046
<i>Lineus bilineatus</i>								
<i>Liocarcinus holtsatus</i>	1.980	0.660	0.495	1.106	2.739	2.665	0.516	0.171
<i>Lutraria</i> sp.					0.673			
<i>Macropodia rostrata</i>								
<i>Macra stultorum</i>						0.192		
<i>Myoxocephalus scorpius</i>								
<i>Mytilus edulis</i>								
<i>Nephtys</i> sp.	0.052		0.375	0.007	0.681	0.307	0.758	0.296
<i>Ophelia borealis</i>	0.251	0.048	0.421	0.014	0.104	0.460	0.601	0.596
<i>Ophiura albida</i>	0.767	1.550	2.314	2.161	1.651	1.222	0.190	0.163
<i>Ophiura ophiura</i>	6.377	6.464	9.653	6.263	18.363	11.551	0.127	0.169
<i>Pagurus bernhardus</i>	1.144	0.578		0.497	1.099	1.404		0.115
<i>Pestarella tyrrhena</i>								
<i>Philocheras trispinosus</i>	0.099	0.008		0.025	0.050	0.008	0.004	
<i>Phyllodoce groenlandica</i>								
<i>Pinnotheres pisum</i>								
<i>Pleuronectes platessa</i>	4.515	0.980	17.860	0.445	1.280	1.940		0.242

Annex 4: Dredge sample data

	QAW1	QAW2	QAW3	QAW4	QAW5	QAW6	QCS1A	QCS2
<i>Pomatoschistus</i> sp.	0.290	0.220	0.015	0.520	0.125	0.405	0.075	0.078
<i>Processa modica</i>					0.014			
<i>Scolecopsis bonnieri</i>		0.002						
<i>Solea solea</i>								
<i>Spisula elliptica</i>	0.081		1.325	0.934	0.837	1.506	0.086	0.466
<i>Spisula solida</i>							0.797	0.277
<i>Spisula subtruncata</i>			0.157	0.063	0.956	0.036	0.006	
<i>Sprattus sprattus</i>								
<i>Syngnathus rostellatus</i>	0.010	0.008						
<i>Taurulus bubalis</i>								
<i>Thia scutellata</i>	0.083	0.066	0.330	0.091	1.642	0.074	0.619	0.305
<i>Trachurus trachurus</i>								

	QCS3	QCS4B	QCS5	QCS6	QCS7	QCS8	QCS9
<i>Agonus cataphractus</i>							0.035
<i>Ammodytes tobianus</i>							
<i>Angulus fabula</i>							
<i>Angulus tenuis</i>							
<i>Aphia minuta</i>						0.003	
<i>Arnoglossus laterna</i>	0.298	0.398	0.950	0.455	0.020	0.294	
<i>Asterias rubens</i>	2.537	0.728	0.051			0.766	2.127
<i>Buglossidium luteum</i>	3.235	2.395	5.304	3.698	3.055	3.398	0.991
<i>Callionymus species</i>	0.325	0.093	0.399	0.398	0.138	0.060	0.081
<i>Chamelea striatula</i>		0.048			0.164	0.040	
<i>Ciliata mustela</i>							
<i>Corystes cassivelaunus</i>		0.330			0.260		
<i>Crangon allmanni</i>						0.021	
<i>Crangon crangon</i>	2.376	0.998	1.374	1.807	0.672	1.646	1.139
<i>Donax vittatus</i>				0.091	0.040	0.126	0.036
<i>Echiichthys vipera</i>	0.013		0.299	0.065	0.129	0.405	0.295
<i>Echinocardium cordatum</i>	4.847	0.392	2.518	5.129	0.184	4.275	2.190
<i>Ensis directus</i>							
<i>Ensis ensis</i>	2.320	1.518	0.686	3.083	6.595	1.459	2.649
<i>Ensis magnus</i>	0.889	0.825	1.203	1.019	0.406	0.635	1.146
<i>Euspira catena</i>							
<i>Euspira nitida</i>							
<i>Hyperoplus lanceolatus</i>	0.898	0.483	0.529	0.623	0.241	0.968	0.663
<i>Lanice conchilega</i>							
<i>Limanda limanda</i>	0.358	1.630	0.228	0.133			
<i>Lineus bilineatus</i>							
<i>Liocarcinus holtsatus</i>	3.713	2.244	2.327	7.574	2.549	0.879	0.582
<i>Lutraria sp.</i>					0.151		
<i>Macropodia rostrata</i>							
<i>Macra stultorum</i>							
<i>Myoxocephalus scorpius</i>							
<i>Mytilus edulis</i>							
<i>Nephtys sp.</i>	1.146	0.613	0.934	0.069	1.518	0.821	0.890
<i>Ophelia borealis</i>	1.418	0.403	0.711	1.536	0.401	0.279	0.648
<i>Ophiura albida</i>	1.021	0.670	0.595	0.962	0.380	0.479	0.853
<i>Ophiura ophiura</i>	2.135	0.700	0.769	1.112	2.187	2.646	1.375
<i>Pagurus bernhardus</i>	1.281	0.127	1.004	2.543	0.053	0.241	0.033
<i>Pestarella tyrrhena</i>			0.388		0.173	0.066	
<i>Philocheras trispinosus</i>	0.099	0.008	0.198	0.132	0.004	0.050	0.008
<i>Phyllodoce groenlandica</i>							
<i>Pinnotheres pisum</i>							
<i>Pleuronectes platessa</i>	5.308	0.228	1.244	0.618	0.840	1.250	

Annex 4: Dredge sample data

	QCS3	QCS4B	QCS5	QCS6	QCS7	QCS8	QCS9
<i>Pomatoschistus</i> sp.	0.263	0.429	0.431	0.538	0.328	0.190	0.074
<i>Processa modica</i>			0.004		0.012	0.012	
<i>Scolecopsis bonnier</i>							
<i>Solea solea</i>					1.229	1.129	1.478
<i>Spisula elliptica</i>	2.024	0.781	11.426	2.055	0.899	0.673	0.847
<i>Spisula solida</i>	0.757	0.303	0.599	1.457	0.545	0.921	0.691
<i>Spisula subtruncata</i>							
<i>Sprattus sprattus</i>							
<i>Syngnathus rostellatus</i>						0.003	
<i>Taurulus bubalis</i>							
<i>Thia scutellata</i>	1.427	0.903	0.912	0.536	1.415	1.170	0.718
<i>Trachurus trachurus</i>							

Annex 5: Physical variables

Sample	Median particle size (µm)	Clay (%)	Sand (%)	Organic matter (%)
QCN1	307	0.427	98.702	0.487
QCN2	293	0.000	100.000	0.519
QCN3.1	323	0.372	99.122	0.425
QCN4	241	3.585	95.125	0.738
QCN5	226	4.572	93.391	0.931
QCN6	290	0.000	100.000	0.532
QCN7	243	0.000	100.000	0.712
QCN8	252	3.007	95.878	0.632
QCN9	241	3.578	95.212	0.764
QCN10	226	3.801	94.823	0.926
QCN11.2	277	0.000	100.000	0.533
QCN12	239	0.000	100.000	0.648
QCN13.1	251	0.000	100.000	0.671
QCN14	254	3.723	94.893	0.739
QCN15.4	236	3.795	94.865	0.762
QCN16	267	0.289	98.923	0.483
QCN17	259	0.414	98.775	0.619
QCN18	250	0.000	100.000	0.750
QCN19	232	3.460	95.116	0.909
QCN20	240	0.000	100.000	0.792
QCN21	272	0.400	98.783	0.625
QCN22	277	0.000	100.000	0.532
QCN23.2	269	0.000	100.000	0.599
QCN24	239	0.000	100.000	0.776
QCN25	246	0.000	99.999	1.101
QT1	300	0.000	100.000	0.575
QT2.4	293	0.000	100.000	0.773
QT3	306	0.000	100.000	0.600
QT4	289	0.000	100.000	0.578
QT5	274	0.000	100.000	0.628
QT6.2	280	0.000	100.000	0.645
QT7	284	0.000	100.000	0.695
QT8	299	0.000	100.000	0.605
QT9	253	0.374	98.812	0.698
QT10.0	287	0.000	99.999	0.777
QT11	282	0.000	100.000	0.824
QT12	240	0.288	98.682	0.788
QT13	281	0.000	100.000	0.690
QT14	281	0.596	98.516	0.662
QT15	251	2.565	96.117	0.688
QT16	250	2.598	95.970	0.938
QT18.0	274	0.000	100.000	0.706
QT19	272	0.000	100.000	0.709
QT20	248	2.987	95.280	0.967
QT21.0	262	0.000	100.000	0.735
QT22	282	0.000	100.000	0.646
QT23	282	0.000	100.000	0.667
QT24	277	0.000	100.000	0.720
QT25	279	0.000	100.000	0.687

Annex 5: Physical variables

Sample	Median particle size (µm)	Clay (%)	Sand (%)	Organic matter (%)
QT26	285	0.000	100.000	0.723
QT27	282	0.000	100.000	0.734
QT28	276	0.000	99.999	0.852
QT29	291	0.000	100.000	0.680
QT30	276	0.000	100.000	0.738
QT31	311	0.000	100.000	0.590
QT32	274	0.000	100.000	0.782
QT33.0	284	0.000	100.000	0.758
QT34	276	0.000	100.000	0.688
QT35	276	0.000	100.000	0.715
QT36	273	0.000	100.000	0.646
QT37	292	0.000	100.000	0.640
QT38	301	0.000	100.000	0.571
QT39	263	0.000	100.000	0.686
QT40.0	273	0.000	100.000	0.778
QT41	282	0.000	100.000	0.634
QT42	302	0.000	100.000	0.576
QT43	295	0.000	100.000	0.640
QT44.0	282	0.000	100.000	0.660
QT45	279	0.110	99.660	1.100
QT46	293	0.000	100.000	0.663
QT47	292	0.000	100.000	0.756
QT48	282	0.000	100.000	0.774
QAW1.4	295	0.000	100.000	0.609
QAW2.3	276	0.000	100.000	0.661
QAW3.2	266	0.000	100.000	0.712
QAW4.1	298	0.000	100.000	0.612
QAW5.3	284	0.000	100.000	0.671
QAW6.4	291	0.000	100.000	0.676
QCS1	287	0.000	100.000	0.681
QCS2	315	0.000	100.000	0.718
QCS3.1	300	0.000	100.000	0.592
QCS4	326	0.000	100.000	0.571
QCS5	318	0.000	100.000	0.525
QCS6	296	0.000	100.000	0.652
QCS7	295	0.000	99.999	0.677
QCS8	294	3.815	93.502	1.187
QCS9	319	0.000	99.999	0.575
QCS10	320	0.000	100.000	0.546
QCS11.0	302	0.000	100.000	0.617
QCS12	310	0.000	100.000	0.774
QCS13.3	296	0.000	100.000	0.712
QCS14	300	0.000	100.000	0.796
QCS15.0	303	0.131	99.584	0.653
QCS16	322	0.000	99.999	0.530
QCS17	316	0.000	100.000	0.541
QCS18	339	0.000	100.000	0.557
QCS19	303	0.000	100.000	0.613
QCS20	312	0.000	100.000	0.847
QCS21	316	0.000	100.000	0.564
QCS22	296	0.000	100.000	0.693
QCS23.0	306	0.000	100.000	0.637
QCS24	325	0.000	100.000	0.538
QCS25	317	0.000	100.000	0.504

