

Physico-chemical characteristics of Port Curtis and their influence on the community composition of bottom dwelling fauna

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Summary

Spatial patterns in benthic infaunal community structure of Port Curtis estuary (north-eastern Australia) were determined from quantitative grab samples and examined in relation to environmental variables. A total of 149 riverine, estuarine and open coastal stations were sampled during the survey, and 5744 individuals and 466 species identified. Filter-feeding organisms (primarily polychaetes, molluscs and crustaceans) dominated the bedforms, and accounted for 50% of the total species abundance and 30% of the total species richness. Most taxa were uncommon, and 98% of species individually represented less than 2% of the total abundance. Distributional patterns in total species richness and abundance were highly correlated, and both parameters varied significantly with sediment structure. Numbers of species and individuals were typically highest in coarse-sand and gravel sediments, and lowest in fine, well-sorted, sands. Cluster analysis of species abundance data revealed nine community groupings characterised by small species subsets with restricted distributions. These groupings were found to be primarily related to measures of depth, salinity, dissolved oxygen and sediment structure. Not all variation in community structure was explained by these environmental variables, and it is likely that other unmeasured factors play an important role in determining benthic faunal composition in the estuary.

1. Introduction

Macrobenthic communities are important functional components of estuarine ecosystems. These organisms play a significant role in the diets of many shorebird and fish species, and can profoundly influence the abundance and species composition of these tertiary consumers (Bottom and Jones, 1990; Skagen and Oman, 1996; Stillman et al., 2000). Macrobenthic invertebrates also play an integral role in the recycling of nutrients, and conservation of water quality within estuarine systems (Harris, 1999; Peterson and Heck, 1999). Understanding benthic community structure, and the factors underpinning it, is therefore essential to the better management of these waterways.

Multiple biotic and abiotic factors are reported to affect the distributional patterns of shallow-water benthic fauna. Major physical influences include depth (Gray, 1981), sediment structure (Butman and Grassle, 1992; Sundberg and Kennedy, 1993), salinity (Gaston and Nasci, 1988), and hydrology (Pearson and Rosenberg, 1987), while important biological factors include predation (Peterson, 1979; Kneib, 1991), competition (Wilson, 1990; Peterson and Andre, 1980) and recruitment (Butman, 1987; Olafsson et al., 1994). Estuarine benthos may also respond to a range of human-induced impacts where present, including organic enrichment (Pearson and Rosenberg, 1978), chemical pollution (Warwick, 1988) and commercial fishing activity (Currie and Parry, 1996). Because the list of structuring forces is potentially very long, and varies according to characteristics of the estuary, generalizations on the dominant structuring processes for estuarine benthos are often difficult to define.

Relatively few studies undertake large scale field assessments of the defining characteristics of soft-sediment habitats (Constable, 1999). Previous research in Australia has concentrated on highly modified and populated estuaries (Stephenson et al., 1974; Poore et al., 1975; Coleman et al., 1978), and principally examined factors influencing the distributions of individual species. More recent studies have examined the importance of environmental factors in explaining patterns in community structure between less populated regional estuaries (Edgar et al., 1999; Hirst, 2004). These temperate water studies have generally concluded that salinity predominantly structures diversity and community composition of estuarine macrobenthic fauna.

The importance of salinity in structuring estuarine benthos in non-temperate regions is unclear. Latitudinal variation in climate, notably rainfall, runoff and net precipitation, exert major controls over the salinity regimes of estuaries (Heggie and Skyring, 1999). Models derived for temperate regions may therefore have little relevance in tropical and sub-tropical provinces. Additionally, patterns defined for Australian estuaries may not necessarily conform with those elsewhere, particularly given the continent's peculiar biogeography and unusually low rainfall characteristics (Harris, 2001). Unfortunately, tropical and subtropical macrobenthos are rarely studied (Alongi, 1990; Hutchings, 1999), and virtually no published data are available to confirm or challenge current temperate water paradigms.

In an effort to redress the paucity of information for macrobenthos in non-temperate zones, the present study concentrates on structural forcing in a sub-tropical estuarine system. Specifically, it examines the composition and distribution of benthic infauna and their relationships with a range of environmental factors. Relative contributions of each environmental factor to observed spatial patterns are identified, and key determinants discussed in a regional and global context.

2. Materials and methods

2.1 *Macrobenthos*

Spatial variations in the benthic community structure of Port Curtis were determined from quantitative grab samples collected at 149 sampling stations. These stations were arranged on 2 adjacent grid arrays (1.5km² - inner harbour; 3km² - outer harbour) that extended to cover the entire body of the port (Fig. 1). This sampling design included riverine, estuarine and open coastal reaches of the waterway, and encompassed bedforms of varying depth throughout the study area.

All sampling was conducted over a seven-week winter period (17 July to 3 September 2002) using two vessels with customised grabs. A light-weight 0.1m² van Veen grab was primarily used for sampling soft muddy sediments in the inner harbour, while a heavier 0.1m² Smith McIntyre grab was employed for sampling firm sand and shell-sand substrates in the outer harbour. Except for differences in weight, both grabs were armed with identical sized buckets and collected similar volumes of sediment. However, to limit variation in efficiency between grabs, all samples were weighed following removal of the supernatant liquid and only those containing 10kg or above retained.

A total of 3 replicate grabs were collected from each of the 149 sampling stations with the skipper holding the vessel on site without anchor. Navigation to all stations was undertaken with a differential GPS that provided an accuracy of 3m or less in 95% of fixes (Appendix 1). All grabs collected were sieved on a 1mm mesh screen and the fauna retained preserved in 5% formaldehyde solution. This fauna was later sorted in the laboratory to the highest taxonomic level (generally species) before being counted (Appendices 2, 3 & 4).

2.2 *Sediment*

Two sediment sub-samples (70ml and 10ml) were retained from each replicate grab sample prior to sieving. These fractions were collected from the surface layer by scraping an open vial across the top of each sample. The sediments collected were snap-frozen and stored at -20°C, before being examined for size structure and organic carbon content.

The 70ml sediment sub-samples were wet-sieved through an agitated stack of Endecott sieves, with apertures of 2mm, 1mm, 500µm, 250µm, 125µm and 63µm. Fractions retained on each sieve were oven dried (105°C) and weighed, and their

masses used to estimate the median diameter of the sediment in each grab (Appendix 5). This parameter was subsequently used to investigate relationships between faunal composition and sediment structure.

Correlations between faunal composition and the amount of organic material in the sediments were also investigated. 10ml of sediment from each grab was oven dried (105°C for 24h) to remove all moisture. The sample was then ground to a talcum-power consistency in a mortar and pestle, and the carbonates removed by acid digestion (20ml, 0.5M HCl for 1h). Following washing in distilled water the sediment samples were oven-dried (105°C for 24h) and weighed. The samples were then ashed in a muffle furnace (660°C for 1h), before being reweighed. The percentage organic carbon content of each grab sample was estimated from the loss in weight following ignition.

2.3 Water chemistry

A comprehensive water quality survey was undertaken at the same time as the grab sampling study. Measures of water temperature, salinity, pH and dissolved oxygen content were collected from each of the 149 sampling station using an automated water quality analyser (YeoKal 611TM). This instrument was preset to acquire data at 1m intervals, and was lowered on a weighted cable through the water column at each station immediately prior to grabbing. Turbidity of the water column at each sampling station was measured using a 30cm diameter Secchi disk. This was lowered on a metered rope beneath the research vessel until no longer visible, and the depth at which this occurred was recorded. Measures of total chlorophyll concentration were also determined for surface waters at each sampling station following the procedures detailed in ISO 10260 (1992).

Because it was recognised that sampling of water quality parameters would occur over an extended period (~7weeks), a control site was established to standardise temporal variation. This control site was located at channel marker A8 near the centre of the study area, approximately 500m north-east of the mouth of Auckland Creek (Fig. 1). Measures for all water quality parameters under study were collected from this location each morning before sampling elsewhere. All results presented here have been standardised to water quality conditions observed on the first day of sampling (17 July 2002).

2.4 Data analysis

A geographical information system (GIS) was employed to characterise and display spatial trends in environmental data. Physical, chemical and biological attributes for each sampling station were interpolated using an inverse distance weighting (IDW) algorithm (Cressie, 1993), and series of predictive maps constructed. These maps were used to visualise discontinuities between homogeneous regions and highlight patterns of similarity between variables. Relationships between each environmental variable were subsequently tested using Pearsons correlation coefficients.

Variations in benthic community structure between the 149 Port Curtis stations were examined using Bray-Curtis dissimilarity measures (Bray and Curtis, 1957). This dissimilarity measure was chosen because it is not affected by joint absences, it gives more weighting to abundant than rare species, and it has consistently performed well in preserving ecological distance in a variety of simulations on different types of data (Field *et al.*, 1982; Faith *et al.*, 1987). Single square root transformations were applied to the data to prevent abundant species from influencing the Bray-Curtis dissimilarity measures excessively (Clarke and Green, 1988; Clarke, 1993).

Multivariate analyses were conducted using the computer package PRIMER (Clarke and Gorley, 2001). Hierarchical agglomerative clustering was used to group sites according to their infaunal community composition, and a similarity percentage test (SIMPER) conducted to determine those species contributing most to within and between site groupings. The extent to which measured environmental variables (temperature, salinity, pH, DO, turbidity, chlorophyll, sediment structure and organic carbon) could account for observed community groupings was further tested using the BIOENV routine of Clarke and Ainsworth (1993).

3. Results

3.1 *Physical characteristics*

3.1.1 Bathymetry and hydrology

Port Curtis estuary refers here to the body of water extending between the mainland and Curtis and Facing Islands, and includes adjacent coastal waters (Fig. 1). Collectively the waterway covers an area of more than 200 km² and includes a network of creeks, inlets, shoals and channels. Water circulation patterns around these features are complex but primarily governed by a large tidal regime (>5m). Tidal current velocities vary depending upon location, but are typically highest (>5 knots) in the deep arterial channels that extend the length of the inner harbour. Most tidal exchange occurs across the wide southern entrance to the port and the deepwater channel (<20m) that runs between the mainland and Facing Island. The northern entrance between Curtis and Facing Island is, by comparison, much shallower (<3m) and narrower (<3km) and receives relatively lower volumes of water during each tidal cycle. A third tidal opening at the Narrows, in the northeast of the estuary, forms a watershed. Shallow channel beds are exposed here during low tides, and water exchange with the adjacent Fitzroy River estuary is relatively low and periodically restricted.

Approximately one-third of the estuarine bedforms are located above the mean low-water mark and may be classified as intertidal. These habitats are most extensive in the wave protected waters of the inner harbour, and typically occur as gently sloping nearshore mudflats. These mudflats often support sparse seagrass beds, and are characteristically fringed by mangrove and saltmarsh communities at their upper tidal limits. Nearshore gradients in the outer harbour are, by comparison, much steeper and intertidal habitats here are generally represented by narrow sandy beaches and occasionally small rocky outcrops. Neither of these intertidal substrates supports a prolific floral growth, and presumably reflects relatively higher levels of exposure to wave erosion.

Shallow sub-tidal sandbanks (<5m depth) comprise a further third of the bedforms in the port. These banks are primarily a feature of the outer harbour, and extend through much of the waters to the east of the southern entrance. Here the banks present a significant natural barrier to prevailing south-easterly swells, and so provide a degree of protection for inshore waters and coastal mangroves on the mainland side of the entrance. The residual port bedforms occur over a wide depth range (5 - 21m) and are principally associated with channel features in the inner harbour. These axial channels are generally shallowest in the upper reaches of the estuary, and become progressively deeper towards the southern entrance. In the outer harbour, sand banks gradually shelf offshore towards the northeast, and bedforms in this region of the estuary are located in the greatest depth of water.

3.1.2 Temperature

Marked differences in seawater temperature were observed across Port Curtis during the winter of 2002 (Fig. 2). These differences were most pronounced at the mouth of the Calliope River, where temperatures were more than 6°C higher on average than the rest of the estuary. The elevated water temperatures at this location are principally due to heated seawater discharges from a coal-fired power station, and thermal pollution from this source appears to be pervasive and influence much of the inner harbour. Less pronounced spatial trends in temperature are also evident in the outer harbour, although patterns for this region of the port are largely the result of depth-related temperature gradients. All estimates of temperature presented were averaged for the water column at each station, and therefore integrate any depth-related gradients in temperature. While depth-related temperature differences were negligible in the well-mixed waters of the inner harbour, a strong thermocline ($\Delta 1.3^{\circ}\text{C}$) was found to occur in the deeper waters of the outer harbour, and is principally responsible for the apparent decline in temperature with increasing distance offshore.

3.1.3 Salinity

Port Curtis is typically subject to large volumes of freshwater inflow and reduced salinities during the wet summer months, but generally receives little freshwater inflow during winter. Accordingly, marine conditions generally prevail in the water column through winter. In the present winter survey salinities were found to range between 35.79 and 37.36 ‰, and were broadly consistent with marine conditions. In general, salinity was greatest in the upper reaches of the port but gradually declined towards the outer harbour (Fig. 2). This small, but subtle, trend in salinity is consistent with reduced exchange and increased residence times for water in the upper harbour, and is almost certainly a function of evaporative forcing.

3.1.4 pH

Because measures of pH are strongly coupled with salinity (Table 1), spatial patterns in pH across Port Curtis closely mirror those for salinity. Values of pH were most acidic (7.79) in the upper reaches of the estuary but progressively increased in alkalinity towards the outer harbour (up to 8.47) (Fig. 2).

3.1.5 Dissolved oxygen

Dissolved oxygen concentration in Port Curtis varies inversely with temperature (Table 1). Accordingly, the distributional map of dissolved oxygen concentration displays a number of features consistent with spatial pattern in temperature (Fig. 2). In particular, the map shows that oxygen concentration levels are typically depressed in the heated waters of the inner harbour (3-5mg/L). Additionally, it shows that oxygen concentrations are greatest in the cold channel waters that extend between Facing Island and the mainland (7-8mg/L). This inverse relationship between dissolved oxygen concentration and temperature holds for much of the harbour, but is less pronounced in the open coastal waters of the port. Inconsistencies in this relationship are highlighted by the presence of oxygen saturated and oxygen depleted water of similar temperature off Facing and Hummock Islands respectively.

3.1.6 Turbidity

Secchi-disc measurements taken during the winter of 2002 demonstrate that water clarity, and by inference turbidity, are highly variable across the port waters (Fig. 2). Visibility ranged from 0.3m to 14.5m, but was generally lowest in the sheltered waters of the inner harbour and greatest offshore. This meso-scale gradient in turbidity is largely forced by tidal mixing, and broadly reflects the availability and distribution of fine sediments. Most fine sediments principally occur on intertidal banks in the inner harbour, and accordingly these wetlands are also sites of highest turbidity (Narrows, Targinie, southern Curtis Island; Figs. 1 & 2). By comparison, channels adjacent to the intertidal regions of the inner harbour are much less turbid. This observation is consistent with the knowledge that swift tidal currents operate through these channels and presumably promote bottom scour and limit settlement of fine particulate material. Some winnowing and transport of fine intertidal muds by channel currents is predicted, particularly during spring tides, and presumably contributes to the generally higher turbidity of the inner harbour.

3.1.7 Chlorophyll

Measures of chlorophyll concentrations during this winter survey were highest in shallow nearshore waters to the east of the southern entrance, and it appears that the water column here is a major site for primary production (Fig. 2). As previously described, this region of the port is the locus for most tidal exchange, and nutrient out-welling and reduced turbidity here presumably provide favourable conditions for algal growth. Elsewhere in the outer harbour, chlorophyll concentrations are generally high (>2 mg/L), except at a small number of stations to the east of Facing Island. By comparison, measures of total chlorophyll are generally lower through most reaches of the inner harbour. This broad-scale gradient in chlorophyll concentration between the inner and outer harbour, appears to be largely underpinned by differences in water chemistry. Variations in chlorophyll concentration were found to vary significantly in response to salinity, pH and dissolved oxygen levels (Table 1). Accordingly, observed spatial differences in chlorophyll concentration possibly reflect differential tolerances by algal species to these parameters. It is, of course, also likely that observed spatial differences vary in response to other unmeasured variables.

3.1.8 Sediment

Bottom sediments in Port Curtis estuary were highly variable over relatively small distances (<1.5 km), and median size classes ranged from silt and mud, through sand, to coarse-sand and gravel. Textural coarseness was found to increase significantly with depth (Table 1) consequently geographical patterns in sediments broadly reflect patterns in port bathymetry (Figs. 3 & 1). Four sedimentary facies were identified in the port. “Silts and muds” ($<63\mu\text{m}$ diam.) were largely restricted to protected intertidal flats in the inner harbour. “Fine sands” (0.06-0.25mm diam.) were found in shallow banks between Curtis and Facing Islands, and more extensively through much of the outer harbour north of Hummock Island. “Medium sands” (0.25-0.5mm diam) generally flanked channels through much the inner harbour, and also predominated in shelving waters through the outer harbour. While “Coarse sands and gravels” (>0.5 mm diam.) were primarily found in the scour holes of arterial channels and entrances, and additionally around fringing reefs (Sable Chief and East Point Ledge) on the eastern side of Facing Island.

3.1.9 Organic carbon

Total organic carbon content of sediments in Port Curtis was spatially variable (2.9 - 18.7%), and distributional patterns for this parameter closely followed trends in sediment structure (Fig. 3). Elevated levels of organic carbon ($\geq 10\%$) were generally associated with medium and coarse sediments, while low levels of organic carbon ($<10\%$) were predominantly linked with fine, unconsolidated, sands near the northern and eastern entrances to the port. Elevated levels of organic carbon were additionally prevalent in fine muds and silts in the upper harbour.

3.2 Faunal characteristics

3.2.1 Faunal composition

A total 466 species and 5744 individuals were found in the 447 grab samples collected during this study. Polychaetes, molluscs and crustaceans together accounted for more than 74% of the individuals and 84% of all species collected. Other less common taxa encountered included echinoderms, chordates, cnidarians, echiurans, sipunculids, pycnogonids, nemerteans and brachiopods.

Filter feeding organisms dominated the infaunal communities in Port Curtis, and accounted for more than 50% of the total abundance and nearly 30% of the total species richness. Deposit feeding organisms were also common, and represented more than 24% of the total abundance. The same group was also the most diverse, and accounted for 32% of the total species compliment. Other trophic groups including predators, scavengers, grazers and parasites, were rarely encountered. Collectively these feeding groups represented less than 25% of the total number of individuals, and less than 39% of the total species diversity.

The tube building anemone *Ceriantharia* sp. 3 was the most abundant species found during the study. This relatively large (3cm), suspension feeding organism represented more than 14% of the total infaunal abundance, but was poorly distributed and present at less than 4% of the sampling stations. The bivalve mollusc *Macra abbreviata* was the next most common species overall, and accounted for 12% of the combined abundance. This organism was much more widely distributed than the anemone, and was collected at more than 27% of the sampling stations. A further four species (including the bivalves *Leionuculana superba* and *Grafrium transversarium*, the ascidian *Ascidia sydneiensis*, and the polychaete worm *Eunice vittata*) were represented in 2-4% of the total. All other organisms (98% of species) were collected infrequently, and individually contributed less than 2% to the total abundance.

Species richness and abundance were highly correlated and both metrics varied significantly with sediment structure (Table 1). Distributional patterns for richness, abundance and sediment structure were therefore broadly similar (Fig. 3). In general, coarse-sand and gravel sediments supported the greatest number of species and individuals, while fine, well-sorted, sands support the least. Medium sands and silty muds, in contrast, supported intermediate densities of species and individuals. Highest species diversity (54 spp.) was recorded for a biogenic, gravel, sample collected from a channel bed at the southern entrance to the port. Other 'hotspots' of biodiversity included Jenny Lind Bank (45 spp., a fringing reef north of Hummock Island), North Entrance (39 spp.) and the Narrows (31 spp.).

3.2.2 Community structure

Nine station groupings were separated by cluster analysis of species abundance data (Fig. 4), and their corresponding distributions plotted (Fig. 5). These groupings closely reflected differences in depth and habitat type within Port Curtis (Fig. 1). Group I comprised 8 stations characterised by shallow, low-diversity, fine sands (primarily located on shoals around the southern entrance to the harbour). Group II contained 6 stations chiefly defined by medium-coarse, low-diversity, sands (mainly found in shelving bedforms in the outer harbour). Group III contained 2 stations, both of which supported fine, sandy-mud, substrates and low species diversity (located in shallow nearshore water of the inner harbour). Group IV consisted of 5, low-diversity, muddy, stations (primarily shallow subtidal and sited near creek mouths in the upper harbour). Group V embraced 22 stations characterised by intertidal, low-diversity, muds (principally occurring in nearshore waters of the inner harbour). Group VI contained 6 intertidal stations with low-diversity, medium sands (principally located in nearshore reaches of the outer harbour). Group VII consisted of 16 shallow, subtidal, stations with low-diversity, fine-medium sands (primarily located in the outer harbour). Group VIII contained 43 shallow, subtidal, stations with high-diversity fine-medium sand and mud (primarily on channels banks). And Group IX, contained 41 deep, subtidal, stations with high-diversity, coarse sand and gravel bedforms (located mainly in channel beds).

SIMPER analysis was undertaken to assess which species contributed most to similarities within and differences between the nine station groupings. Abundances of the 36 species contributing $\geq 5\%$ to within-group similarity or between-group dissimilarity for at least one of the nine groupings are given in Table 2. The average within-group similarity ranged from 10 to 30%, and between group dissimilarity ranged from 93 to 99%. Most station groups (I-VII) were characterised by relatively small subsets of species with restricted distributions. Other groups (VIII & IX) with generally higher diversity were differentiated by varying proportions of co-occurring species.

The PRIMER routine BIOENV was used to assess the correspondence and significance of environmental data to the nine station groupings. The best fit was with sediment structure ($\rho_w = 0.31$), which in combination with depth, salinity and dissolved oxygen and gave a best fit of $\rho_w = 0.38$. The remaining variables (temperature, pH, turbidity, organic carbon and chlorophyll) were apparently unrelated to any pattern in station groupings ($\rho_w < 0.08$).

4. Discussion

Data presented in this study provide very strong indications that sediment structure is a primary factor underlying the distribution, abundance and community composition of benthic infauna in Port Curtis estuary. Species richness and abundance were found to be highly correlated with median grain size, and coarser sediments generally supported increased numbers of species and individuals. Strong correlations between sediment grain size and biotic composition have been previously demonstrated in many estuarine and shallow coastal environments (Sanders, 1958; Dayton, 1984; Currie and Parry, 1996; Coleman et al., 1997; Snelgrove, 1999), although observable patterns are frequently contradictory. In part, this may reflect differences between studies in the range and diversity of sediments examined, but may also reflect the effects of other factors, in particular hydrodynamic processes which affect the distribution of both sediments and fauna (Snelgrove and Butman, 1994).

Tidal circulation patterns in the Port Curtis estuary are complex and sediment composition is variable over small spatial scales (Conaghan, 1966). As a result, sedimentary facies are patchy and homogenous sediments are often geographically isolated. Patterns in benthic community structure are nonetheless closely matched with patterns in sediment texture, particularly in the inner harbour. Three community groupings identified from cluster analyses (V, VIII & IX) displayed a

high affinity with the key sedimentary classes occurring in the inner harbour, and collectively represented most sedimentary features in this region of the estuary. Specifically, Group V was intimately associated with muddy intertidal deposits and characteristically supported high densities of filter feeding bivalves (*Macra abbreviata* and *Azorinus* spp.). Group XIII, corresponded largely with medium-sand deposits occurring on channel banks, and typically supported low densities of deposit feeding bivalves *Leionuculana superba*. While Group IX, was closely related to coarse-sand and gravel sediments present in channel beds, and typically supported large numbers of sedentary filter feeders (including the ascidian *Ascidia sydneyensis* and clam *Placamen tiara*). In contrast, sediment-community relationships were less well defined in the outer harbour. Sediment structure is relatively more uniform in the outer harbour, and this region of the estuary generally supports a more diverse and patchy collection of communities. This finding suggests that sedimentary composition may be less important in structuring benthos in open coastal zones than it is in sheltered estuarine waters.

Water depth was also as an important factor in determining the community structure of benthos in Port Curtis, and largely explained the separation of discrete intertidal and subtidal communities in both the inner and outer harbour. For example, community analysis revealed that Group V (intertidal, inner harbour, mud) and Group VI (intertidal, outer harbour, medium sand), were more similar to one another than to any other community classified. These differences stem from disproportionately higher abundances of a few species in the intertidal (the polychaete *Glycera* sp.1, the bivalve *Donax veruinus* and the hermit crab *Diogenes guttatus*), and presumably reflect increased physiological tolerances in these species for life between the tide marks. While the significance of water depth for benthic communities is widely recognised in benthic ecology (Gray, 1981), depth *per se* is not expected to be a causal factor in their distribution, at least in the subtidal zone. This is because depth will co-vary with a number of other environmental variables (in this study, salinity, pH, turbidity and sediment structure), that may also affect the distribution and community composition of benthic species.

Salinity is one of the most widely studied environmental factors in estuaries, and is frequently cited as a major factor in limiting the distribution of benthic fauna (Day, 1981; Gaston and Nasci, 1988; Edgar et al., 1999; Hirst, 2004). Because marine organisms display differential tolerances to salinity, variations in this parameter can promote marked shifts in species representation and community structure. Water salinity in Port Curtis varied little over the entire waterway (< 2 ‰), however a saline gradient was evident, and salinities in the inner harbour were generally higher than those in the outer harbour. Despite the small level of variation, BIOENV analysis revealed that salinity was a significant factor in determining benthic community structure in the estuary. This result is largely explained by the presence of distinct breaks in faunal composition in accordance with discrete salinity ranges. For example, one suite of communities identified from cluster analysis (Groups I, II, VI & VII) invariably occurred in waters that were fully marine (35.7 - 36.4 ‰), while a second suite (Groups III, IV and V) were present only in salinities above 36.4 ‰. A third suite (Groups VIII & IX) spanned the complete range of salinities measured in the estuary (35.7 - 37.4 ‰) and generally weakened correlations between fauna and salinity. As a consequence, salinity was recognised as only a minor factor structuring benthos in the estuary (<9% of variation explained).

In addition to sediment, depth and salinity, dissolved oxygen content had a significant influence on benthic communities in the estuary. But like salinity, dissolved oxygen content was inconstantly matched with many community facies and the relationship was relatively weak. Benthic organisms are dependent on dissolved oxygen for processes of respiration and metabolism, and low levels can result in extinctions of species and changes in community composition (Deeley and Paling, 1999). In Port Curtis, dissolved oxygen concentrations were relatively high (3.8 to 8.2 mgL⁻¹), and generally in excess of levels considered hypoxic (<2 mgL⁻¹), or indeed levels at which causal changes in benthos have been previously

documented (Gaston *et al.*, 1998). These relatively high oxygen concentrations are consistent with good tidal mixing and water circulation within the estuary, and distributional patterns in dissolved oxygen broadly reflect areal differences in hydrology. This is demonstrated by the fact that well mixed channel waters in the estuary invariably support the highest oxygen concentrations, while waters in many isolated creeks and inlets support relatively lower concentrations. By exception, a large area of oxygen depleted water was found to occur in well mixed oceanic waters in the outer harbour, north of Hummock Island. However the same area was also the locus for elevated levels of chlorophyll, and it appears that low DO here is the net result of nutrient out-welling and localized oxygen consumption by algae.

A range of other environmental variables considered in this study (including temperature, turbidity, chlorophyll and organic carbon) had no apparent direct influence on macrobenthic community structure in the estuary, and may be considered unimportant on a system-wide scale. However, indirect and interactive effects of these and other variables may well have produced the observable patterns in benthos. Indeed, as only a third of the variation in community structure was collectively explained by sediment, depth, salinity and dissolved oxygen, it is clear that other mechanisms are important in determining the distribution and composition of macrobenthos within the estuary. Unmeasured water circulation patterns for example can influence benthic communities in several ways. Most importantly, they modify other water column processes such as near-bottom flow that bring food and new recruits to the community (Ramey and Snelgrove, 2003). In addition they may affect the structure and stability of bedforms and their suitability as sites for colonization (Thrush *et al.*, 1996). All of these processes act in concert with post-settlement processes such as disturbance (Wooden, 1999), predation (Thrush, 1999) and competition (Peterson and Andre, 1980) to influence patterns in abundance and distribution. Unfortunately in the absence of any supportive experimental studies, it is unclear just what the contributions of such factors are for benthos in Port Curtis.

Benthic fauna are considered important indicators of water quality and are used in a variety of monitoring programs to assess overall estuarine health and to determine the effects of pollution (Gray and Christie, 1983; Warwick, 1993). This is largely because benthic organisms are relatively non-mobile and tend to integrate effects of pollutants over time. As different communities may respond in different ways to the effects of a disturbance, natural spatial variation in benthos can often confound attempts to detect the effects of a disturbance. The identification and monitoring of similar but geographically discrete communities (spatially uncorrelated by disturbance or recruitment processes) is therefore a central element of good survey design. Like many estuaries world-wide, Port Curtis is the locus of a growing human population, with increasing demands on goods and services from the catchment. As the population and industries of Port Curtis region continue to grow, so too does the potential for environmental degradation. Considerable visible changes to the coastline of Port Curtis have occurred in recent times, and over 650 hectares of mangroves and 990 hectares of saltmarsh have been lost to reclamation or environmental stress since the 1940's (QDEH, 1994). Concomitant changes to water quality and the ecology of the estuarine biota are largely undetermined, as few quantitative historical data exist. If future developments within the region are to be implemented in an environmentally responsible manner, it is necessary that the estuarine resources are adequately documented and their conservation values assessed. To this end, the present study has added considerably to our knowledge of the kinds of invertebrate organisms inhabiting Port Curtis, and the mechanisms underpinning their distribution and abundance. Moreover, this study has provided a reference point for future benthic studies in the estuary, and a framework for developing more robust monitoring designs for environmental effects at spatial scales relevant to prospective human development.

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Fig. 1. Hydrographical map of Port Curtis showing the locations of 149 sampling stations (small filled circles) surveyed for benthos, sediment structure and water quality during 2002.

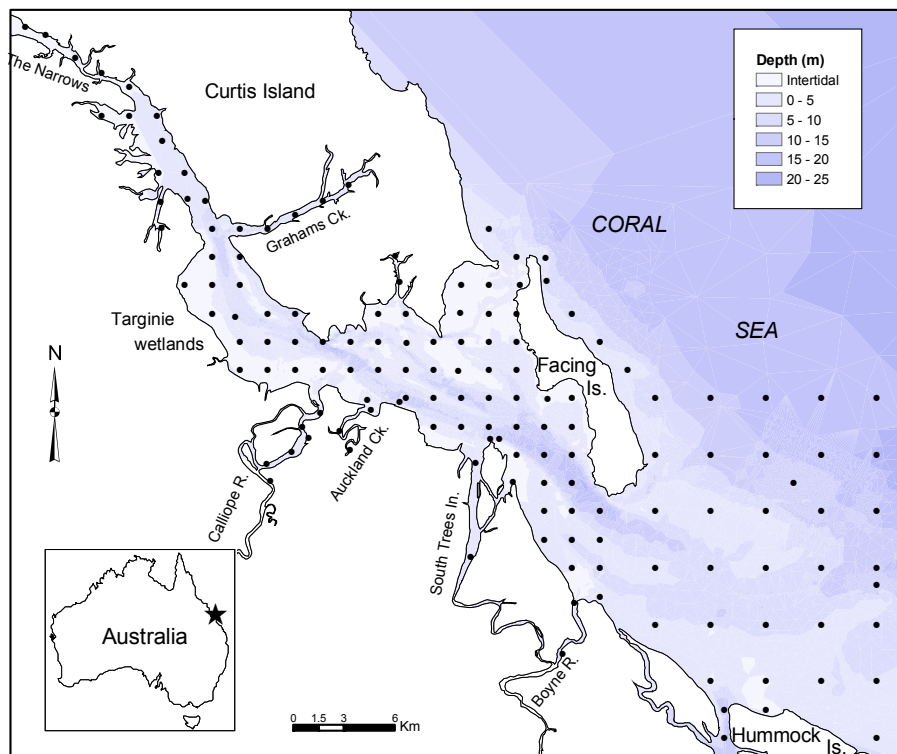


Fig. 2. Predictive maps of Port Curtis showing distributions of key water quality parameters including: (a) temperature, (b) salinity, (c) ph, (d) dissolved oxygen content, (e) turbidity and (f) total chlorophyll concentration. Note all estimates presented are derived from winter 2002 depth-profiled averages at 149 separate sampling stations (small filled circles).

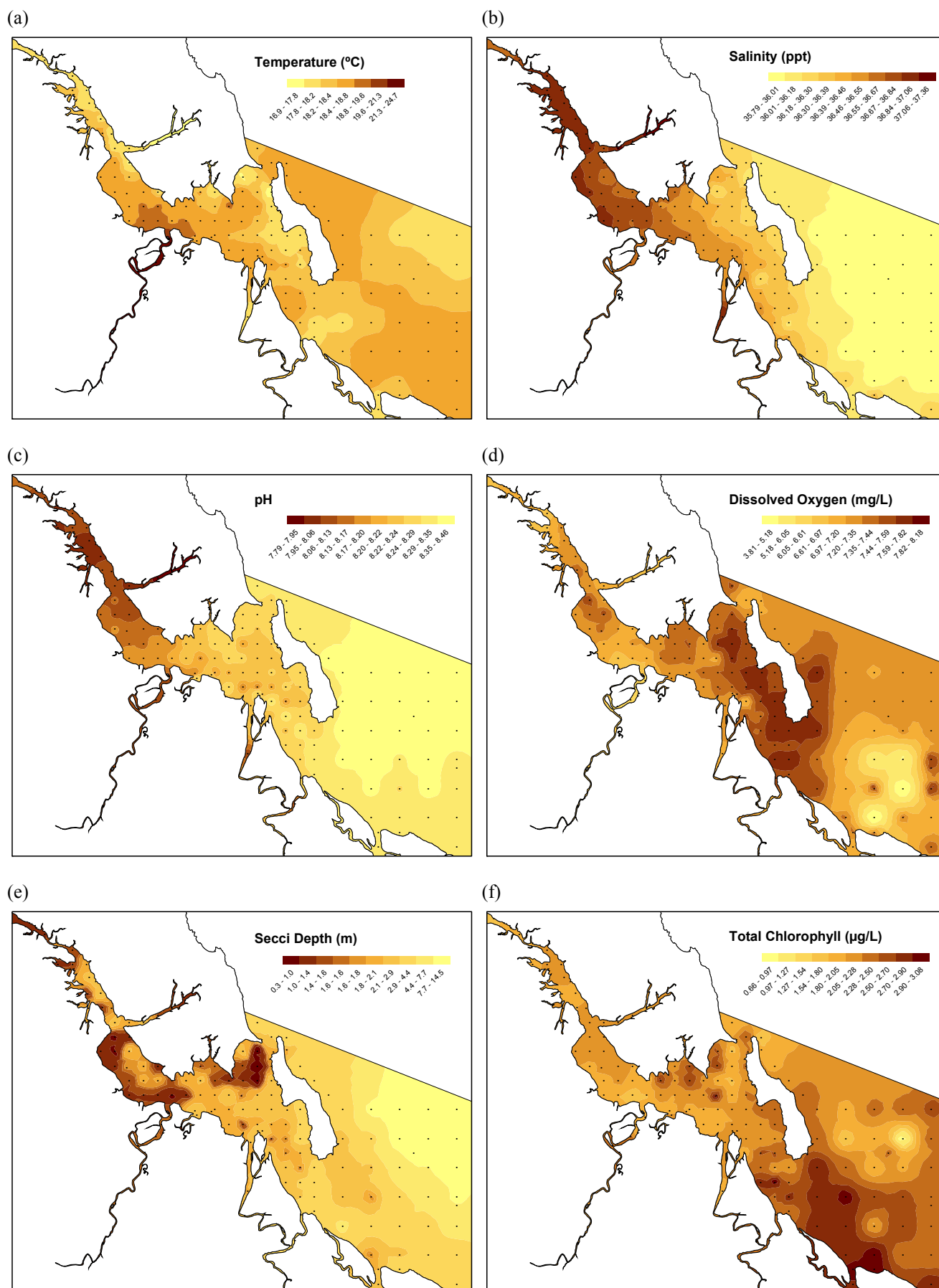


Fig. 3. Predictive maps of Port Curtis benthos showing distributions of: (a) infaunal richness, (b) infaunal abundance, (c) sediment size-structure, and (d) organic carbon content. Note estimates presented are derived from replicate samples ($n=3$) collected at 149 separate sampling stations (small filled circles).

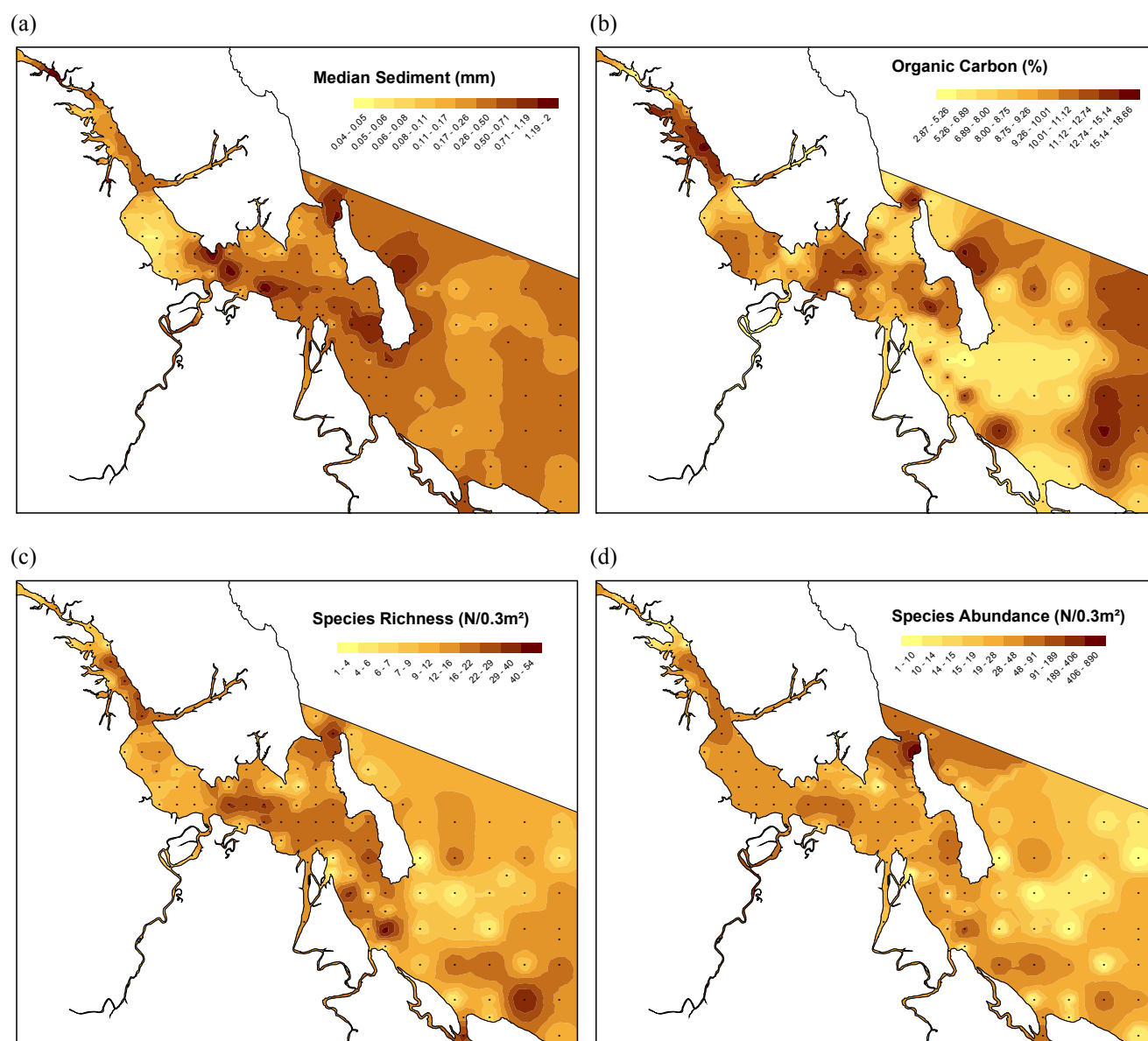


Fig. 4. Dendrogram of Bray-Curtis similarities derived from infaunal species abundance data (square root transformed). Nine station groups are identified.

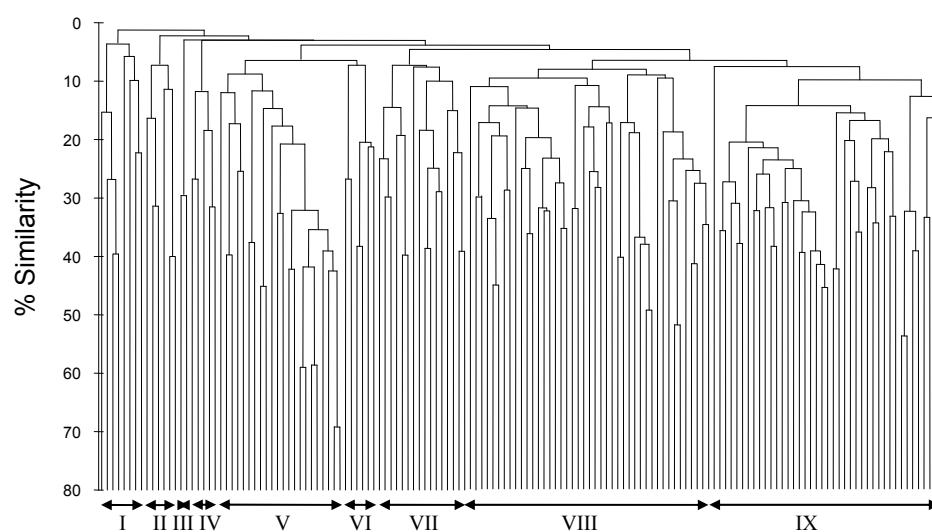


Fig. 5. Map showing the locations of 149 infaunal sampling stations and their classification into 9 groups following cluster analysis of species abundance data.

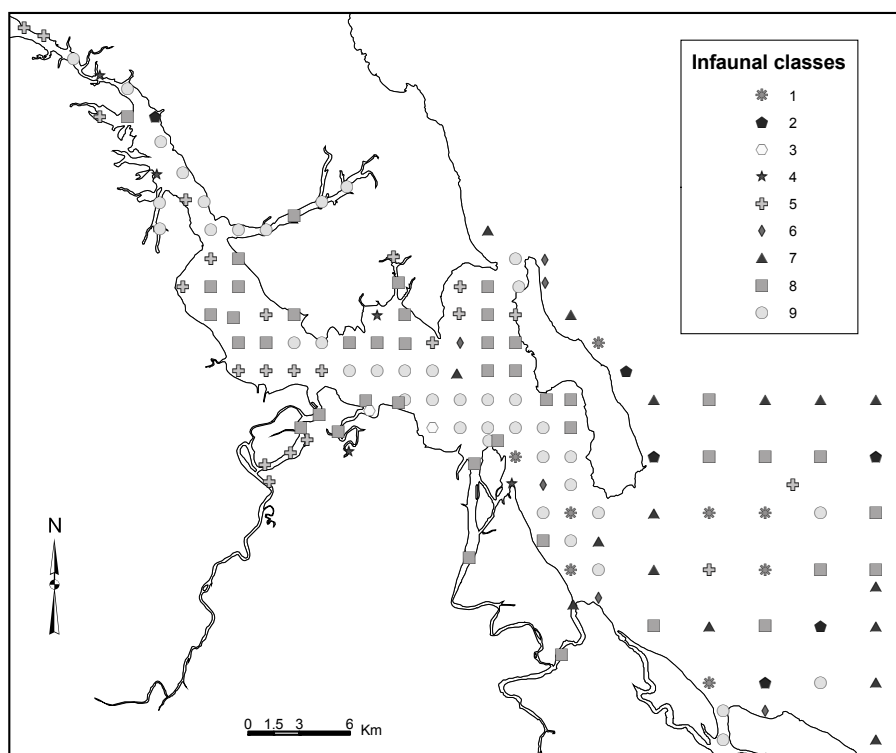


Table 1. Pearson correlation coefficients between depth, temperature, salinity, dissolved oxygen concentration, pH, turbidity (Secchi depth), total chlorophyll concentration, sediment structure, organic carbon content, and benthic species richness and abundance. Significant correlations are denoted at the: **1% level and *5% level.

	Depth	Temperature	Salinity	DO	pH	Turbidity	Chlorophyll	Sediment	Carbon	Richness
Depth	-	-	-	-	-	-	-	-	-	-
Temperature	0.08	-	-	-	-	-	-	-	-	-
Salinity	0.45**	0.01	-	-	-	-	-	-	-	-
DO	-0.06	-0.27**	0.04	-	-	-	-	-	-	-
pH	-0.44**	-0.15	-0.88**	0.08	-	-	-	-	-	-
Turbidity	-0.65**	-0.13	-0.56**	0.04	0.57**	-	-	-	-	-
Chlorophyll	-0.02	-0.02	-0.29**	-0.17*	0.26**	0.05	-	-	-	-
Sediment	-0.27**	-0.02	-0.09	0.10	0.04	-0.02	0.02	-	-	-
Carbon	-0.13	-0.13	0.04	-0.08	-0.01	0.17	-0.03	-0.07	-	-
Richness	-0.19*	-0.07	0.01	0.13	-0.09	-0.05	-0.01	0.44**	0.34**	-
Abundance	0.04	0.14	-0.01	0.01	-0.09	-0.09	0.06	0.34**	-0.02	0.37**

Table 2. Abundance (N per 0.3m²) of infaunal species in 9 regions of Port Curtis identified from hierarchical classification of species/abundance data. Species listed were identified from SIMPER analyses as contributing $\geq 5\%$ to the similarity within and dissimilarity between regional groupings. Those species indicative of each regional grouping (contributing $\geq 5\%$ to the total similarity within a group) are highlighted in bold. Species are ranked in order of decreasing abundance across all station groupings.

Phylum	Species	Diet	Station grouping								
			1	2	3	4	5	6	7	8	9
Mollusca	<i>Macra abbreviata</i>	Suspension					25.41	0.17		1.40	0.63
Polychaeta	<i>Eunice vittata</i>	Predator					0.05		0.38	0.14	4.73
Crustacea	<i>Mictyris longicarpus</i>	Scavenger	4.25								
Chordata	<i>Ascidia sydneiensis</i>	Suspension		0.83					0.13	0.05	3.05
Mollusca	<i>Azorinus</i> sp. 2	Suspension					3.41			0.05	0.02
Polychaeta	<i>Nothria</i> sp. 1	Deposit		1.17						0.21	2.10
Polychaeta	<i>Glycera</i> sp. 1	Predator	0.13				1.41	1.00	0.19	0.16	0.41
Mollusca	<i>Leionuculana superba</i>	Deposit				0.20			0.25	2.35	0.39
Polychaeta	<i>Nephtys</i> sp.1	Predator	0.13			0.80	0.32		0.06	1.16	0.46
Crustacea	<i>Alpheus pacifica</i>	Scavenger			2.00		0.05			0.37	0.44
Polychaeta	<i>Eunice</i> sp. 1	Predator			0.50					2.09	0.07
Mollusca	<i>Bivalvia</i> 42	Suspension	0.50						0.50	1.14	0.05
Mollusca	<i>Placamen tiara</i>	Suspension					0.09			0.23	1.76
Crustacea	<i>Macrophthalmus telescopicus</i>	Scavenger			1.50					0.33	
Polychaeta	<i>Leanira</i> sp. 1	Predator		0.17		0.20		0.17	0.19	0.84	0.15
Chordata	<i>Branchiostoma moretonensis</i>	Suspension							1.44	0.02	0.22
Crustacea	Tanaidacea 11	Deposit				1.00	0.41			0.05	0.10
Polychaeta	<i>Progoniada</i> sp. 1	Predator							0.31	0.65	0.49
Polychaeta	<i>Nematonereis unicornis</i>	Predator							0.19	0.02	1.22
Mollusca	<i>Corbula (Notocorbula) tunicata</i>	Suspension					0.18			0.09	1.07
Mollusca	<i>Bivalvia</i> 53	Deposit							1.06		0.17
Polychaeta	<i>Sthenelais</i> sp. 2	Predator						0.50	0.44	0.21	
Polychaeta	<i>Ophelina</i> sp. 1	Deposit				0.80	0.09			0.05	0.20
Mollusca	<i>Corbula (Serracorbula) crassa</i>	Suspension					0.05		0.44	0.16	0.46
Crustacea	<i>Urohaustorius halei</i>	Scavenger	1.00								
Polychaeta	Orbiniidae 4	Deposit	0.50				0.09		0.25	0.09	0.02
Echinodermata	Ophiuroidea 9	Deposit			0.50	0.20				0.12	0.05
Crustacea	<i>Birubius wallisae</i>	Deposit	0.50				0.05	0.17	0.06		0.05
Crustacea	<i>Rhadidopus cillatus</i>	Suspension			0.50						0.05
Crustacea	<i>Grandidierella</i> sp. 1	Scavenger				0.40				0.12	
Mollusca	<i>Donax (Tentidonax) veruinus</i>	Suspension					0.05	0.33	0.13		
Crustacea	Tanaidacea 10	Deposit							0.44		0.07
Cnidaria	Anthozoa 17	Suspension	0.25	0.17							0.07
Mollusca	<i>Marginella</i> sp. 1	Predator	0.38								
Crustacea	<i>Diogenes dubius</i>	Scavenger						0.33			
Chordata	<i>Muraenichthys breviceps</i>	Predator		0.33							

Appendix 1. Locations, dates and corrected water depths ($\pm$ mean low water spring) of 149 stations in Port Curtis sampled for macrobenthos during 2002. Note that the WGS 84 datum was employed for all position fixes.

Station	Latitude	Longitude	Date	Depth	Station	Latitude	Longitude	Date	Depth
GH001	-23.65012	151.08973	24/07/2002	-0.1	GH054	-23.80103	151.32417	08/08/2002	0.1
GH002	-23.65853	151.10367	24/07/2002	-0.2	GH055	-23.80103	151.36827	03/09/2002	-5.9
GH003	-23.66603	151.11837	24/07/2002	0.6	GH056	-23.81603	151.17717	23/07/2002	1.6
GH004	-23.68103	151.10367	24/07/2002	1.2	GH057	-23.81603	151.19187	23/07/2002	1.2
GH005	-23.68103	151.11837	24/07/2002	0.9	GH058	-23.81603	151.20657	23/07/2002	1.7
GH006	-23.68103	151.13307	30/07/2002	-4.8	GH059	-23.81603	151.22127	23/07/2002	1.7
GH007	-23.69455	151.13593	30/07/2002	-4.7	GH060	-23.81603	151.23597	19/08/2002	-0.1
GH008	-23.71135	151.13383	30/07/2002	1.3	GH061	-23.81603	151.25067	07/08/2002	-4.6
GH009	-23.71103	151.14777	30/07/2002	-4.2	GH062	-23.81603	151.26537	07/08/2002	-3.2
GH010	-23.71783	151.23472	18/07/2002	-0.7	GH063	-23.81603	151.28007	29/07/2002	-3.8
GH011	-23.72655	151.1351	30/07/2002	-1.2	GH064	-23.81667	151.29322	29/07/2002	1.1
GH012	-23.7254	151.14938	30/07/2002	0.5	GH065	-23.81603	151.30947	02/08/2002	0.3
GH013	-23.72603	151.1588	31/07/2002	-3.8	GH066	-23.81603	151.32417	08/08/2002	-0.7
GH014	-23.72603	151.22127	18/07/2002	-3	GH067	-23.81603	151.38297	03/09/2002	-4.5
GH015	-23.73353	151.20657	18/07/2002	0	GH068	-23.83885	151.21995	01/08/2002	-3.1
GH016	-23.74052	151.13553	30/07/2002	0.3	GH069	-23.83165	151.24482	01/08/2002	-2.6
GH017	-23.74103	151.16247	31/07/2002	-8.4	GH070	-23.85223	151.21362	04/08/2002	-5.1
GH018	-23.74103	151.17717	18/07/2002	-3.4	GH071	-23.83103	151.26537	05/08/2002	-15.2
GH019	-23.74103	151.19187	19/07/2002	-7.4	GH072	-23.83103	151.28007	05/08/2002	-3.9
GH020	-23.74103	151.30947	19/07/2002	-5	GH073	-23.83103	151.29477	05/08/2002	-10.1
GH021	-23.75603	151.16247	31/07/2002	1.5	GH074	-23.83103	151.30947	05/08/2002	-6.7
GH022	-23.75603	151.17717	18/07/2002	-0.1	GH075	-23.83103	151.32417	05/08/2002	-8.2
GH023	-23.75533	151.2596	07/08/2002	1.1	GH076	-23.83123	151.34052	08/08/2002	1.1
GH024	-23.75603	151.32417	03/09/2002	-3.6	GH077	-23.83103	151.35357	08/08/2002	0.9
GH025	-23.75657	151.33958	02/08/2002	-1.6	GH078	-23.83103	151.39767	03/08/2002	-6.8
GH026	-23.77103	151.14777	23/07/2002	0.7	GH079	-23.83103	151.42707	02/09/2002	-13.1
GH027	-23.77103	151.16247	31/07/2002	0.2	GH080	-23.83103	151.45647	02/09/2002	-17.2
GH028	-23.77103	151.17717	18/07/2002	-3.8	GH081	-23.83103	151.48587	02/09/2002	-16.1
GH029	-23.7692	151.26193	07/08/2002	-5.2	GH082	-23.83103	151.51527	02/09/2002	-21.1
GH030	-23.77103	151.29477	08/08/2002	1.2	GH083	-23.84603	151.21025	01/08/2002	-1.1
GH031	-23.77103	151.30947	02/08/2002	0.4	GH084	-23.84603	151.28007	29/07/2002	-1
GH032	-23.77113	151.32592	22/08/2002	0.9	GH085	-23.84603	151.29477	29/07/2002	-4.5
GH033	-23.76893	151.33988	03/09/2002	-2	GH086	-23.84603	151.30947	05/08/2002	-7.8
GH034	-23.78603	151.16247	23/07/2002	3.9	GH087	-23.84603	151.32417	05/08/2002	-10.3
GH035	-23.78772	151.17452	31/07/2002	-3.6	GH088	-23.84603	151.33887	05/08/2002	-9.2
GH036	-23.78603	151.19187	07/08/2002	1.4	GH089	-23.84603	151.35357	08/08/2002	0.8
GH037	-23.78603	151.20657	18/07/2002	-4	GH090	-23.8592	151.20463	01/08/2002	0
GH038	-23.78603	151.25067	07/08/2002	0.6	GH091	-23.86103	151.32417	15/08/2002	1.3
GH039	-23.78603	151.26537	01/08/2002	-4.5	GH092	-23.86103	151.33887	05/08/2002	-17.2
GH040	-23.78542	151.29417	22/08/2002	0.4	GH093	-23.86103	151.35357	05/08/2002	-8.9
GH041	-23.78603	151.30947	02/08/2002	0.9	GH094	-23.86103	151.39767	03/09/2002	-4.3
GH042	-23.78603	151.32417	08/08/2002	1.3	GH095	-23.86103	151.42707	02/09/2002	-11.1
GH043	-23.78603	151.35357	03/09/2002	-6.2	GH096	-23.86103	151.45647	02/09/2002	-13.2
GH044	-23.80103	151.17717	23/07/2002	0	GH097	-23.86103	151.48587	02/09/2002	-17.2
GH045	-23.80103	151.19187	07/08/2002	-3.2	GH098	-23.86103	151.51527	02/09/2002	-19
GH046	-23.80103	151.20657	19/08/2002	-9.4	GH099	-23.86577	151.1912	01/08/2002	-2.7
GH047	-23.80103	151.22127	19/08/2002	-6.6	GH100	-23.87478	151.1933	01/08/2002	-4.8
GH048	-23.80103	151.23597	01/08/2002	-1.8	GH101	-23.87522	151.32215	26/07/2002	-9.5
GH049	-23.80103	151.25067	07/08/2002	1.2	GH102	-23.87603	151.33887	08/08/2002	0.7
GH050	-23.80138	151.26563	01/08/2002	0.5	GH103	-23.87603	151.35357	30/08/2002	-14.8
GH051	-23.80103	151.28007	29/07/2002	2	GH104	-23.89103	151.33887	25/07/2002	-2.8
GH052	-23.80103	151.29477	02/08/2002	0.4	GH105	-23.89103	151.35357	15/08/2002	0.2
GH053	-23.80103	151.30947	02/08/2002	0.3	GH106	-23.89103	151.36827	05/08/2002	-15.7

Station	Latitude	Longitude	Date	Depth
GH107	-23.89103	151.39767	30/08/2002	-1.7
GH108	-23.89103	151.42707	02/09/2002	-1
GH109	-23.89103	151.45647	02/09/2002	-4.3
GH110	-23.89103	151.48587	02/09/2002	-11.2
GH111	-23.89103	151.51527	02/09/2002	-15
GH112	-23.90603	151.33887	25/07/2002	0.4
GH113	-23.90603	151.35357	15/07/2002	-6.5
GH114	-23.90603	151.36827	17/07/2002	-2.6
GH115	-23.92103	151.35357	17/07/2002	1.3
GH116	-23.92103	151.36827	30/08/2002	-5.4
GH117	-23.92103	151.39767	30/08/2002	-3.6
GH118	-23.92103	151.42707	30/08/2002	-14.9
GH119	-23.92103	151.45647	30/08/2002	-3.5
GH120	-23.92103	151.48587	30/08/2002	-15.3
GH121	-23.92103	151.51527	03/09/2002	-12.9
GH122	-23.93603	151.36827	17/07/2002	-1.1
GH123	-23.95103	151.39767	25/07/2002	-3.3
GH124	-23.95103	151.42707	30/08/2002	-7.5
GH125	-23.95103	151.45647	03/09/2002	-8
GH126	-23.95103	151.48587	30/08/2002	-3.4
GH127	-23.95103	151.51527	03/09/2002	-8.5
GH128	-23.98103	151.42707	23/07/2002	1.7
GH129	-23.98103	151.45647	30/08/2002	1.5
GH130	-23.98103	151.48587	03/09/2002	-3.5
GH131	-23.98103	151.51527	03/09/2002	-3.7
GH132	-23.99603	151.43442	30/08/2002	-12.3
GH133	-23.99603	151.45647	18/07/2002	2
GH134	-24.01103	151.43442	30/08/2002	-13.4
GH135	-24.01103	151.51527	25/07/2002	-1
GH136	-23.63822	151.07397	24/07/2002	1.6
GH137	-23.63367	151.06338	24/07/2002	1.8
GH138	-23.83285	151.26205	29/07/2002	-8.1
GH139	-23.85263	151.31012	29/07/2002	-7.6
GH140	-23.85283	151.31487	26/07/2002	-2
GH141	-23.86492	151.30243	29/07/2002	-2.7
GH142	-23.91506	151.29965	29/07/2002	-1.6
GH143	-23.93951	151.35474	26/07/2002	-2
GH144	-23.96627	151.34847	26/07/2002	-1
GH145	-23.83688	151.24683	09/08/2002	-3
GH146	-23.87603	151.47117	02/08/2002	-10.2
GH147	-23.92985	151.51527	03/09/2002	-10.7
GH148	-23.84823	151.23018	20/08/2002	-0.7
GH149	-23.85805	151.23583	20/08/2002	0.9

Appendix 2. Taxonomic and functional classification of 466 species collected during a grab sampling survey of 149 Port Curtis stations during 2002. All species codes given here refer to type material lodged in the Central Queensland University marine reference collection in Gladstone.

Phylum	Class	Family	Diet	Species	Code
Cnidaria	Anthozoa	Actinaria F?	suspension	Anthozoa 4	V9
Cnidaria	Anthozoa	Anthozoa F?	suspension	Anthozoa 5	V10
Cnidaria	Anthozoa	Anthozoa F?	suspension	Ceriantharia 3	V21
Cnidaria	Anthozoa	Anthozoa F?	suspension	Anthozoa 17	V25
Cnidaria	Anthozoa	Anthozoa F?	suspension	Ceriantharia 4	V26
Cnidaria	Anthozoa	Anthozoa F?	suspension	Anthozoa 19	V28
Cnidaria	Anthozoa	Anthozoa F?	suspension	Anthozoa 20	V29
Cnidaria	Anthozoa	Anthozoa F?	suspension	Anthozoa 21	V30
Cnidaria	Anthozoa	Virgulariidae	suspension	Virgularia sp. 1	V18
Cnidaria	Anthozoa	Anthozoa F?	suspension	Anthozoa 11	V5
Nemertea	Nemertea	Nemertea F?	predator	Nemertea 1	N1
Nemertea	Nemertea	Nemertea F?	predator	Nemertea 7	N5
Nemertea	Nemertea	Nemertea F?	predator	Nemertea 8	N6
Nemertea	Nemertea	Nemertea F?	predator	Nemertea 9	N7
Nemertea	Nemertea	Nemertea F?	predator	Nemertea 10	N8
Mollusca	Polyplacophora	Polyplacophora F?	grazer	Polyplacophora 1	K1
Mollusca	Polyplacophora	Polyplacophora F?	grazer	Polyplacophora 2	K2
Mollusca	Gastropoda	Acanthochitonidae	grazer	Acanthochitonidae 1	K7
Mollusca	Gastropoda	Atyidae	grazer	Cyclichna sp. 1	G10
Mollusca	Gastropoda	Atyidae	grazer	Haminoea wallasi	G11
Mollusca	Gastropoda	Atyidae	grazer	Gastropoda 146	G184
Mollusca	Gastropoda	Atyidae	grazer	Gastropoda 184	G289
Mollusca	Gastropoda	Atyidae	grazer	Atys cylindricus	G9
Mollusca	Gastropoda	Cancellaridae	grazer	Trigonostoma obliquata	G16
Mollusca	Gastropoda	Chitonidae	grazer	Chitonidae 1	K6
Mollusca	Gastropoda	Chitonidae	grazer	Chitonidae 2	K8
Mollusca	Gastropoda	Collumbellidae	predator	Collumbellidae 1	G20
Mollusca	Gastropoda	Collumbellidae	predator	Mitrella sp. 1	G291
Mollusca	Gastropoda	Conidae	predator	Conus aureus	G292
Mollusca	Gastropoda	Epitoniidae	predator	Epitonium sp. 4	G40
Mollusca	Gastropoda	Fissurellidae	grazer	Fissurellidae 1	G48
Mollusca	Gastropoda	Marginellidae	predator	Marginella sp. 1	G61
Mollusca	Gastropoda	Muricidae	predator	Gastropoda 129	G168
Mollusca	Gastropoda	Muricidae	predator	Gastropoda 165	G203
Mollusca	Gastropoda	Muricidae	predator	Bedeva hanleyi	G63
Mollusca	Gastropoda	Nassariidae	predator	Gastropoda 46	G115
Mollusca	Gastropoda	Nassariidae	predator	Nassarius dorsatus	G71
Mollusca	Gastropoda	Nassariidae	predator	Nassarius sp. 1	G72
Mollusca	Gastropoda	Nassariidae	predator	Nassarius sp. 3	G74
Mollusca	Gastropoda	Nassariidae	predator	Nassarius sp. 4	G75
Mollusca	Gastropoda	Nassariidae	predator	Plicarcularia burchardi	G82
Mollusca	Gastropoda	Naticidae	predator	Polinices didyma	G294
Mollusca	Gastropoda	Naticidae	predator	Natica collei	G295
Mollusca	Gastropoda	Naticidae	predator	Natica euzona	G84
Mollusca	Gastropoda	Naticidae	predator	Neverita sp. 1	G86
Mollusca	Gastropoda	Naticidae	predator	Naticidae 3	G89
Mollusca	Gastropoda	Naticidae	predator	Naticidae 5	G91
Mollusca	Gastropoda	Naticidae	predator	Polinices sp. 1	G94
Mollusca	Gastropoda	Neritidae	grazer	Neritina ovalaniensis	G98
Mollusca	Gastropoda	Patellidae	grazer	Patellidae 1	G243

Phylum	Class	Family	Diet	Species	Code
Mollusca	Gastropoda	Potamididae	grazer	Potamididae 1	G226
Mollusca	Gastropoda	Potamididae	grazer	Potamididae 8	G231
Mollusca	Gastropoda	Pyramidellidae	grazer	Gastropoda 8	G106
Mollusca	Gastropoda	Rissoidae	grazer	Rissoidae 1	G245
Mollusca	Gastropoda	Terebridae	predator	Gastropoda 171	G209
Mollusca	Gastropoda	Triphoridae	predator	Notosinister maculosa	G251
Mollusca	Gastropoda	Trochidae	grazer	Euchelus atratus	G254
Mollusca	Gastropoda	Trochidae	grazer	Trochidae 18	G258
Mollusca	Gastropoda	Turbinellidae	predator	Tudivasum armigera	G293
Mollusca	Gastropoda	Turbinidae	grazer	Gastropoda 113	G154
Mollusca	Gastropoda	Turbinidae	grazer	Gastropoda 153	G191
Mollusca	Gastropoda	Turbinidae	grazer	Gastropoda 162	G200
Mollusca	Gastropoda	Turritellidae	grazer	Turritellidae 1	G272
Mollusca	Gastropoda	Turritellidae	grazer	Turritella sp. 1	G273
Mollusca	Bivalvia	Aloididae	suspension	Corbula (Serracorbula) crassa	B1
Mollusca	Bivalvia	Arcidae	suspension	Arcidae 1	B2
Mollusca	Bivalvia	Arcidae	suspension	Arca (Arca) navicularis	B221
Mollusca	Bivalvia	Arcidae	suspension	Arcidae 3	B4
Mollusca	Bivalvia	Arcidae	suspension	Trisidos tortuosa	B5
Mollusca	Bivalvia	Arcidae	suspension	Bivalvia 35	B62
Mollusca	Bivalvia	Cardiidae	suspension	Ctenocardia (Ctenocardia) sp.	B220
Mollusca	Bivalvia	Carditidae	suspension	Cardita incrassata	B16
Mollusca	Bivalvia	Carditidae	suspension	Carditella (Carditellona) torresi	B17
Mollusca	Bivalvia	Chamidae	suspension	Chama 2	B191
Mollusca	Bivalvia	Chamidae	suspension	Chama sp. 1	B7
Mollusca	Bivalvia	Chamidae	suspension	Chamidae 1	B8
Mollusca	Bivalvia	Chamidae	suspension	Chama limbula	B85
Mollusca	Bivalvia	Corbulidae	suspension	Corbula (Notocorbula) tunicata	B11
Mollusca	Bivalvia	Corbulidae	suspension	Corbula sp. 3	B219
Mollusca	Bivalvia	Corbulidae	suspension	Hiatella australis	B52
Mollusca	Bivalvia	Crassatellidae	suspension	Talabrica sp.	B215
Mollusca	Bivalvia	Cuspidaridae	suspension	Cuspidaria sp. 1	B20
Mollusca	Bivalvia	Cuspidaridae	suspension	Cuspidaridae 1	B21
Mollusca	Bivalvia	Cuspidaridae	suspension	Cuspidaridae 2	B48
Mollusca	Bivalvia	Donacidae	suspension	Donax (Tentidona) veruinus	B195
Mollusca	Bivalvia	Donacidae	suspension	Donax sp. 1	B212
Mollusca	Bivalvia	Galeommatidae	suspension	Scintillona sp.	B185
Mollusca	Bivalvia	Galeommatidae	suspension	Mysella sp. 1	B210
Mollusca	Bivalvia	Galeommatidae	suspension	Tellimya sp.	B217
Mollusca	Bivalvia	Graphaeidae	suspension	Hytissa hyotis	B99
Mollusca	Bivalvia	Laternulidae	suspension	Laternula rostrata	B190
Mollusca	Bivalvia	Limidae	suspension	Limaria sp. 1	B24
Mollusca	Bivalvia	Limopsidae	suspension	Limopsis sp. 3	B200
Mollusca	Bivalvia	Limopsidae	suspension	Limopsis sp. 2	B201
Mollusca	Bivalvia	Lucinidae	suspension	Linga sp.	B193
Mollusca	Bivalvia	Lucinidae	suspension	Lucinidae 1	B214
Mollusca	Bivalvia	Lucinidae	suspension	Antigona (Antigona) lamellaris	B216
Mollusca	Bivalvia	Lucinidae	suspension	Anodontia omissa	B26
Mollusca	Bivalvia	Lucinidae	suspension	Bivalvia 45	B72
Mollusca	Bivalvia	Mactridae	suspension	Lutraria sp.	B207
Mollusca	Bivalvia	Mactridae	suspension	Mactra (Nannomactra) sp. 2	B208
Mollusca	Bivalvia	Mactridae	suspension	Mactra sp. 3	B213
Mollusca	Bivalvia	Mactridae	suspension	Mactra abbreviata	B28
Mollusca	Bivalvia	Malleidae	suspension	Malleidae 1	B32

Phylum	Class	Family	Diet	Species	Code
Mollusca	Bivalvia	Mesodesmatidae	suspension	Paphies cunata	B34
Mollusca	Bivalvia	Mesodesmatidae	suspension	Pahies heterodon	B35
Mollusca	Bivalvia	Myidae	suspension	Cryptoma sp. 1	B43
Mollusca	Bivalvia	Myochamidae	suspension	Myadora pulleini	B196
Mollusca	Bivalvia	Myochamidae	suspension	Myadora sp. 1	B36
Mollusca	Bivalvia	Mytilidae	suspension	Mytilidae 2	B181
Mollusca	Bivalvia	Mytilidae	suspension	Brachidontes subramosa	B189
Mollusca	Bivalvia	Mytilidae	suspension	Modiolus sp. 1	B40
Mollusca	Bivalvia	Mytilidae	suspension	Mytilidae 1	B41
Mollusca	Bivalvia	Nuculanidae	suspension	Nuculana corbuloides	B178
Mollusca	Bivalvia	Nuculanidae	suspension	Nuclana (Scaededa) crassa	B182
Mollusca	Bivalvia	Nuculanidae	suspension	Nuculana darwini	B45
Mollusca	Bivalvia	Ostreidae	suspension	Crassostrea gigas	B183
Mollusca	Bivalvia	Ostreidae	suspension	Ostrea edulis	B184
Mollusca	Bivalvia	Ostreidae	suspension	Saccostrea glomerata	B227
Mollusca	Bivalvia	Ostreidae	suspension	Saccostrea sp.	B55
Mollusca	Bivalvia	Pectinidae	suspension	Mimachlamys gloriosa	B119
Mollusca	Bivalvia	Pinnidae	suspension	Pinnidae 1	B121
Mollusca	Bivalvia	Psammobiidae	deposit	Gari sp. 1	B127
Mollusca	Bivalvia	Psammobiidae	deposit	Gari sp. 2	B128
Mollusca	Bivalvia	Psammobiidae	deposit	Soletellina sp. 1	B129
Mollusca	Bivalvia	Psammobiidae	deposit	Soletellina sp. 2	B194
Mollusca	Bivalvia	Psammobiidae	deposit	Gari gracilentia	B199
Mollusca	Bivalvia	Psammobiidae	deposit	Gari sp.3	B202
Mollusca	Bivalvia	Psammobiidae	deposit	Gari weinkauffi	B205
Mollusca	Bivalvia	Pteridae	suspension	Pinctada sp. 1	B125
Mollusca	Bivalvia	Pteriidae	suspension	Pinctada maculata	B98
Mollusca	Bivalvia	Semelidae	deposit	Leionuculana superba	B131
Mollusca	Bivalvia	Semelidae	deposit	Soletellina petalina	B132
Mollusca	Bivalvia	Solecurtidae	suspension	Azorinus sp. 1	B133
Mollusca	Bivalvia	Solecurtidae	suspension	Azorinus sp. 2	B134
Mollusca	Bivalvia	Solecurtidae	suspension	Azorinus sp. 3	B135
Mollusca	Bivalvia	Solecurtidae	suspension	Solecurtidae 1	B138
Mollusca	Bivalvia	Solecurtidae	suspension	Pharella wardi	B140
Mollusca	Bivalvia	Solecurtidae	suspension	Azorinus minutus	B203
Mollusca	Bivalvia	Solenidae	suspension	Solen sp. 1	B141
Mollusca	Bivalvia	Solenidae	suspension	Bivalvia 91	B218
Mollusca	Bivalvia	Tellinidae	deposit	Bivalvia 74	B101
Mollusca	Bivalvia	Tellinidae	deposit	Strigilla euronion	B147
Mollusca	Bivalvia	Tellinidae	deposit	Strigilla sp. 1	B148
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 2	B150
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 3	B151
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 4	B152
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 5	B153
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 6	B154
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 7	B155
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 14	B187
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 15	B204
Mollusca	Bivalvia	Tellinidae	deposit	Eruilia rubra	B206
Mollusca	Bivalvia	Tellinidae	deposit	Tellina (Cadella) diluta	B211
Mollusca	Bivalvia	Tellinidae	deposit	Tellina sp. 16	B222
Mollusca	Bivalvia	Tellinidae	deposit	Macoma (Psammacoma) sp.	B225
Mollusca	Bivalvia	Tellinidae	deposit	Tellina (Merisca) sp. 17	B226
Mollusca	Bivalvia	Tellinidae	deposit	Tellina (Cadella) obtusalis	B230

Phylum	Class	Family	Diet	Species	Code
Mollusca	Bivalvia	Tellinidae	deposit	Tellina (Pistris) serricostata	B77
Mollusca	Bivalvia	Tellinidae	deposit	Bivalvia 51	B78
Mollusca	Bivalvia	Tellinidae	deposit	Bivalvia 53	B80
Mollusca	Bivalvia	Veneridae	suspension	Bivalvia 78	B105
Mollusca	Bivalvia	Veneridae	suspension	Antigona materna	B162
Mollusca	Bivalvia	Veneridae	suspension	Veneridae 1	B164
Mollusca	Bivalvia	Veneridae	suspension	Veneridae 2	B165
Mollusca	Bivalvia	Veneridae	suspension	Veneridae 3	B166
Mollusca	Bivalvia	Veneridae	suspension	Timoclea (Timoclea) infans	B169
Mollusca	Bivalvia	Veneridae	suspension	Paphia sp. 1	B170
Mollusca	Bivalvia	Veneridae	suspension	Pitar trevori	B174
Mollusca	Bivalvia	Veneridae	suspension	Placamen tiara	B175
Mollusca	Bivalvia	Veneridae	suspension	Paphia undulata	B176
Mollusca	Bivalvia	Veneridae	suspension	Circe sulcata	B186
Mollusca	Bivalvia	Veneridae	suspension	Paphia exarata	B188
Mollusca	Bivalvia	Veneridae	suspension	Globivenus embrithes	B197
Mollusca	Bivalvia	Veneridae	suspension	Timoclea lionata	B198
Mollusca	Bivalvia	Veneridae	suspension	Callista (Costacallista) sp.	B223
Mollusca	Bivalvia	Veneridae	suspension	Pitar (Pitarina) queenslandica	B224
Mollusca	Bivalvia	Veneridae	suspension	Tawera subnodulosa	B56
Mollusca	Bivalvia	Veneridae	suspension	Grafrum transversarium	B58
Mollusca	Bivalvia	Veneridae	suspension	Bivalvia 42	B69
Mollusca	Scaphopoda	Dentalidae	suspension	Dentalium javanum	T1
Mollusca	Scaphopoda	Dentalidae	suspension	Dentalium sp. 1	T2
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 11	S11
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 12	S12
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 13	S13
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 14	S14
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 15	S15
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 2	S2
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 3	S3
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 5	S5
Sipuncula	Sipuncula	Sipuncula F?	deposit	Sipuncula 6	S6
Echuiira	Echuiira	Echuiira F?	deposit	Echiuran 3	D2
Echuiira	Echuiira	Echuiira F?	deposit	Echiuran 4	D3
Echuiira	Echuiira	Echuiira F?	deposit	Echiuran 5	D4
Echuiira	Echuiira	Echuiira F?	deposit	Echiuran 6	D5
Echuiira	Echuiira	Echuiira F?	deposit	Echiuran 7	D6
Annelida	Polychaeta	Ampharetidae	deposit	Isolda pulchella	P4
Annelida	Polychaeta	Ampharetidae	deposit	Ampharetidae 1	P5
Annelida	Polychaeta	Ampharetinae	deposit	Samytha sp. 1	P8
Annelida	Polychaeta	Amphinomidae	predator	Amphinomidae 2	P191
Annelida	Polychaeta	Amphinomidae	predator	Amphinomidae 1	P2
Annelida	Polychaeta	Amphinomidae	predator	Amphinomidae 3	P216
Annelida	Polychaeta	Amphinomidae	predator	Amphinomidae 4	P234
Annelida	Polychaeta	Arabellidae	deposit	Arabella mutans	P10
Annelida	Polychaeta	Arabellidae	deposit	Arabellidae 3	P208
Annelida	Polychaeta	Arabellidae	deposit	Arabellidae 4	P219
Annelida	Polychaeta	Arabellidae	deposit	Notocirrus australis	P221
Annelida	Polychaeta	Arabellidae	deposit	Arabellidae 5	P241
Annelida	Polychaeta	Arabellidae	deposit	Arabellidae 6	P250
Annelida	Polychaeta	Capitellidae	deposit	Dasybranchus sp. 1	P13
Annelida	Polychaeta	Capitellidae	deposit	Notomastus sp. 1	P16
Annelida	Polychaeta	Capitellidae	deposit	Notomastus sp. 2	P18

Phylum	Class	Family	Diet	Species	Code
Annelida	Polychaeta	Capitellidae	deposit	Notomastus sp. 3	P20
Annelida	Polychaeta	Capitellidae	deposit	Polychaete 31	P242
Annelida	Polychaeta	Cirratulidae	deposit	Cirratulidae 5	P206
Annelida	Polychaeta	Cirratulidae	deposit	Cirratulidae 6	P245
Annelida	Polychaeta	Cirratulidae	deposit	Cirratulidae 2	P28
Annelida	Polychaeta	Dorvilleidae	predator	Dorvilleidae 3	P240
Annelida	Polychaeta	Eunicidae	predator	Marphysa depressa	P207
Annelida	Polychaeta	Eunicidae	predator	Palola sp. 1	P194
Annelida	Polychaeta	Eunicidae	predator	Palola sp. 2	P195
Annelida	Polychaeta	Eunicidae	predator	Marphysa bifurcata	P197
Annelida	Polychaeta	Eunicidae	predator	Marphysa 4	P212
Annelida	Polychaeta	Eunicidae	predator	Eunice sp. 8	P220
Annelida	Polychaeta	Eunicidae	predator	Palola sp. 3	P232
Annelida	Polychaeta	Eunicidae	predator	Eunice sp. 1	P34
Annelida	Polychaeta	Eunicidae	predator	Eunice vittata	P36
Annelida	Polychaeta	Eunicidae	predator	Eunice tentaculata	P37
Annelida	Polychaeta	Eunicidae	predator	Eunice afra	P38
Annelida	Polychaeta	Eunicidae	predator	Nematoneris unicornis	P44
Annelida	Polychaeta	Flabelligeridae	deposit	Flabelligeridae 4	P193
Annelida	Polychaeta	Flabelligeridae	deposit	Flabelligeridae 3	P196
Annelida	Polychaeta	Flabelligeridae	deposit	Pherusa sp. 2	P46
Annelida	Polychaeta	Glyceidae	predator	Glycera sp. 1	P49
Annelida	Polychaeta	Goniadidae	predator	Goniadidae 1	P50
Annelida	Polychaeta	Goniadidae	predator	Progoniada sp. 1	P52
Annelida	Polychaeta	Hesionidae	predator	Hesiocaeca sp. 1	P189
Annelida	Polychaeta	Hesionidae	predator	Hesione sptendidae	P217
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 6	P224
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 7	P256
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 1	P59
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 2	P60
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 3	P61
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 4	P62
Annelida	Polychaeta	Lumbrineridae	deposit	Lumbrineris sp. 5	P63
Annelida	Polychaeta	Lysaretidae	predator	Lysaretidae 2	P188
Annelida	Polychaeta	Lysaretidae	predator	Lysaretidae 3	P251
Annelida	Polychaeta	Magelonidae	deposit	Magelona sp. 1	P73
Annelida	Polychaeta	Maldanidae	deposit	Maldanidae 9	P237
Annelida	Polychaeta	Maldanidae	deposit	Maldanidae 1	P65
Annelida	Polychaeta	Maldanidae	deposit	Maldanidae 2	P66
Annelida	Polychaeta	Maldanidae	deposit	Maldanidae 5	P69
Annelida	Polychaeta	Nephtyidae	predator	Nephtyidae 2	P226
Annelida	Polychaeta	Nephtyidae	predator	Nephtys sp. 1	P75
Annelida	Polychaeta	Nereididae	deposit	Nereis sp. 1	P202
Annelida	Polychaeta	Nereididae	deposit	Nereis sp. 2	P204
Annelida	Polychaeta	Nereididae	deposit	Nereididae 14	P213
Annelida	Polychaeta	Nereididae	deposit	Nereididae 15	P215
Annelida	Polychaeta	Nereididae	deposit	Nereididae 16	P235
Annelida	Polychaeta	Nereididae	deposit	Nereididae 17	P236
Annelida	Polychaeta	Nereididae	deposit	Australonereis sp. 1	P81
Annelida	Polychaeta	Nereididae	deposit	Nereididae 6	P82
Annelida	Polychaeta	Nereididae	deposit	Nereididae 7	P83
Annelida	Polychaeta	Nereididae	deposit	Nereididae 8	P84
Annelida	Polychaeta	Nereididae	deposit	Nereididae 9	P85
Annelida	Polychaeta	Nereididae	deposit	Nereididae 10	P86

Phylum	Class	Family	Diet	Species	Code
Annelida	Polychaeta	Onuphidae	deposit	Onuphis (onuphis) eremita	P230
Annelida	Polychaeta	Onuphidae	deposit	Diopatra denata	P94
Annelida	Polychaeta	Onuphidae	deposit	Nothria sp. 1	P96
Annelida	Polychaeta	Ophelidae	deposit	Armandia sp. 1	P100
Annelida	Polychaeta	Ophelidae	deposit	Ophelina sp. 1	P101
Annelida	Polychaeta	Orbiniidae	deposit	Haploscoloplos sp. 1	P102
Annelida	Polychaeta	Orbiniidae	deposit	Orbiniidae 1	P103
Annelida	Polychaeta	Orbiniidae	deposit	Orbiniidae 2	P190
Annelida	Polychaeta	Orbiniidae	deposit	Orbiniidae 3	P198
Annelida	Polychaeta	Orbiniidae	deposit	Orbiniidae 4	P227
Annelida	Polychaeta	Paraonidae	deposit	Polychaete 32	P253
Annelida	Polychaeta	Paraonidae	deposit	Paraonidae 3	P254
Annelida	Polychaeta	Phyllodocidae	predator	Eteane siphodonta	P108
Annelida	Polychaeta	Phyllodocidae	predator	Phyllodocidae 9	P223
Annelida	Polychaeta	Phyllodocidae	predator	Phyllodocidae 10	P258
Annelida	Polychaeta	Pilargiidae	deposit	Pilargiidae 3	P222
Annelida	Polychaeta	Polychaeta F?	deposit	Polychaete 28	P246
Annelida	Polychaeta	Polynoidae	predator	Polynoidae 2	P119
Annelida	Polychaeta	Polynoidae	predator	Polynoidae 3	P120
Annelida	Polychaeta	Polynoidae	predator	Polynoidae 4	P121
Annelida	Polychaeta	Polynoidae	predator	Polynoidae 5	P122
Annelida	Polychaeta	Polynoidae	predator	Polynoidea 9	P200
Annelida	Polychaeta	Polynoidae	predator	Polynoidae 10	P225
Annelida	Polychaeta	Polynoidae	predator	Polynoidae 11	P231
Annelida	Polychaeta	Polyodontidae	predator	Polyodontes australiensis.	P127
Annelida	Polychaeta	Sabellariidae	suspension	Idanthyrsus pennatus	P146
Annelida	Polychaeta	Sabellariidae	suspension	Lygdomis sp. 1	P239
Annelida	Polychaeta	Sabellariidae	suspension	Sabellaridae 2	P255
Annelida	Polychaeta	Sabellidae	suspension	Sabellidae 2	P134
Annelida	Polychaeta	Sabellidae	suspension	Sabellidae 6	P138
Annelida	Polychaeta	Sabellidae	suspension	Sabellastarte langa	P139
Annelida	Polychaeta	Sabellidae	suspension	Sabellidae 10	P142
Annelida	Polychaeta	Sabellidae	suspension	Sabellidae 14	P209
Annelida	Polychaeta	Serpulidae	suspension	Serpulidae 1	P150
Annelida	Polychaeta	Sigalionidae	predator	Leanira sp. 1	P157
Annelida	Polychaeta	Sigalionidae	predator	Sthenelais sp. 1	P205
Annelida	Polychaeta	Sigalionidae	predator	Sthenelais sp.2	P210
Annelida	Polychaeta	Sigalionidae	predator	Sigalionidae 4	P211
Annelida	Polychaeta	Sigalionidae	predator	Sigalionidae 5	P229
Annelida	Polychaeta	Sigalionidae	predator	Sigalionidae 7	P238
Annelida	Polychaeta	Sigalionidae	predator	Sigalionidae 8	P243
Annelida	Polychaeta	Sigalionidae	predator	Eupanthalis sp. 2	P244
Annelida	Polychaeta	Sigalionidae	predator	Sigalionidae 9	P252
Annelida	Polychaeta	Sternaspidae	deposit	Sternapis scutata	P168
Annelida	Polychaeta	Syllidae	predator	Syllidae 1	P169
Annelida	Polychaeta	Syllidae	predator	Syllidae 2	P170
Annelida	Polychaeta	Syllidae	predator	Syllidae 3	P171
Annelida	Polychaeta	Syllidae	predator	Syllidae 4	P172
Annelida	Polychaeta	Syllidae	predator	Syllidae 7	P218
Annelida	Polychaeta	Syllidae	predator	Syllidae 8	P233
Annelida	Polychaeta	Terebellidae	deposit	Eupolymnia sp. 1	P179
Annelida	Polychaeta	Terebellidae	deposit	Pista typha	P184
Annelida	Polychaeta	Terebellidae	deposit	Streblosoma sp. 1	P185
Annelida	Polychaeta	Terebellidae	deposit	Terebellidae 5	P214

Phylum	Class	Family	Diet	Species	Code
Annelida	Polychaeta	Trichobranchidae	deposit	Trichobranchidae 1	P177
Annelida	Polychaeta	Trichobranchidae	deposit	Trichobranchidae 2	P178
Annelida	Polycheate	Eunicidae	predator	Eunice gracilis	P40
Annelida	Polycheate	Flabelligeridae	deposit	Pherusa sp. 1	P48
Annelida	Polycheate	Lysaretidae	predator	Lysaretidae 1	P64
Annelida	Polycheate	Onuphidae	deposit	Nothria sp. 2	P97
Annelida	Polycheate	Pectinariidae	deposit	Pectinaria (Pectinaria) Papillosa	P130
Annelida	Polycheate	Polychaete F?	deposit	Polycheate 1	P89
Annelida	Polycheate	Serpulidae	suspension	Spirobranchus tetracerous	P155
Crustacea	Malacostraca	Alpheidae	scavenger	Athanas sibogae	C54
Crustacea	Malacostraca	Alpheidae	scavenger	Alpheus pacifica	C55
Crustacea	Malacostraca	Alpheidae	scavenger	Alpheus polyxo	C56
Crustacea	Malacostraca	Alpheidae	scavenger	Alpheus richardsoni	C57
Crustacea	Malacostraca	Alpheidae	scavenger	Synalpheus sp. 1	C58
Crustacea	Malacostraca	Caprellidae	scavenger	Orthoprotella australis	C11
Crustacea	Malacostraca	Aoridae	scavenger	Grandidierella sp. 1	C19
Crustacea	Malacostraca	Aoridae	scavenger	Grandidierella sp. 2	C20
Crustacea	Malacostraca	Leucothoidae	scavenger	Leucothoe sp.	C21
Crustacea	Malacostraca	Aoridae	scavenger	Xenocheira fasciata	C22
Crustacea	Malacostraca	Corophiidae	scavenger	Corophium cf. acutum	C238
Crustacea	Malacostraca	Melitidae	scavenger	Maera sp. 1	C246
Crustacea	Malacostraca	Melitidae	scavenger	Pareiasmopus ya	C27
Crustacea	Malacostraca	Melitidae	scavenger	Maera sp. 2	C273
Crustacea	Malacostraca	Aoridae	scavenger	Grandidierella cf. gilesii	C274
Crustacea	Malacostraca	Oedicerotidae	scavenger	Halicreion sp. 1	C281
Crustacea	Malacostraca	Corophiidae	scavenger	Cheiriphotis australis	C29
Crustacea	Malacostraca	Platyschnopidae	scavenger	Platyschnopus mam	C30
Crustacea	Malacostraca	Atyliidae	scavenger	Ceradocus rubromaculatus	C9
Crustacea	Malacostraca	Bopyridae	parasite	Bopyridae 3	C249
Crustacea	Malacostraca	Camptandriidae	scavenger	Cleistostoma sp. 2	C241
Crustacea	Malacostraca	Callianassidae	deposit	Callianassa cf. orientalis	C61
Crustacea	Malacostraca	Upogebiidae	deposit	Upogebia spinifrons	C63
Crustacea	Malacostraca	Cirolanidae	scavenger	Cirolana curtensis	C277
Crustacea	Malacostraca	Photidae	deposit	Photis sp. 2	C235
Crustacea	Malacostraca	Melitidae	deposit	Mallacoota sp. 1	C14
Crustacea	Malacostraca	Crangonidae	scavenger	Philocheras incisus	C269
Crustacea	Malacostraca	Bodotriidae	suspension	Cyclaspis sp. 1	C272
Crustacea	Malacostraca	Bodotriidae	suspension	Pomacuma australiae	C51
Crustacea	Malacostraca	Ocypodidae	scavenger	Ilyoplax strigicarpus	C175
Crustacea	Malacostraca	Camptandriidae	scavenger	Cleistostoma mcneilli	C176
Crustacea	Malacostraca	Camptandriidae	scavenger	Cleistostoma sp. 1	C178
Crustacea	Malacostraca	Lyssianassidae	deposit	Waldeckia sp. 1	C15
Crustacea	Malacostraca	Phoxocephalidae	deposit	Birubius wallisae	C278
Crustacea	Malacostraca	Diogenidae	scavenger	Diogenes dubius	C251
Crustacea	Malacostraca	Diogenidae	scavenger	Clibanarius longitarsus	C71
Crustacea	Malacostraca	Diogenidae	scavenger	Diogenes guttatus	C72
Crustacea	Malacostraca	Galatheididae	scavenger	Galathea corallicola	C253
Crustacea	Malacostraca	Galatheididae	scavenger	Allogalathea elegans	C257
Crustacea	Malacostraca	Goneplacidae	scavenger	Speocarcinus luteus	C81
Crustacea	Malacostraca	Pilumnidae	scavenger	Mertonia integra	C82
Crustacea	Malacostraca	Goneplacidae	scavenger	Speocarcinus sp. 1	C165
Crustacea	Malacostraca	Camptandriidae	scavenger	Cleistostoma sp. 3	C276
Crustacea	Malacostraca	Processidae	scavenger	Processa sp. 2	C280
Crustacea	Malacostraca	Hippolytidae	scavenger	Latreutes sp. 2	C282

Phylum	Class	Family	Diet	Species	Code
Crustacea	Malacostraca	Sphaeromatidae	scavenger	Sphaeromatidae 1	C192
Crustacea	Malacostraca	Cirolanidae	scavenger	Natatolana angula	C196
Crustacea	Malacostraca	Cirolanidae	scavenger	Natatolana sp. 1	C197
Crustacea	Malacostraca	Urohaustoriidae	scavenger	Urochaustorius halei	C199
Crustacea	Malacostraca	Cirolanidae	scavenger	Cirolana sp. 1	C264
Crustacea	Malacostraca	Cirolanidae	scavenger	Eurydice minya	C283
Crustacea	Malacostraca	Corallanidae	scavenger	Argathona sp. 2	C284
Crustacea	Malacostraca	Leucosiidae	scavenger	Leucosia ocellata	C89
Crustacea	Malacostraca	Majidae	scavenger	Menaethius monoceros	C254
Crustacea	Malacostraca	Majidae	scavenger	Hyastenus planasius	C268
Crustacea	Malacostraca	Pilumnidae	scavenger	Pilumnus sp. 1	C94
Crustacea	Malacostraca	Leucosiidae	scavenger	Nursia sinuata	C95
Crustacea	Malacostraca	Malacostraca F?	suspension	Zoea 2	C255
Crustacea	Malacostraca	Malacostraca F?	suspension	Zoea 3	C267
Crustacea	Malacostraca	Mictyridae	scavenger	Mictyris longicarpus	C106
Crustacea	Malacostraca	Mysidae	suspension	Haplostylus cf queenslandensis	C206
Crustacea	Malacostraca	Ocypodidae	scavenger	Macrophthalmus latreillei	C126
Crustacea	Malacostraca	Ocypodidae	scavenger	Uca sp. 2	C128
Crustacea	Malacostraca	Ocypodidae	scavenger	Macrophthalmus sp. 1	C250
Crustacea	Malacostraca	Ocypodidae	scavenger	Macrophthalmus telescopicus	C266
Crustacea	Malacostraca	Ogyrididae	scavenger	Ogyrides delli	C117
Crustacea	Malacostraca	Pasiphaeidae	scavenger	Leptochela sydniensis	C143
Crustacea	Malacostraca	Palaemonidae	scavenger	Periclimenes sp. 1	C145
Crustacea	Malacostraca	Palaemonidae	scavenger	Anchistus custos	C147
Crustacea	Malacostraca	Penaeidae	scavenger	Metapenaeopsis novaeguineae	C153
Crustacea	Malacostraca	Penaeidae	scavenger	Penaeus marginatus	C154
Crustacea	Malacostraca	Porcellanidae	suspension	Pisidia dispar	C129
Crustacea	Malacostraca	Porcellanidae	suspension	Ancylocheles gravelei	C131
Crustacea	Malacostraca	Porcellanidae	suspension	Rhaphidopus ciliatus	C132
Crustacea	Malacostraca	Portunidae	scavenger	Portunus sp. 2	C137
Crustacea	Malacostraca	Portunidae	scavenger	Thalamita sima	C140
Crustacea	Malacostraca	Portunidae	scavenger	Portunus sp. 3	C142
Crustacea	Malacostraca	Portunidae	scavenger	Charybdis truncata	C279
Crustacea	Malacostraca	Albuneidae	scavenger	Albunea thurstoni	C208
Crustacea	Malacostraca	Scyllaridae	scavenger	Biarctus sordidus	C265
Crustacea	Malacostraca	Squillidae	predator	Oratosquilla stephensoni	C209
Crustacea	Malacostraca	Gonodactylidae	predator	Gonodactylaceus graphurus	C252
Crustacea	Malacostraca	Tanaidacea F?	deposit	Tanaidacea 1	C211
Crustacea	Malacostraca	Tanaidacea F?	deposit	Tanaidacea 2	C212
Crustacea	Malacostraca	Tanaidacea F?	deposit	Tanaidacea 10	C220
Crustacea	Malacostraca	Tanaidacea F?	deposit	Tanaidacea 11	C221
Crustacea	Malacostraca	Grapsidae	scavenger	Ilyograpsus paludicola	C256
Crustacea	Maxillopoda	Balanidae	suspension	Thoracia 1	C2
Crustacea	Ostracoda	Ostracoda F?	scavenger	Ostracoda 2	C225
Arachnida	Pycnogonida	Pycnogonid F?	scavenger	Phoxichilidiidae 1	H4
Branchipoda	Inarticulata	Inarticulata F?	suspension	Lingulua sp. 1	L1
Echinodermata	Astropectinidae	Astropectinidae F?	deposit	Astropectinidae 1	E1
Echinodermata	Astropectinidae	Astropectinidae F?	deposit	Astropectinidae 2	E2
Echinodermata	Astropectinidae	Astropectinidae F?	deposit	Astropectinidae 3	E3
Echinodermata	Crinoidea	Crinoidea F?	deposit	Heterometra crenulata	E12
Echinodermata	Echinoidae	Echinoidae F?	deposit	Echinoidae 1	E19
Echinodermata	Echinoidae	Echinoidae F?	deposit	Echinoidae 3	E21
Echinodermata	Echinoidae	Echinoidae F?	deposit	Echinoidae 5	E60
Echinodermata	Holothuroidea	Holothuroidea F?	deposit	Holothuroidea 3	E24

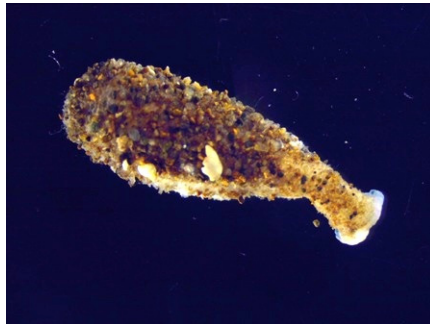
Phylum	Class	Family	Diet	Species	Code
Echinodermata	Holothuroidea	Holothuroidea F?	deposit	Holothuroidea 4	E25
Echinodermata	Holothuroidea	Holothuroidea F?	deposit	Holothuroidea 8	E55
Echinodermata	Holothuroidea	Holothuroidea F?	deposit	Holothuroidea 10	E57
Echinodermata	Holothuroidea	Holothuroidea F?	deposit	Holothuroidea 11	E59
Echinodermata	Ophiuroidea	Ophiotrichidae	deposit	Amphiuridae sp. 1	E41
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 1	E29
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 2	E30
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 5	E33
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 9	E36
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 10	E37
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 11	E38
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 12	E39
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 21	E48
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 27	E54
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 28	E58
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 29	E62
Echinodermata	Ophiuroidea	Ophiuroidea F?	deposit	Ophiuroidea 30	E63
Chordata	Asciacea	Ascidian F?	suspension	Botrylloides leachi	A1
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 12	A15
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 13	A16
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 14	A17
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 15	A18
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 17	A20
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 18	A21
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 2	A3
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 5	A6
Chordata	Asciacea	Ascidian F?	suspension	Asciacea 7	A8
Chordata	Asciacea	Ascididae	suspension	Ascidia sydneyensis	A2
Chordata	Asciacea	Styelidae	suspension	Asciacea 4	A5
Chordata	Osteichthyes	Brachiostomidae	suspension	Branchiostoma minucaudata	F12
Chordata	Osteichthyes	Brachiostomidae	suspension	Branchiostoma moretonensis	F9
Chordata	Osteichthyes	Gobiidae	predator	Gobiidae 3	F10
Chordata	Osteichthyes	Gobiidae	predator	Gobiidae 4	F11
Chordata	Osteichthyes	Gobiidae	predator	Gobiidae 1	F2
Chordata	Osteichthyes	Ophichthidae	predator	Ophichthidae 1	F13
Chordata	Osteichthyes	Ophichthidae	predator	Muraenichthys breviceps	F14
Chordata	Osteichthyes	Osteichthyes F?	predator	Osteichthyes 2	F15
Chordata	Osteichthyes	Trypauchenidae	predator	Trypauchen microcephalus	F6

Appendix 3. Photographic plates depicting 442 of the 466 benthic organisms collected from Port Curtis during 2002.

V5 - Anthozoa 11



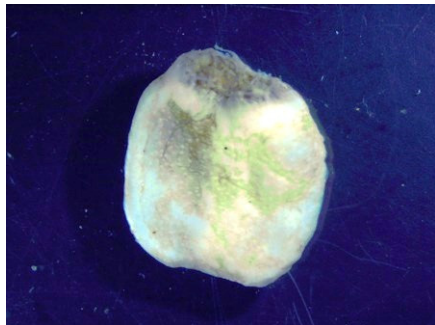
V28 - Anthozoa 19



K2 - Polyplacophora 2



V9 - Anthozoa 4



V29 - Anthozoa 20



K6 - Chitonidae 1



V21 - Ceriantharia 3



V30 - Anthozoa 21



K7 - Acanthochitonidae 1



V25 - Anthozoa 17



N7 - Nemertea 9



K8 - Chitonidae 2



V26 - Ceriantharia 4



K1 - Polyplacophora 1



G9 - Atya cylindrica



G10 - *Cyclichna* sp. 1



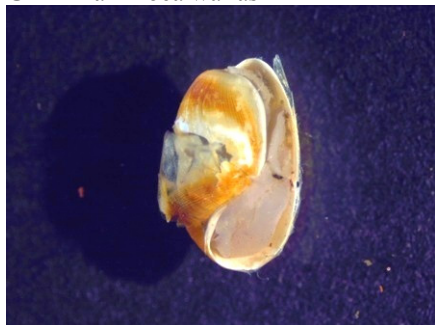
G48 - Fissurellidae 1



G74 - *Nassarius* sp. 3



G11 - *Haminoea wallasi*



G61 - *Marginella* sp. 1



G75 - *Nassarius* sp. 4



G16 - *Trigonostoma obliquata*



G63 - *Bedeva hanleyi*



G82 - *Plicarcularia burchardi*



G20 - Collumbellidae 1



G71 - *Nassarius dorsatus*



G84 - *Natica euzona*



G40 - *Epitonium* sp. 4



G72 - *Nassarius* sp. 1



G86 - *Neverita* sp. 1



G89 - Naticidae 3



G115 - Gastropoda 46



G200 - Gastropoda 162



G91 - Naticidae 5



G154 - Gastropoda 113



G203 - Gastropoda 165



G94 - Polinices sp. 1



G168 - Gastropoda 129



G209 - Gastropoda 171



G98 - Neritina ovalaniensis



G184 - Gastropoda 146



G226 - Potamididae 1



G106 - Gastropoda 8



G191 - Gastropoda 153



G231 - Potamididae 8



G243 - Patellidae 1



G272 - Turritellidae 1



G293 - Tudivasum armigera



G245 - Rissoidae 1



G273 - Turritella sp. 1



G294 - Polinices didyma



G251 - Notosinister maculosa



G289 - Gastropoda 184



G295 - Natica collei



G254 - Euchelus atratus



G291 - Mitrella sp. 1



B1 - Corbula (Serracorbula) crassa



G258 - Trochidae 18



G292 - Conus aureus



B2 - Arcidae 1



B4 - Arcidae 3



B16 - Cardita incrassata



B26 - Anodonta omissa



B5 - Trisidos tortuosa



B17 - Carditella (Carditellona) torresi



B28 - Mactra abbreviata



B7 - Chama sp. 1



B20 - Cuspidaria sp. 1



B32 - Malleidae 1



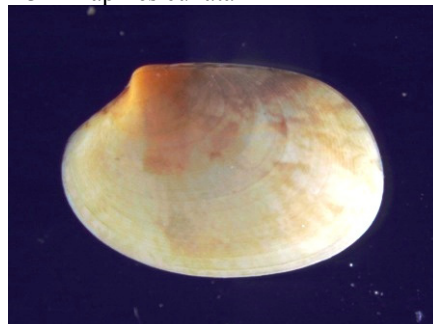
B8 - Chamidae 1



B21 - Cuspidaridae 1



B34 - Paphies cunata



B11 - Corbula (Notocorbula) tunicata



B24 - Limaria sp. 1



B35 - Paphies heterodon



B36 - *Myadora* sp. 1



B48 - Cuspidaridae 2



B62 - *Bivalvia* 35



B40 - *Modiolus* sp. 1



B52 - *Hiatella australis*



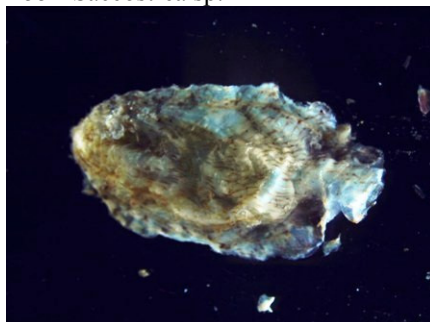
B69 - *Bivalvia* 42



B41 - *Mytilidae* 1



B55 - *Saccostrea* sp.



B72 - *Bivalvia* 45



B43 - *Cryptoma* sp. 1



B56 - *Tawera subnodulosa*



B77 - *Tellina (Pistris) serricostata*



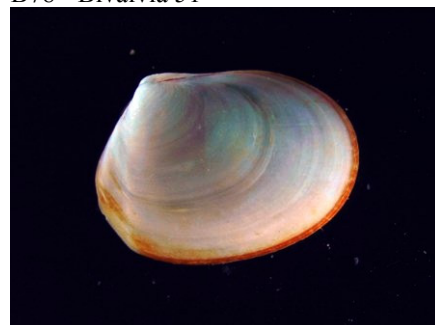
B45 - *Nuculana darwini*



B58 - *Grafrium transversarium*



B78 - *Bivalvia* 51



B80 - Bivalvia 53



B105 - Bivalvia 78



B129 - Soletellina sp. 1



B85 - Chama limbula



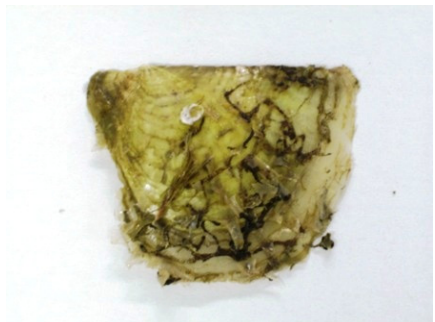
B119 - Mimachlamys gloriosa



B131 - Leionuculana superba



B98 - Pinctada maculata



B125 - Pinctada sp. 1



B132 - Soletellina petalina



B99 - Hyotissa hyotis



B127 - Gari sp. 1



B133 - Azorinus sp. 1



B101 - Bivalvia 74



B128 - Gari sp. 2



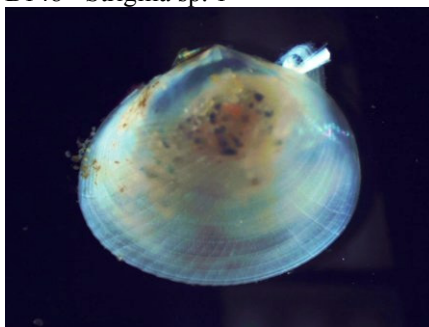
B134 - Azorinus sp. 2



B135 - Azorinus sp. 3



B148 - Strigilla sp. 1



B154 - Tellina sp. 6



B138 - Solecurtidae 1



B150 - Tellina sp. 2



B155 - Tellina sp. 7



B140 - Pharella wardi



B151 - Tellina sp. 3



B162 - Antigona materna



B141 - Solen sp. 1



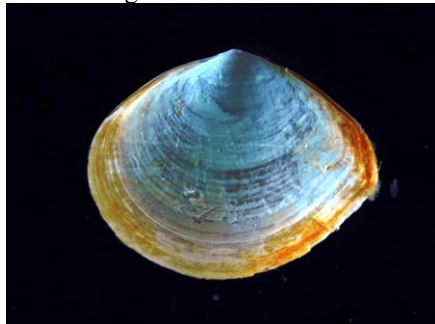
B152 - Tellina sp. 4



B164 - Veneridae 1



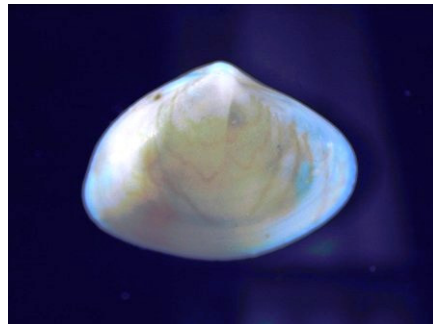
B147 - Strigilla euronion



B153 - Tellina sp. 5



B165 - Veneridae 2



B166 - Veneridae 3



B176 - Paphia undulata



B184 - Ostrea edulis



B169 - Timaclea (Timaclea) infans



B178 - Nuculana corbuloides



B185 - Scintillona sp.



B170 - Paphia sp. 1



B181 - Mytilidae 2



B186 - Circe sulcata



B174 - Pitar trevori



B182 - Nuclana (Scaededa) crassa



B187 - Tellina sp. 14



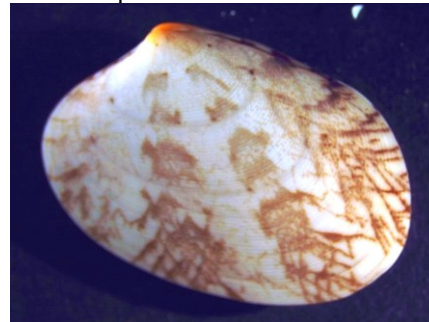
B175 - Placamen tiara



B183 - Crassostrea gigas



B188 - Paphia exarata



B189 - *Brachidontes subramosa*



B195 - *Donax (Tentidonax) veruinus*



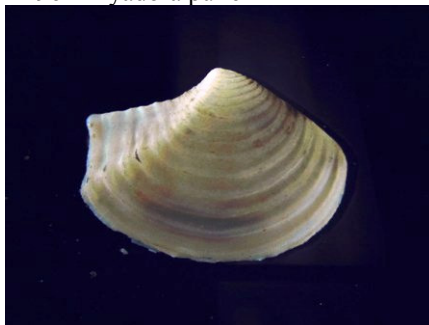
B200 - *Limopsis* sp. 3



B190 - *Laternula rostrata*



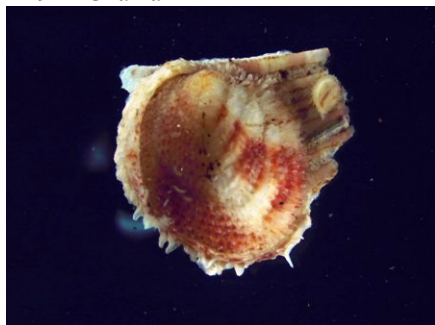
B196 - *Myadora pulleini*



B201 - *Limopsis* sp. 2



B191 - *Chama* 2



B197 - *Globivenus embrithes*



B202 - *Gari* sp.3



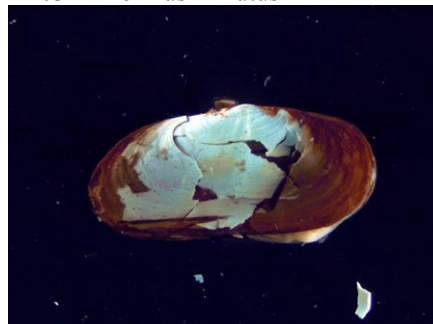
B193 - *Linga* sp.



B198 - *Timoclea lionata*



B203 - *Azorinus minutus*



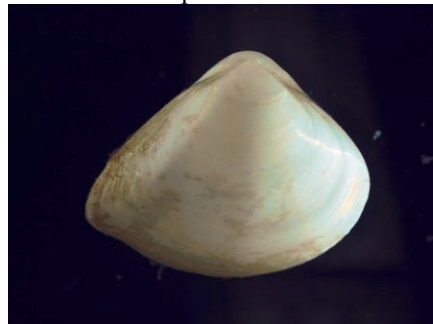
B194 - *Soletellina* sp. 2



B199 - *Gari gracilentia*



B204 - *Tellina* sp. 15



B205 - *Gari weinkauffi*



B211 - *Tellina (Cadella) diluta*



B216 - *Antigona (Antigona) lamellaris*



B206 - *Eruilia rubra*



B212 - *Donax* sp. 1



B217 - *Tellimya* sp.



B207 - *Lutraria* sp.



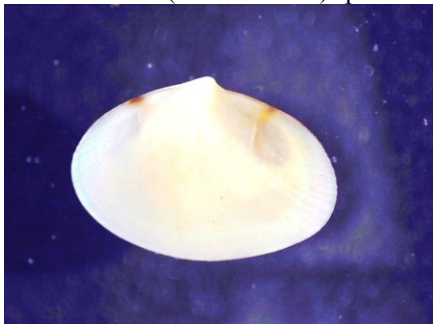
B213 - *Mactra* sp. 3



B218 - *Bivalvia* 91



B208 - *Mactra (Nannomactra)* sp. 2



B214 - *Lucinidae* 1



B219 - *Corbula* sp. 3



B210 - *Mysella* sp. 1



B215 - *Talabrica* sp.



B220 - *Ctenocardia (Ctenocardia)* sp.



B221 - *Arca (Arca) navicularis*



B227 - *Saccostrea glomerata*



S3 - Sipuncula 3



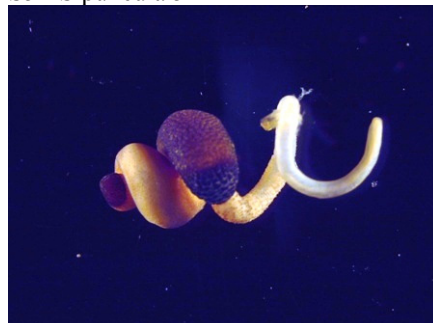
B222 - *Tellina* sp. 16



B225 - *Macoma (Psammacoma)* sp.



S5 - Sipuncula 5



B223 - *Callista (Costacallista)* sp.



T1 - *Dentalium javanum*



S6 - Sipuncula 6



B224 - *Pitar (Pitarina) queenslandica*



T2 - *Dentalium* sp. 1



S11 - Sipuncula 11



B226 - *Tellina (Merisca)* sp. 17



S2 - Sipuncula 2



S12 - Sipuncula 12



S13 - Sipuncula 13



D4 - Echiuran 5



P5 - Ampharetidae 1



S14 - Sipuncula 14



D5 - Echiuran 6



P8 - Samytha sp. 1



S15 - Sipuncula 15



D6 - Echiuran 7



P10 - Arabella mutans



D2 - Echiuran 3



P2 - Amphinomidae 1



P13 - Dasybranchus sp. 1



D3 - Echiuran 4



P4 - Isolda pulchella



P16 - Notomastus sp. 1



P18 - *Notomastus* sp. 2



P37 - *Eunice* tentaculata



P48 - *Pherusa* sp. 1



P20 - *Notomastus* sp. 3



P38 - *Eunice* afra



P49 - *Glycera* sp. 1



P28 - Cirratulidae 2



P40 - *Eunice* gracilis



P50 - Goniadidae 1



P34 - *Eunice* sp. 1



P44 - *Nematoneris* unicornis



P52 - *Progoniada* sp. 1



P36 - *Eunice* vittata



P46 - *Pherusa* sp. 2



P59 - *Lumbrineris* sp. 1



P60 - Lumbrineris sp. 2



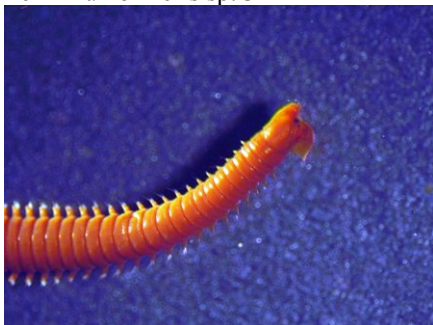
P65 - Maldanidae 1



P81 - Australonereis sp. 1



P61 - Lumbrineris sp. 3



P66 - Maldanidae 2



P82 - Nereididae 6



P62 - Lumbrineris sp. 4



P69 - Maldanidae 5



P83 - Nereididae 7



P63 - Lumbrineris sp. 5



P73 - Magelona sp. 1



P84 - Nereididae 8



P64 - Lysaretidae 1



P75 - Nephtys sp. 1



P85 - Nereididae 9



P86 - Nereididae 10



P101 - Ophelina sp. 1



P120 - Polynoidae 3



P94 - Diopatra denata



P102 - Haploscoloplos sp. 1



P121 - Polynoidae 4



P96 - Nothria sp. 1



P103 - Orbiniidae 1



P122 - Polynoidae 5



P97 - Nothria sp. 2



P108 - Eteane siphodonta



P127 - Polyodontes australiensis.



P100 - Armandia sp. 1



P119 - Polynoidae 2



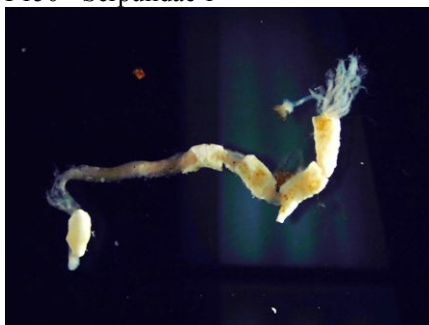
P130 - Pectinaria papillosa



P134 - Sabellidae 2



P150 - Serpulidae 1



P170 - Syllidae 2



P138 - Sabellidae 6



P155 - Spirobranchus tetracerous



P171 - Syllidae 3



P139 - Sabellastarte langa



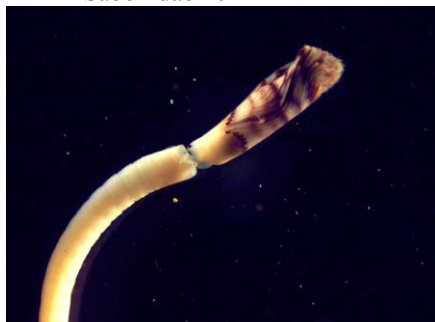
P157 - Leanira sp. 1



P172 - Syllidae 4



P142 - Sabellidae 10



P168 - Sternapis scutata



P177 - Trichobranchidae 1



P146 - Idanthysus pennatus



P169 - Syllidae 1



P178 - Trichobranchidae 2



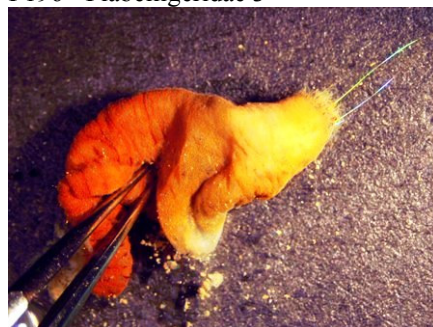
P179 - Eupolymnia sp. 1



P190 - Orbiniidae 2



P196 - Flabelligeridae 3



P184 - Pista typha



P191 - Amphinomidae 2



P197 - Marphysa bifurcata



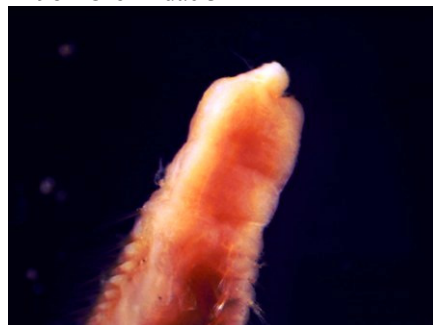
P185 - Streblosoma sp. 1



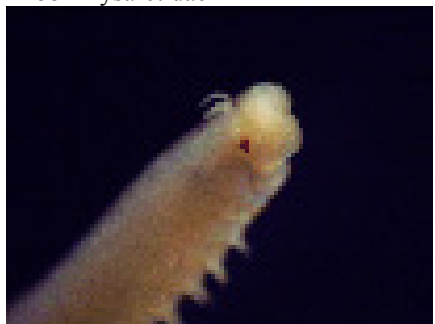
P193 - Flabelligeridae 4



P198 - Orbiniidae 3



P188 - Lysaretidae 2



P194 - Palola sp. 1



P200 - Polynoidea 9



P189 - Hesiocaeca sp. 1



P195 - Palola sp. 2



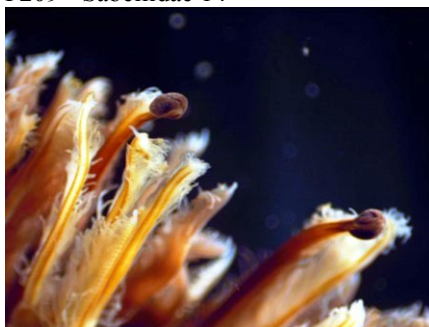
P202 - Nereis sp. 1



P204 - Nereis sp. 2



P209 - Sabellidae 14



P214 - Terebellidae 5



P205 - Sthenelais sp. 1



P210 - Sigalionidae 3



P215 - Nereididae 15



P206 - Cirratulidae 5



P211 - Sigalionidae 4



P216 - Amphinomidae 3



P207 - Marphysa depressa



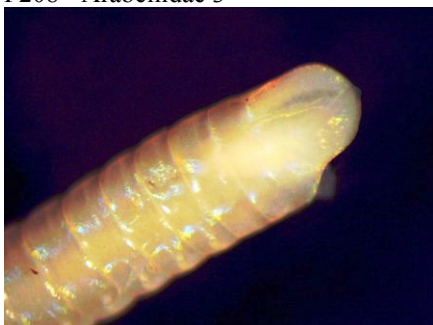
P212 - Marphysa 4



P217 - Hesione sptendidae



P208 - Arabellidae 3



P213 - Nereididae 14



P218 - Syllidae 7



P219 - Arabellidae 4



P224 - Lumbrineris sp. 6



P230 - Onuphis (onuphis) eremita



P220 - Eunice sp. 8



P225 - Polynoidae 10



P231 - Polynoidae 11



P221 - Notocirrus australis



P226 - Nephtyidae 2



P232 - Palola sp. 3



P222 - Pilargiidae 3



P227 - Orbiniidae 4



P233 - Syllidae 8



P223 - Phyllodocidae 9



P229 - Sigalionidae 5



P234 - Amphinomidae 4



P235 - Nereididae 16



P240 - Dorvilleidae 3



P245 - Cirratulidae 6



P236 - Nereididae 17



P241 - Arabellidae 5



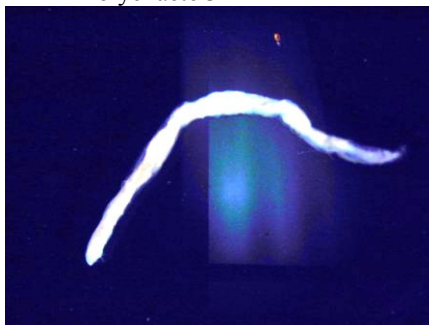
P246 - Polychaete 28



P237 - Maldanidae 9



P242 - Polychaete 31



P250 - Arabellidae 6



P238 - Sigalionidae 7



P243 - Sigalionidae 8



P251 - Lysaretidae 3



P239 - Lygdomis sp. 1



P244 - Eupanthalis sp. 2



P252 - Sigalionidae 9



P253 - Polychaete 32



C9 - *Ceradocus rubromaculatus*



C20 - *Grandidierella* sp. 2



P254 - Paraonidae 3



C11 - *Orthoprotella australis*



C21 - *Leucothoe* sp.



P255 - Sabellaridae 2



C14 - *Mallacoota* sp. 1



C22 - *Xenocheira fasciata*



P258 - Phyllodocidae 10



C15 - *Waldeckia* sp. 1



C27 - *Pareasmopus ya*



C2 - *Thoracia* 1



C19 - *Grandidierella* sp. 1



C29 - *Cheiriphotis australis*



C30 - *Platyischnopus* mam



C56 - *Alpheus* polyxo



C72 - *Diogenes* guttatus



C235 - *Photis* sp. 2



C58 - *Synalpheus* sp. 1



C81 - *Speocarcinus* luteus



C51 - *Pomacuma* australiae



C61 - *Callianassa* cf *orientalis*



C82 - *Mertonia* integra



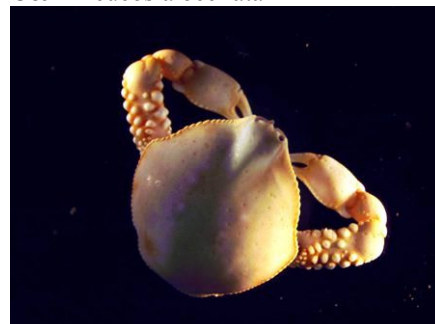
C54 - *Athanas* sibogae



C63 - *Upogebia* spinifrons



C89 - *Leucosia* ocellata



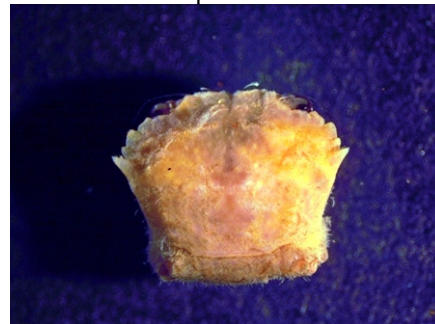
C55 - *Alpheus* pacifica

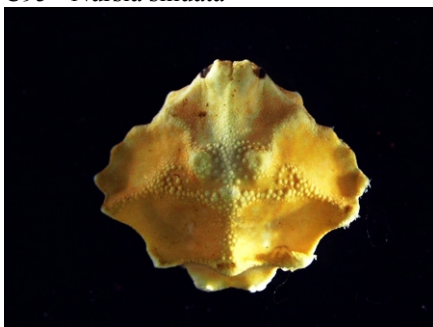
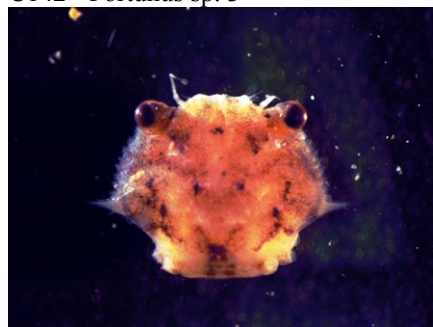
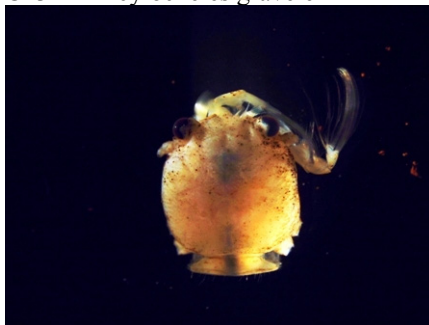
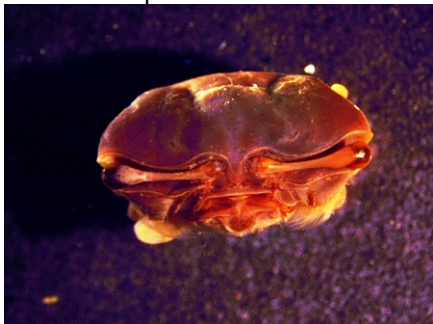
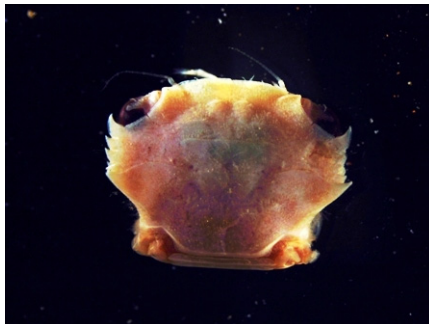


C71 - *Clibanarius* longitarsus



C94 - *Pilumnus* sp. 1



C95 - *Nursia sinuata*C129 - *Pisidia dispar*C142 - *Portunus* sp. 3C106 - *Mictyris longicarpus*C131 - *Ancylocheles gravelei*C143 - *Leptochela sydniensis*C117 - *Ogyrides delli*C132 - *Rhaphidopus ciliatus*C145 - *Periclimenes* sp. 1C126 - *Macrophthalmus latreillei*C137 - *Portunus* sp. 2C147 - *Anchistus custos*C128 - *Uca* sp. 2C140 - *Thalamita sima*C153 - *Metapenaeopsis novaeguineae*

C154 - *Penaeus marginatus*



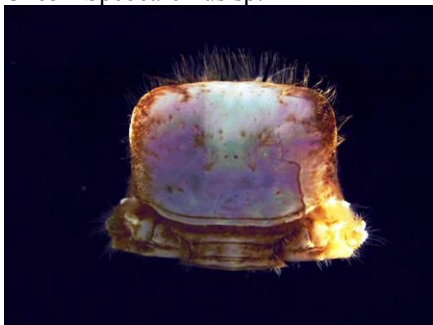
C192 - Sphaeromatidae 1



C208 - *Albunea thurstoni*



C165 - *Speocarcinus* sp. 1



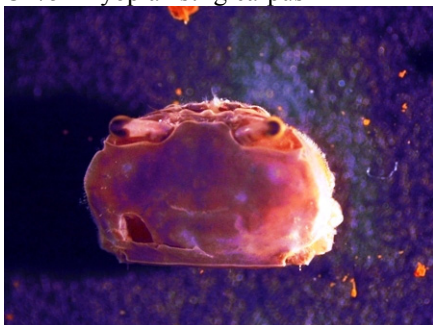
C196 - *Natatolana angula*



C209 - *Oratosquillina stephensoni*



C175 - *Ilyoplax strigicarpus*



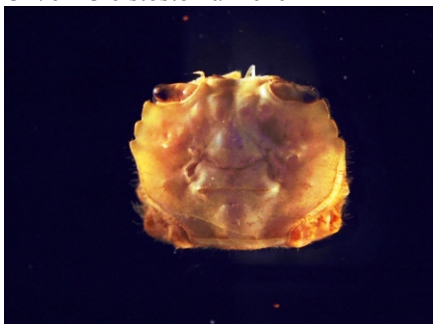
C197 - *Natatolana* sp. 1



C211 - Tanaidacea 1



C176 - *Cleistostoma mneilli*



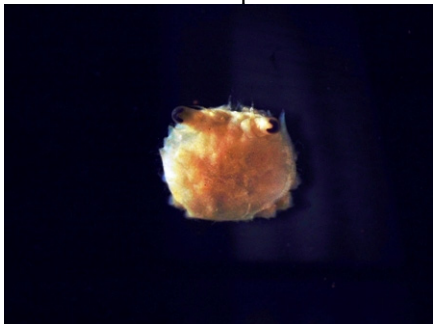
C199 - *Urochaustorius halei*



C212 - Tanaidacea 2



C178 - *Cleistostoma* sp. 1



C206 - *Haplostylus* cf *queenslandensis*



C220 - Tanaidacea 10



C221 - Tanaidacea 11



C249 - Bopyridae 3



C254 - Menaethius monoceros



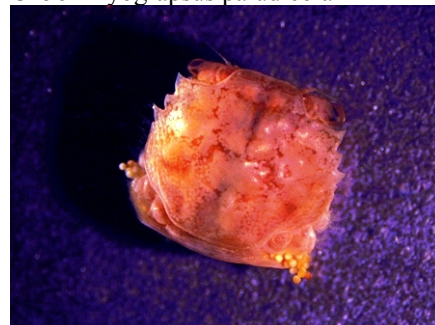
C225 - Ostracoda 2



C250 - Macrophthalmus sp. 1



C256 - Ilyograpsus paludicola



C238 - Corophium cf. acutum



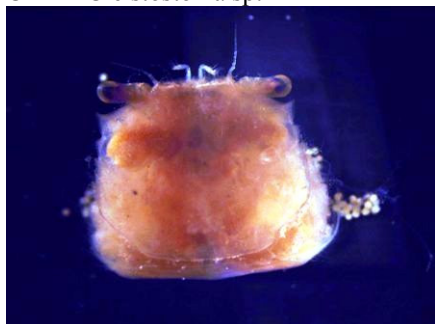
C251 - Diogenes dubius



C257 - Allogalathea elegans



C241 - Cleistostoma sp. 2



C252 - Gonodactylaceus graphurus



C264 - Cirolana sp. 1



C246 - Maera sp. 1

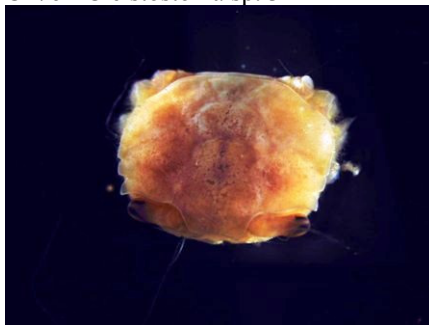
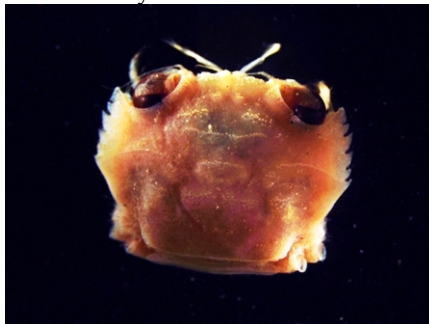


C253 - Galathea corallicola

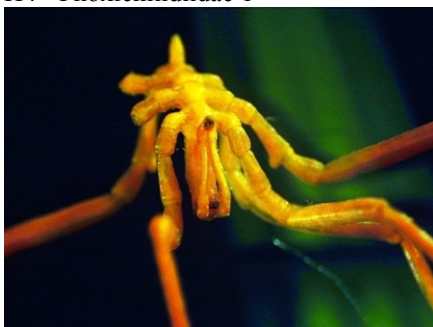


C265 - Biarctus sordidus

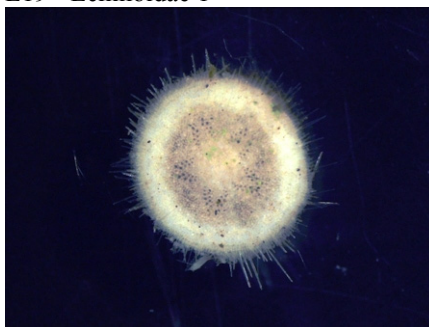


C266 - *Macrophthalmus telescopicus*C274 - *Grandidierella* cf. *gilesii*C280 - *Processa* sp. 2C268 - *Hyastenus planasius*C276 - *Cleistostoma* sp. 3C281 - *Halicreion* sp. 1C269 - *Philocheras incisus*C277 - *Cirolana curtensis*C282 - *Latreutes* sp. 2C272 - *Cyclaspis* sp. 1C278 - *Birubius wallisae*C283 - *Eurydice minya*C273 - *Maera* sp. 2C279 - *Charybdis truncata*C284 - *Argathona* sp. 2

H4 - Phoxichilidiidae 1



E19 - Echinoidae 1



E30 - Ophiuroidea 2



L1 - Lingulua sp. 1



E21 - Echinoidae 3



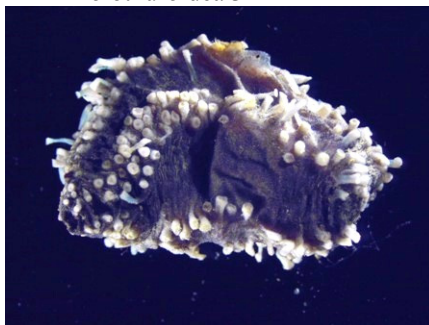
E33 - Ophiuroidea 5



E1 - Astropectinidae 1



E24 - Holothuroidea 3



E38 - Ophiuroidea 11



E2 - Astropectinidae 2



E25 - Holothuroidea 4



E39 - Ophiuroidea 12



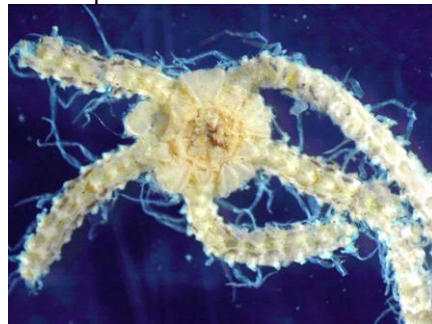
E3 - Astropectinidae 3



E29 - Ophiuroidea 1



E54 - Ophiuroidea 27



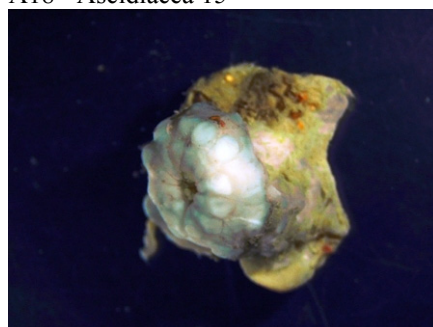
E55 - Holothuroidea 8



E63 - Ophiuroidea 30



A18 - Ascidiacea 15



E57 - Holothuroidea 10



A3 - Ascidiacea 2



A20 - Ascidiacea 17



E59 - Holothuroidea 11



A6 - Ascidiacea 5



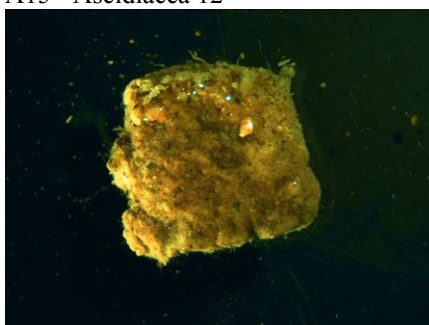
A21 - Ascidiacea 18



E60 - Echinoidae 5



A15 - Ascidiacea 12



F2 - Gobiidae 1



E62 - Ophiuroidea 29



A17 - Ascidiacea 14



F6 - Trypauchen microcephalus



F9 - *Amphioxus* sp. 1



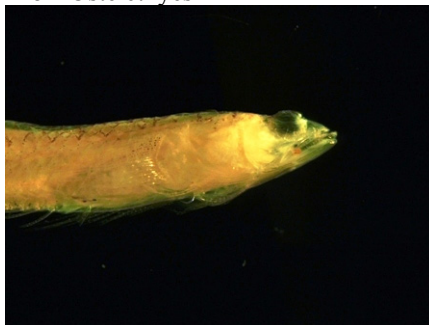
F14 - Ophichthidae 2



F10 - Gobiidae 3



F15 - Osteichthyes 2



F11 - Gobiidae 4



F12 - *Amphioxus* sp. 2



F13 - Ophichthidae 1



Appendix 4. Summary list of species abundances (N) collected from 149 sampling stations in Port Curtis during 2002. A total of 3 * 0.1m² replicate grab samples were collected at each station during the survey (the absence of any replicates in this list indicates that no fauna were identified from the respective grab). All species codes given here refer to type material lodged in the Central Queensland University marine reference collection in Gladstone.

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH001	1	Penaeus marginatus	C154	1	GH005	2	Diopatra denata	P94	1
GH001	1	Polylacophora 1	K1	1	GH005	3	Cleistostoma sp. 2	C241	1
GH001	1	Nereis sp. 2	P204	2	GH005	3	Hesiocaeca sp. 1	P189	1
GH001	1	Nematoneris unicornis	P44	1	GH005	3	Lumbrineris sp. 2	P60	1
GH001	1	Glycera sp. 1	P49	2	GH006	1	Nereididae 7	P83	1
GH001	1	Progoniada sp. 1	P52	1	GH006	2	Mytilidae 1	B41	1
GH001	1	Nothria sp. 1	P96	1	GH006	2	Nothria sp. 1	P96	1
GH001	2	Solecurtidae 1	B138	1	GH006	3	Sthenelais sp. 1	P205	1
GH001	2	Mactra abbreviata	B28	1	GH007	1	Ascidacea 2	A3	1
GH001	2	Tanaidacea 11	C221	1	GH007	1	Carditella (Carditellona) torresi	B17	1
GH001	2	Pista typha	P184	2	GH007	1	Ostrea edulis	B184	1
GH001	2	Nereis sp. 2	P204	1	GH007	1	Arcidae 1	B2	1
GH001	2	Nematoneris unicornis	P44	1	GH007	1	Modiolus sp. 1	B40	9
GH001	2	Glycera sp. 1	P49	2	GH007	1	Trisidos tortuosa	B5	2
GH001	2	Progoniada sp. 1	P52	1	GH007	1	Periclimenes sp. 1	C145	1
GH001	3	Carditella (Carditellona) torresi	B17	1	GH007	1	Tanaidacea 11	C221	1
GH001	3	Polylacophora 1	K1	1	GH007	1	Bopyridae 3	C249	1
GH001	3	Streblosoma sp. 1	P185	1	GH007	1	Alpheus pacifica	C55	1
GH001	3	Orbiniidae 2	P190	2	GH007	1	Ophiuroidea 5	E33	1
GH001	3	Nereis sp. 2	P204	2	GH007	1	Orbiniidae 1	P103	1
GH001	3	Nereididae 14	P213	1	GH007	1	Serpulidae 1	P150	1
GH001	3	Nematoneris unicornis	P44	2	GH007	1	Glycera sp. 1	P49	1
GH001	3	Nothria sp. 1	P96	3	GH007	1	Lumbrineris sp. 3	P61	1
GH002	1	Ophelina sp. 1	P101	1	GH007	1	Nephtys sp. 1	P75	1
GH002	2	Leptochela sydneyensis	C143	1	GH007	1	Diopatra denata	P94	1
GH002	2	Tanaidacea 11	C221	2	GH007	2	Azorinus sp. 2	B134	1
GH002	2	Ophiuroidea 9	E36	1	GH007	2	Modiolus sp. 1	B40	8
GH002	3	Grandidierella sp. 1	C19	1	GH007	2	Trisidos tortuosa	B5	1
GH002	3	Grandidierella sp. 2	C20	1	GH007	2	Bivalvia 51	B78	1
GH002	3	Leanira sp. 1	P157	1	GH007	2	Isolda pulchella	P4	1
GH003	1	Ascidia sydneyensis	A2	1	GH007	2	Glycera sp. 1	P49	1
GH003	1	Cardita incrassata	B16	1	GH007	3	Ascidia sydneyensis	A2	2
GH003	1	Nematoneris unicornis	P44	2	GH007	3	Ascidacea 7	A8	1
GH003	1	Nothria sp. 1	P96	1	GH007	3	Arcidae 1	B2	2
GH003	2	Mactra abbreviata	B28	1	GH007	3	Mactra abbreviata	B28	1
GH003	2	Polylacophora 1	K1	2	GH007	3	Modiolus sp. 1	B40	44
GH003	2	Glycera sp. 1	P49	1	GH007	3	Mytilidae 1	B41	1
GH003	3	Antigona materna	B162	1	GH007	3	Trisidos tortuosa	B5	11
GH004	2	Nemertea 8	N6	1	GH007	3	Waldeckia sp. 1	C15	2
GH004	3	Azorinus sp. 2	B134	1	GH007	3	Thoracia 1	C2	4
GH004	3	Tellina sp. 7	B155	1	GH007	3	Leucothoe sp.	C21	1
GH004	3	Mactra abbreviata	B28	5	GH007	3	Alpheus polyxo	C56	1
GH004	3	Nereis sp. 2	P204	1	GH007	3	Ceradocus rubromaculatus	C9	1
GH004	3	Glycera sp. 1	P49	1	GH007	3	Nassarius dorsatus	G71	1
GH005	1	Mytilidae 2	B181	1	GH007	3	Nematoneris unicornis	P44	1
GH005	1	Macrophthalmus sp. 1	C250	1	GH008	2	Tanaidacea 11	C221	1
GH005	1	Lumbrineris sp. 2	P60	1	GH009	1	Gari sp. 1	B127	1
GH005	2	Cleistostoma sp. 2	C241	1	GH009	1	Solecurtidae 1	B138	2
GH005	2	Alpheus pacifica	C55	1	GH009	1	Antigona materna	B162	1
GH005	2	Armandia sp. 1	P100	1	GH009	1	Limaria sp. 1	B24	1
GH005	2	Notomastus sp. 1	P16	1	GH009	1	Mactra abbreviata	B28	1
GH005	2	Lumbrineris sp. 2	P60	2	GH009	1	Thalamita sima	C140	1
GH005	2	Nephtys sp. 1	P75	1	GH009	1	Waldeckia sp. 1	C15	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH009	1	Ceradocus rubromaculatus	C9	1	GH011	2	Ophelina sp. 1	P101	1
GH009	1	Ophiuroidea 5	E33	1	GH011	2	Nereis sp. 2	P204	1
GH009	1	Euchelus atratus	G254	1	GH011	2	Terebellidae 5	P214	1
GH009	1	Eunice vittata	P36	4	GH011	2	Polychaete 1	P89	1
GH009	2	Corbula (Notocorbula) tunicata	B11	1	GH011	3	Natatolana sp. 1	C197	1
GH009	2	Solecurtidae 1	B138	1	GH011	3	Echiuran 3	D2	1
GH009	2	Carditella (Carditellona) torresi	B17	1	GH011	3	Nemertea 9	N7	1
GH009	2	Placamen tiara	B175	1	GH011	3	Pectinaria (Pectinaria) Papillosa	P130	1
GH009	2	Mactra abbreviata	B28	1	GH011	3	Trichobranchidae 1	P177	1
GH009	2	Mytilidae 1	B41	1	GH011	3	Eunice vittata	P36	1
GH009	2	Waldeckia sp. 1	C15	1	GH011	3	Isolda pulchella	P4	1
GH009	2	Natatolana angula	C196	1	GH011	3	Nematoneris unicornis	P44	1
GH009	2	Orbiniidae 1	P103	1	GH011	3	Lumbrineris sp. 2	P60	2
GH009	2	Eunice vittata	P36	10	GH011	3	Nephtys sp. 1	P75	4
GH009	2	Lumbrineris sp. 3	P61	1	GH011	3	Nereididae 10	P86	2
GH009	3	Ascidacea 13	A16	2	GH012	1	Azorinus sp. 2	B134	1
GH009	3	Ascidia sydneyensis	A2	1	GH012	1	Mytilidae 2	B181	1
GH009	3	Corbula (Notocorbula) tunicata	B11	2	GH012	1	Mactra abbreviata	B28	2
GH009	3	Strigilla euronia	B147	1	GH012	1	Tanaidacea 11	C221	2
GH009	3	Limaria sp. 1	B24	1	GH012	2	Mactra abbreviata	B28	1
GH009	3	Mactra abbreviata	B28	1	GH012	2	Tanaidacea 11	C221	1
GH009	3	Mytilidae 1	B41	2	GH012	2	Lumbrineris sp. 2	P60	1
GH009	3	Waldeckia sp. 1	C15	1	GH012	3	Placamen tiara	B175	1
GH009	3	Natatolana sp. 1	C197	1	GH012	3	Mactra abbreviata	B28	1
GH009	3	Gobiidae 1	F2	1	GH012	3	Ilyoplax strigicarpus	C175	1
GH009	3	Arabella mutans	P10	1	GH012	3	Tanaidacea 11	C221	2
GH009	3	Armandia sp. 1	P100	1	GH012	3	Lumbrineris sp. 2	P60	1
GH009	3	Amphinomidae 2	P191	1	GH013	1	Ascidacea 14	A17	1
GH009	3	Eunice vittata	P36	12	GH013	1	Ascidia sydneyensis	A2	3
GH009	3	Diopatra denata	P94	2	GH013	1	Ascidacea 7	A8	1
GH009	3	Nothria sp. 1	P96	1	GH013	1	Corbula (Notocorbula) tunicata	B11	3
GH010	1	Polinices sp. 1	G94	1	GH013	1	Mimachlamys gloriosa	B119	3
GH010	1	Streblosoma sp. 1	P185	1	GH013	1	Carditella (Carditellona) torresi	B17	2
GH010	1	Nematoneris unicornis	P44	2	GH013	1	Limaria sp. 1	B24	2
GH010	2	Ascidacea 12	A15	1	GH013	1	Anodontia omissa	B26	1
GH010	2	Cardita incrassata	B16	1	GH013	1	Mactra abbreviata	B28	2
GH010	2	Mactra abbreviata	B28	3	GH013	1	Pahies heterodon	B35	1
GH010	2	Natatolana angula	C196	1	GH013	1	Modiolus sp. 1	B40	1
GH010	2	Ophiuroidea 5	E33	1	GH013	1	Marphysa 4	P212	1
GH010	2	Pista typha	P184	1	GH013	1	Eunice vittata	P36	21
GH010	2	Streblosoma sp. 1	P185	8	GH013	1	Nematoneris unicornis	P44	1
GH010	2	Cirratulidae 5	P206	1	GH013	1	Lumbrineris sp. 3	P61	1
GH010	2	Nereididae 9	P85	1	GH013	1	Nephtys sp. 1	P75	1
GH010	2	Nothria sp. 1	P96	5	GH013	2	Ascidia sydneyensis	A2	1
GH010	3	Solecurtidae 1	B138	1	GH013	2	Mimachlamys gloriosa	B119	2
GH010	3	Mactra abbreviata	B28	3	GH013	2	Placamen tiara	B175	1
GH010	3	Alpheus pacifica	C55	1	GH013	2	Limaria sp. 1	B24	1
GH010	3	Pista typha	P184	5	GH013	2	Mactra abbreviata	B28	2
GH010	3	Marphysa depressa	P207	1	GH013	2	Pinctada maculata	B98	1
GH010	3	Nematoneris unicornis	P44	1	GH013	2	Maera sp. 1	C246	1
GH010	3	Nothria sp. 1	P96	2	GH013	2	Alpheus polyxo	C56	1
GH011	1	Mytilidae 2	B181	1	GH013	2	Serpulidae 1	P150	1
GH011	1	Notomastus sp. 1	P16	1	GH013	2	Eupolymnia sp. 1	P179	1
GH011	1	Trichobranchidae 1	P177	1	GH013	2	Eunice vittata	P36	12
GH011	1	Streblosoma sp. 1	P185	1	GH013	2	Nematoneris unicornis	P44	1
GH011	1	Nereis sp. 2	P204	1	GH013	2	Nephtys sp. 1	P75	1
GH011	1	Lumbrineris sp. 2	P60	1	GH013	3	Ascidia sydneyensis	A2	3

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH013	3	Ascidacea 7	A8	2	GH016	1	Paphia sp. 1	B170	1
GH013	3	Azorinus sp. 3	B135	2	GH016	1	Mactra abbreviata	B28	1
GH013	3	Carditella (Carditellona) torresi	B17	2	GH016	1	Streblosoma sp. 1	P185	3
GH013	3	Limaria sp. 1	B24	1	GH016	1	Nematoneris unicornis	P44	10
GH013	3	Anodontia omissa	B26	1	GH016	1	Polychaete 1	P89	1
GH013	3	Mactra abbreviata	B28	3	GH016	1	Nothria sp. 1	P96	2
GH013	3	Pahies heterodon	B35	2	GH016	2	Streblosoma sp. 1	P185	4
GH013	3	Cryptoma sp. 1	B43	1	GH016	2	Eunice vittata	P36	1
GH013	3	Leucothoe sp.	C21	1	GH016	2	Nothria sp. 1	P96	2
GH013	3	Alpheus polyxo	C56	2	GH016	3	Paphia sp. 1	B170	1
GH013	3	Gobiidae 1	F2	1	GH016	3	Mactra abbreviata	B28	1
GH013	3	Trigonostoma obliquata	G16	1	GH016	3	Leucothoe sp.	C21	1
GH013	3	Haploscleros sp. 1	P102	1	GH016	3	Pista typha	P184	1
GH013	3	Eteane siphodonta	P108	1	GH016	3	Marphysa depressa	P207	1
GH013	3	Eunice vittata	P36	6	GH016	3	Nematoneris unicornis	P44	4
GH013	3	Nematoneris unicornis	P44	1	GH016	3	Polychaete 1	P89	1
GH013	3	Anthozoa 5	V10	1	GH016	3	Nothria sp. 1	P96	2
GH014	1	Alpheus pacifica	C55	1	GH017	1	Ascidia sydneyensis	A2	2
GH014	1	Polyodontes australiensis.	P127	1	GH017	1	Carditella (Carditellona) torresi	B17	2
GH014	1	Notomastus sp. 2	P18	1	GH017	1	Paphia sp. 1	B170	1
GH014	1	Maldanidae 1	P65	1	GH017	1	Placamen tiara	B175	1
GH014	1	Nephtys sp. 1	P75	2	GH017	1	Limaria sp. 1	B24	1
GH014	1	Diopatra denata	P94	1	GH017	1	Pahies heterodon	B35	2
GH014	1	Anthozoa 11	V5	1	GH017	1	Trisidos tortuosa	B5	5
GH014	2	Tellina sp. 2	B150	1	GH017	1	Nemertea 1	N1	2
GH014	2	Natanolana sp. 1	C197	1	GH017	1	Notomastus sp. 2	P18	1
GH014	2	Trichobranchidae 1	P177	1	GH017	1	Eunice vittata	P36	2
GH014	2	Nematoneris unicornis	P44	1	GH017	1	Isolda pulchella	P4	1
GH014	2	Maldanidae 1	P65	1	GH017	1	Nematoneris unicornis	P44	1
GH014	2	Nephtys sp. 1	P75	1	GH017	1	Sipuncula 5	S5	1
GH014	2	Nothria sp. 1	P96	1	GH017	2	Ascidacea 2	A3	1
GH014	3	Orbiniidae 2	P190	1	GH017	2	Corbula (Serracorbula) crassa	B1	1
GH014	3	Maldanidae 1	P65	4	GH017	2	Paphia sp. 1	B170	1
GH014	3	Polychaete 1	P89	2	GH017	2	Trisidos tortuosa	B5	2
GH014	3	Diopatra denata	P94	3	GH017	2	Periclimenes sp. 1	C145	1
GH015	1	Mactra abbreviata	B28	1	GH017	2	Pomacuma australiae	C51	2
GH015	1	Haminoea wallasi	G11	1	GH017	2	Alpheus pacifica	C55	1
GH015	1	Nemertea 1	N1	1	GH017	2	Notomastus sp. 2	P18	1
GH015	1	Trichobranchidae 1	P177	1	GH017	2	Glycera sp. 1	P49	2
GH015	1	Pista typha	P184	1	GH017	2	Nephtys sp. 1	P75	1
GH015	1	Hesiocaeca sp. 1	P189	1	GH017	2	Australonereis sp. 1	P81	1
GH015	1	Polynoidea 9	P200	1	GH017	3	Ascidia sydneyensis	A2	1
GH015	1	Eunice sp. 1	P34	4	GH017	3	Ascidacea 2	A3	2
GH015	1	Nephtys sp. 1	P75	5	GH017	3	Mimachlamys gloriosa	B119	1
GH015	1	Australonereis sp. 1	P81	2	GH017	3	Strigilla euronina	B147	1
GH015	2	Arabella mutans	P10	1	GH017	3	Carditella (Carditellona) torresi	B17	2
GH015	2	Eunice sp. 1	P34	3	GH017	3	Pahies heterodon	B35	1
GH015	3	Leptochela sydneyensis	C143	2	GH017	3	Myadora sp. 1	B36	1
GH015	3	Tanaidacea 1	C211	1	GH017	3	Modiolus sp. 1	B40	1
GH015	3	Astropectinidae 3	E3	1	GH017	3	Trisidos tortuosa	B5	3
GH015	3	Sabellidae 2	P134	1	GH017	3	Speocarcinus sp. 1	C165	1
GH015	3	Marphysa depressa	P207	1	GH017	3	Orbiniidae 1	P103	1
GH015	3	Eunice sp. 1	P34	6	GH017	3	Eunice vittata	P36	3
GH015	3	Nephtys sp. 1	P75	7	GH017	3	Nephtys sp. 1	P75	1
GH015	3	Australonereis sp. 1	P81	1	GH017	3	Australonereis sp. 1	P81	1
GH016	1	Solecurtidae 1	B138	1	GH018	1	Placamen tiara	B175	1
GH016	1	Strigilla euronina	B147	2	GH018	1	Grafrum transversarium	B58	2

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH018	1	Orbiniidae 1	P103	1	GH021	1	Lumbrineris sp. 2	P60	1
GH018	1	Trichobranchidae 2	P178	1	GH021	1	Nephtys sp. 1	P75	1
GH018	1	Notomastus sp. 2	P18	2	GH021	2	Azorinus sp. 2	B134	2
GH018	1	Pista typha	P184	1	GH021	2	Mytilidae 2	B181	1
GH018	1	Arabellidae 3	P208	1	GH021	2	Mactra abbreviata	B28	29
GH018	1	Eunice vittata	P36	1	GH021	2	Haminoea wallasi	G11	2
GH018	1	Nematoneris unicornis	P44	1	GH021	2	Hesiocaeca sp. 1	P189	1
GH018	1	Glycera sp. 1	P49	2	GH021	2	Lumbrineris sp. 2	P60	4
GH018	2	Placamen tiara	B175	1	GH021	2	Nereididae 8	P84	1
GH018	2	Oratosquillina stephensoni	C209	1	GH021	3	Azorinus sp. 2	B134	2
GH018	2	Pectinaria (Pectinaria) Papillosa	P130	1	GH021	3	Mytilidae 2	B181	2
GH018	2	Pista typha	P184	1	GH021	3	Mactra abbreviata	B28	12
GH018	2	Sabellidae 14	P209	1	GH021	3	Haminoea wallasi	G11	4
GH018	2	Nothria sp. 1	P96	2	GH021	3	Dasybranchus sp. 1	P13	1
GH018	3	Mimachlamys gloriosa	B119	1	GH021	3	Lumbrineris sp. 2	P60	1
GH018	3	Leionuculana superba	B131	1	GH022	1	Leptochela sydniensis	C143	1
GH018	3	Tellina sp. 5	B153	1	GH022	1	Eunice sp. 1	P34	4
GH018	3	Cardita incrassata	B16	1	GH022	1	Nephtys sp. 1	P75	2
GH018	3	Placamen tiara	B175	1	GH022	2	Ogyrides delli	C117	1
GH018	3	Thoracia 1	C2	2	GH022	2	Alpheus richardsoni	C57	1
GH018	3	Eteane siphodonta	P108	1	GH022	2	Eunice sp. 1	P34	2
GH018	3	Eunice vittata	P36	3	GH022	3	Alpheus polyxo	C56	1
GH018	3	Nematoneris unicornis	P44	3	GH022	3	Ophiuroidea 27	E54	2
GH019	1	Botrylloides leachi	A1	3	GH022	3	Holothuroidea 11	E59	1
GH019	1	Corbula (Notocorbula) tunicata	B11	2	GH022	3	Nereididae 15	P215	1
GH019	1	Mactra abbreviata	B28	1	GH022	3	Eunice sp. 1	P34	7
GH019	1	Cryptoma sp. 1	B43	1	GH023	1	Ophelina sp. 1	P101	1
GH019	1	Trisidos tortuosa	B5	1	GH023	1	Glycera sp. 1	P49	1
GH019	1	Grafium transversarium	B58	1	GH023	2	Bivalvia 35	B62	1
GH019	1	Orbiniidae 1	P103	1	GH023	2	Macrophthalmus sp. 1	C250	2
GH019	1	Eunice sp. 1	P34	1	GH023	3	Corbula (Notocorbula) tunicata	B11	1
GH019	1	Eunice vittata	P36	1	GH023	3	Maera sp. 2	C273	1
GH019	1	Nematoneris unicornis	P44	1	GH023	3	Athanas sibogae	C54	1
GH019	1	Lumbrineris sp. 2	P60	1	GH023	3	Alpheus pacifica	C55	1
GH019	2	Strigilla euronina	B147	1	GH023	3	Alpheus richardsoni	C57	1
GH019	2	Carditella (Carditellona) torresi	B17	1	GH023	3	Glycera sp. 1	P49	1
GH019	2	Placamen tiara	B175	1	GH023	3	Lumbrineris sp. 2	P60	1
GH019	2	Mactra abbreviata	B28	1	GH024	1	Corbula (Serracorbula) crassa	B1	2
GH019	2	Trisidos tortuosa	B5	2	GH024	1	Corbula (Notocorbula) tunicata	B11	1
GH019	2	Nephtys sp. 1	P75	2	GH024	1	Azorinus sp. 3	B135	1
GH019	3	Ascidacea 2	A3	1	GH024	1	Solecurtidae 1	B138	1
GH019	3	Carditella (Carditellona) torresi	B17	1	GH024	1	Paphies cunata	B34	1
GH019	3	Nephtys sp. 1	P75	4	GH024	1	Cuspidaridae 2	B48	1
GH020	1	Bivalvia 53	B80	4	GH024	1	Photis sp. 2	C235	1
GH020	1	Gastropoda 46	G115	1	GH024	1	Gonodactylaceus graphurus	C252	1
GH020	1	Gastropoda 146	G184	1	GH024	1	Galathea corallicola	C253	1
GH020	1	Sthenelais sp.2	P210	2	GH024	1	Alpheus pacifica	C55	1
GH020	2	Bivalvia 53	B80	2	GH024	1	Ophiuroidea 1	E29	1
GH020	2	Gastropoda 171	G209	2	GH024	1	Amphiuridae sp. 1	E41	1
GH020	3	Nuclana (Scaededa) crassa	B182	1	GH024	1	Arabella mutans	P10	1
GH020	3	Ogyrides delli	C117	1	GH024	1	Syllidae 2	P170	4
GH020	3	Leptochela sydniensis	C143	1	GH024	1	Syllidae 3	P171	1
GH021	1	Azorinus sp. 2	B134	8	GH024	1	Lysaretidae 2	P188	1
GH021	1	Mytilidae 2	B181	3	GH024	1	Amphinomidae 3	P216	1
GH021	1	Mactra abbreviata	B28	29	GH024	1	Syllidae 7	P218	1
GH021	1	Ilyoplax strigicarpus	C175	3	GH024	1	Syllidae 8	P233	1
GH021	1	Haminoea wallasi	G11	6	GH024	1	Amphinomidae 4	P234	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH024	1	Progoniada sp. 1	P52	1	GH027	3	Ophiuroidea 9	E36	1
GH024	1	Australonereis sp. 1	P81	1	GH027	3	Gastropoda 184	G289	4
GH024	1	Nereididae 10	P86	1	GH027	3	Eunice sp. 1	P34	1
GH024	1	Nothria sp. 1	P96	2	GH028	1	Crassostrea gigas	B183	1
GH024	1	Sipuncula 11	S11	1	GH028	1	Saccostrea sp.	B55	1
GH024	2	Ascidia sydneyensis	A2	1	GH028	1	Chama limbula	B85	1
GH024	2	Corbula (Serracorbula) crassa	B1	1	GH028	1	Flabelligeridae 3	P196	1
GH024	2	Mallacoota sp. 1	C14	1	GH028	1	Eunice sp. 1	P34	1
GH024	2	Galathea corallicola	C253	2	GH028	1	Eunice vittata	P36	2
GH024	2	Menaethius monoceros	C254	1	GH028	2	Carditella (Carditellona) torresi	B17	1
GH024	2	Argathona sp. 2	C284	1	GH028	2	Mactra abbreviata	B28	1
GH024	2	Alpheus polyxo	C56	1	GH028	2	Trisidos tortuosa	B5	1
GH024	2	Synalpheus sp. 1	C58	1	GH028	2	Pomacuma australiae	C51	1
GH024	2	Gastropoda 153	G191	1	GH028	2	Gobiidae 1	F2	1
GH024	2	Syllidae 2	P170	2	GH028	2	Orbiniidae 1	P103	1
GH024	2	Hesione sptendidae	P217	1	GH028	2	Eunice sp. 1	P34	2
GH024	2	Arabellidae 4	P219	1	GH028	2	Nephtys sp. 1	P75	1
GH024	2	Eunice sp. 8	P220	1	GH028	3	Placamen tiara	B175	1
GH024	2	Nothria sp. 1	P96	1	GH028	3	Crassostrea gigas	B183	2
GH024	3	Ascidia sydneyensis	A2	1	GH028	3	Chama limbula	B85	1
GH024	3	Hiatella australis	B52	1	GH028	3	Speocarcinus sp. 1	C165	1
GH024	3	Notocirrus australis	P221	1	GH028	3	Eunice sp. 1	P34	2
GH024	3	Lysaretidae 1	P64	2	GH029	1	Leionuculana superba	B131	2
GH024	3	Nereididae 10	P86	4	GH029	1	Strigilla euronina	B147	1
GH024	3	Nothria sp. 1	P96	1	GH029	1	Nemertea 10	N8	1
GH024	3	Dentalium javanum	T1	1	GH029	1	Ophelina sp. 1	P101	2
GH025	1	Strigilla sp. 1	B148	1	GH029	1	Maldanidae 2	P66	3
GH025	1	Glycera sp. 1	P49	1	GH029	1	Diopatra denata	P94	1
GH025	2	Sthenelais sp.2	P210	1	GH029	1	Ceriantharia 4	V26	1
GH025	3	Zoea 2	C255	1	GH029	2	Cuspidaridae 1	B21	1
GH025	3	Birubius wallisae	C278	1	GH029	2	Alpheus pacifica	C55	1
GH026	1	Mactra abbreviata	B28	4	GH029	3	Strigilla euronina	B147	1
GH026	1	Tanaidacea 11	C221	1	GH029	3	Cuspidaridae 1	B21	1
GH026	1	Lumbrineris sp. 2	P60	1	GH029	3	Nassarius dorsatus	G71	1
GH026	2	Azorinus sp. 2	B134	2	GH029	3	Arabella mutans	P10	1
GH026	2	Tellina sp. 7	B155	2	GH029	3	Pista typha	P184	1
GH026	2	Mactra abbreviata	B28	2	GH029	3	Pilargiidae 3	P222	1
GH026	3	Mactra abbreviata	B28	6	GH029	3	Maldanidae 1	P65	1
GH027	1	Tellina sp. 2	B150	4	GH029	3	Diopatra denata	P94	1
GH027	1	Cuspidaridae 1	B21	1	GH030	1	Azorinus sp. 1	B133	4
GH027	1	Chama sp. 1	B7	1	GH030	1	Bivalvia 45	B72	3
GH027	1	Chamidae 1	B8	1	GH030	1	Portunus sp. 2	C137	1
GH027	1	Ogyrides delli	C117	3	GH030	1	Tanaidacea 11	C221	1
GH027	1	Holothuroidea 11	E59	1	GH030	1	Ilyograpsus paludicola	C256	4
GH027	1	Gastropoda 184	G289	2	GH030	1	Gastropoda 165	G203	1
GH027	1	Eunice sp. 1	P34	1	GH030	1	Potamididae 8	G231	1
GH027	1	Nephtys sp. 1	P75	2	GH030	1	Marphysa bifurcata	P197	4
GH027	2	Tellina sp. 2	B150	2	GH030	2	Azorinus sp. 1	B133	2
GH027	2	Cuspidaridae 1	B21	1	GH030	2	Strigilla euronina	B147	1
GH027	2	Gastropoda 184	G289	1	GH030	2	Mactra abbreviata	B28	1
GH027	2	Nemertea 1	N1	1	GH030	2	Grafrum transversarium	B58	1
GH027	2	Trichobranchidae 1	P177	1	GH030	2	Bivalvia 45	B72	5
GH027	2	Lumbrineris sp. 2	P60	1	GH030	2	Macrophthalmus latreillei	C126	2
GH027	3	Soletellina sp. 1	B129	1	GH030	2	Ilyograpsus paludicola	C256	2
GH027	3	Tellina sp. 2	B150	1	GH030	2	Neritina ovalaniensis	G98	1
GH027	3	Cuspidaridae 1	B21	1	GH030	2	Nemertea 1	N1	1
GH027	3	Ogyrides delli	C117	1	GH030	2	Marphysa bifurcata	P197	4

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH030	2	Phyllodoceidae 9	P223	1	GH032	2	Anthozoa 17	V25	1
GH030	3	Strigilla euronica	B147	1	GH032	3	Ascidia sydneyensis	A2	1
GH030	3	Scintillona sp.	B185	2	GH032	3	Pinctada sp. 1	B125	2
GH030	3	Bivalvia 45	B72	5	GH032	3	Azorinus sp. 3	B135	1
GH030	3	Macrophthalmus latreillei	C126	2	GH032	3	Linga sp.	B193	1
GH030	3	Tanaidacea 11	C221	1	GH032	3	Cryptoma sp. 1	B43	1
GH030	3	Cleistostoma sp. 2	C241	1	GH032	3	Polynoidae 2	P119	1
GH030	3	Marphysa bifurcata	P197	4	GH032	3	Palola sp. 1	P194	1
GH031	1	Tellina sp. 6	B154	1	GH032	3	Eunice sp. 8	P220	1
GH031	1	Natica euzona	G84	1	GH032	3	Lumbrineris sp. 6	P224	1
GH031	1	Marphysa bifurcata	P197	1	GH032	3	Nothria sp. 1	P96	7
GH031	1	Progoniada sp. 1	P52	1	GH032	3	Sipuncula 5	S5	1
GH031	2	Leionuculana superba	B131	1	GH032	3	Ceriantharia 3	V21	310
GH031	2	Azorinus sp. 1	B133	1	GH032	3	Anthozoa 17	V25	1
GH031	2	Circe sulcata	B186	1	GH033	1	Diogenes dubius	C251	1
GH031	2	Macrophthalmus latreillei	C126	1	GH033	1	Nereididae 8	P84	1
GH031	2	Echinoidae 1	E19	1	GH033	2	Nemertea 7	N5	2
GH031	2	Arabella mutans	P10	1	GH033	2	Glycera sp. 1	P49	1
GH031	2	Pectinaria (Pectinaria) Papillosa	P130	1	GH034	1	Tellina sp. 2	B150	2
GH031	2	Leanira sp. 1	P157	1	GH034	1	Ogyrides delli	C117	2
GH031	2	Amphinomidae 2	P191	1	GH034	1	Xenocheira fasciata	C22	2
GH031	2	Marphysa bifurcata	P197	1	GH034	1	Alpheus richardsoni	C57	2
GH031	2	Progoniada sp. 1	P52	3	GH034	1	Gobiidae 1	F2	1
GH031	2	Lumbrineris sp. 2	P60	1	GH034	1	Maldanidae 1	P65	1
GH031	2	Lumbrineris sp. 4	P62	2	GH034	2	Tellina sp. 2	B150	2
GH031	2	Nothria sp. 1	P96	3	GH034	2	Ogyrides delli	C117	6
GH031	3	Placamen tiara	B175	1	GH034	2	Leanira sp. 1	P157	1
GH031	3	Tellina sp. 14	B187	2	GH034	3	Tellina sp. 2	B150	2
GH031	3	Mytilidae 1	B41	1	GH034	3	Paphia undulata	B176	1
GH031	3	Echinoidae 1	E19	1	GH034	3	Ogyrides delli	C117	1
GH031	3	Nothria sp. 1	P96	1	GH034	3	Leanira sp. 1	P157	1
GH032	1	Ascidia sydneyensis	A2	5	GH034	3	Australonereis sp. 1	P81	1
GH032	1	Solecurtidae 1	B138	1	GH035	1	Carditella (Carditellona) torresi	B17	1
GH032	1	Veneridae 1	B164	1	GH035	1	Mactra abbreviata	B28	1
GH032	1	Paphia exarata	B188	1	GH035	1	Orbiniidae 1	P103	1
GH032	1	Maera sp. 1	C246	1	GH035	1	Eunice sp. 1	P34	1
GH032	1	Chitonidae 1	K6	1	GH035	2	Tellina sp. 6	B154	1
GH032	1	Acanthochitonidae 1	K7	1	GH035	2	Cuspidaridae 1	B21	3
GH032	1	Syllidae 2	P170	21	GH035	2	Anodontia omisssa	B26	1
GH032	1	Nereis sp. 1	P202	1	GH035	2	Ogyrides delli	C117	1
GH032	1	Arabellidae 4	P219	1	GH035	2	Tanaidacea 11	C221	1
GH032	1	Nereididae 16	P235	2	GH035	2	Bopyridae 3	C249	1
GH032	1	Nereididae 17	P236	3	GH035	2	Alpheus pacifica	C55	1
GH032	1	Eunice tentaculata	P37	2	GH035	2	Orbiniidae 1	P103	1
GH032	1	Ceriantharia 3	V21	265	GH035	2	Eunice sp. 1	P34	2
GH032	2	Bivalvia 78	B105	1	GH035	2	Nephtys sp. 1	P75	1
GH032	2	Brachidontes subramosa	B189	1	GH035	2	Australonereis sp. 1	P81	1
GH032	2	Maera sp. 1	C246	1	GH035	3	Tellina sp. 6	B154	1
GH032	2	Macrophthalmus sp. 1	C250	1	GH035	3	Cuspidaridae 1	B21	1
GH032	2	Ophiuroidea 5	E33	1	GH035	3	Cryptoma sp. 1	B43	4
GH032	2	Gastropoda 162	G200	1	GH035	3	Eunice sp. 1	P34	2
GH032	2	Syllidae 2	P170	4	GH036	1	Azorinus sp. 2	B134	18
GH032	2	Nereis sp. 2	P204	2	GH036	1	Mactra abbreviata	B28	4
GH032	2	Lumbrineris sp. 6	P224	1	GH036	1	Ilyoplax strigicarpus	C175	1
GH032	2	Nereididae 17	P236	2	GH036	1	Glycera sp. 1	P49	2
GH032	2	Cirratulidae 2	P28	1	GH036	1	Nephtys sp. 1	P75	2
GH032	2	Ceriantharia 3	V21	238	GH036	2	Azorinus sp. 2	B134	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH036	2	Mactra abbreviata	B28	9	GH040	3	Potamididae 8	G231	1
GH036	2	Nereis sp. 1	P202	1	GH040	3	Trichobranchidae 1	P177	1
GH036	3	Corbula (Serracorbula) crassa	B1	1	GH040	3	Nephtyidae 2	P226	1
GH036	3	Azorinus sp. 2	B134	3	GH041	1	Solecurtidae 1	B138	1
GH036	3	Mactra abbreviata	B28	5	GH041	1	Penaeus marginatus	C154	2
GH036	3	Echiuran 3	D2	2	GH041	1	Echiuran 3	D2	4
GH037	1	Azorinus sp. 2	B134	1	GH041	1	Orbiniidae 2	P190	1
GH037	1	Trypauchen microcephalus	F6	2	GH041	1	Marphysa depressa	P207	2
GH037	1	Leanira sp. 1	P157	1	GH041	1	Polychaete 32	P253	1
GH037	1	Eunice sp. 1	P34	6	GH041	1	Glycera sp. 1	P49	1
GH037	1	Nephtys sp. 1	P75	1	GH041	1	Progoniada sp. 1	P52	1
GH037	2	Cuspidaridae 1	B21	1	GH041	1	Diopatra denata	P94	1
GH037	2	Ogyrides delli	C117	2	GH041	1	Sipuncula 5	S5	2
GH037	2	Gobiidae 3	F10	1	GH041	1	Anthozoa 4	V9	1
GH037	2	Gobiidae 1	F2	1	GH041	2	Bivalvia 45	B72	1
GH037	2	Leanira sp. 1	P157	1	GH041	2	Macrophthalmus latreillei	C126	1
GH037	3	Azorinus sp. 2	B134	1	GH041	2	Alpheus pacifica	C55	1
GH037	3	Ogyrides delli	C117	5	GH041	2	Echiuran 3	D2	4
GH037	3	Trypauchen microcephalus	F6	1	GH041	2	Trichobranchidae 2	P178	1
GH037	3	Eunice sp. 1	P34	2	GH041	2	Marphysa bifurcata	P197	3
GH038	1	Tanaidacea 11	C221	1	GH041	2	Sigalionidae 5	P229	2
GH038	1	Gastropoda 184	G289	1	GH041	3	Chama 2	B191	1
GH038	1	Polychaete 32	P253	1	GH041	3	Marphysa bifurcata	P197	1
GH038	1	Polychaete 1	P89	1	GH041	3	Diopatra denata	P94	1
GH038	2	Leionuculana superba	B131	1	GH042	1	Corbula (Notocorbula) tunicata	B11	1
GH038	2	Natatolana sp. 1	C197	1	GH042	1	Mactra abbreviata	B28	1
GH038	2	Grandidierella sp. 2	C20	1	GH042	1	Tellina (Pistris) serricostata	B77	1
GH038	2	Holothuroidea 11	E59	1	GH042	2	Laternula rostrata	B190	1
GH038	2	Notomastus sp. 3	P20	2	GH042	2	Mactra abbreviata	B28	2
GH038	3	Myadora sp. 1	B36	1	GH042	2	Tellina (Pistris) serricostata	B77	1
GH038	3	Tanaidacea 11	C221	1	GH042	2	Uca sp. 2	C128	2
GH038	3	Gastropoda 184	G289	1	GH042	2	Gobiidae 4	F11	1
GH038	3	Nemertea 10	N8	1	GH042	2	Glycera sp. 1	P49	4
GH038	3	Ophelina sp. 1	P101	1	GH042	3	Mactra abbreviata	B28	2
GH038	3	Nephtys sp. 1	P75	1	GH042	3	Macrophthalmus sp. 1	C250	1
GH039	1	Strigilla euronina	B147	1	GH042	3	Glycera sp. 1	P49	2
GH039	1	Placamen tiara	B175	1	GH043	1	Corbula (Serracorbula) crassa	B1	1
GH039	1	Alpheus pacifica	C55	1	GH043	2	Onuphis (onuphis) eremita	P230	1
GH039	1	Phyllodocidae 9	P223	1	GH043	3	Nemertea 1	N1	2
GH039	1	Eunice vittata	P36	1	GH043	3	Leanira sp. 1	P157	1
GH039	2	Leionuculana superba	B131	2	GH043	3	Onuphis (onuphis) eremita	P230	1
GH039	2	Tellina sp. 6	B154	1	GH043	3	Lumbrineris sp. 2	P60	1
GH039	2	Paphia sp. 1	B170	1	GH044	1	Tellina sp. 2	B150	2
GH039	2	Mactra abbreviata	B28	1	GH044	1	Cuspidaridae 1	B21	1
GH039	2	Pista typha	P184	1	GH044	1	Ogyrides delli	C117	2
GH039	2	Eunice vittata	P36	1	GH044	1	Trypauchen microcephalus	F6	1
GH039	2	Nephtys sp. 1	P75	1	GH044	2	Tellina sp. 2	B150	2
GH039	3	Leionuculana superba	B131	2	GH044	2	Ogyrides delli	C117	7
GH039	3	Placamen tiara	B175	1	GH044	2	Gastropoda 184	G289	2
GH039	3	Trichobranchidae 1	P177	1	GH044	2	Lumbrineris sp. 2	P60	1
GH040	1	Grafium transversarium	B58	1	GH044	3	Ogyrides delli	C117	2
GH040	1	Tanaidacea 11	C221	1	GH044	3	Gastropoda 184	G289	1
GH040	1	Eunice vittata	P36	1	GH044	3	Leanira sp. 1	P157	1
GH040	2	Orbiniidae 4	P227	1	GH044	3	Lumbrineris sp. 2	P60	1
GH040	2	Sipuncula 12	S12	1	GH045	1	Carditella (Carditellona) torresi	B17	2
GH040	3	Grafium transversarium	B58	1	GH045	1	Placamen tiara	B175	1
GH040	3	Maera sp. 1	C246	1	GH045	1	Eunice sp. 1	P34	6

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH045	1	Lumbrineris sp. 2	P60	1	GH049	1	Alpheus pacifica	C55	1
GH045	2	Carditella (Carditellona) torresi	B17	11	GH049	1	Ophiuroidea 5	E33	4
GH045	2	Metapenaeopsis novaeguineae	C153	1	GH049	1	Holothuroidea 11	E59	1
GH045	2	Echiuran 5	D4	1	GH049	1	Pectinaria (Pectinaria) Papillosa	P130	1
GH045	2	Eunice sp. 1	P34	7	GH049	1	Orbiniidae 2	P190	1
GH045	3	Tellina sp. 2	B150	1	GH049	1	Progoniada sp. 1	P52	1
GH045	3	Carditella (Carditellona) torresi	B17	2	GH049	1	Nereididae 10	P86	2
GH045	3	Echiuran 4	D3	2	GH049	1	Nothria sp. 1	P96	2
GH045	3	Astropectinidae 1	E1	1	GH049	2	Leionuculana superba	B131	1
GH045	3	Eunice sp. 1	P34	4	GH049	2	Mactra abbreviata	B28	1
GH046	1	Eunice vittata	P36	3	GH049	2	Bivalvia 45	B72	1
GH046	2	Corbula (Notocorbula) tunicata	B11	3	GH049	2	Alpheus pacifica	C55	2
GH046	2	Placamen tiara	B175	2	GH049	2	Pista typha	P184	1
GH046	2	Natatolana sp. 1	C197	1	GH049	2	Marphysa bifurcata	P197	1
GH046	2	Arabella mutans	P10	1	GH049	2	Maldanidae 9	P237	2
GH046	2	Eunice vittata	P36	2	GH049	2	Lumbrineris sp. 2	P60	1
GH046	2	Nematoneris unicornis	P44	1	GH049	2	Lumbrineris sp. 4	P62	1
GH046	2	Progoniada sp. 1	P52	1	GH049	3	Strigilla euronina	B147	1
GH046	2	Nothria sp. 1	P96	1	GH049	3	Echiuran 7	D6	2
GH046	3	Corbula (Notocorbula) tunicata	B11	1	GH049	3	Pectinaria (Pectinaria) Papillosa	P130	1
GH046	3	Mimachlamys gloriosa	B119	1	GH049	3	Progoniada sp. 1	P52	1
GH046	3	Echiuran 6	D5	12	GH050	1	Gobiidae 3	F10	2
GH046	3	Eunice vittata	P36	2	GH050	2	Tellina sp. 2	B150	1
GH047	1	Solecurtidae 1	B138	1	GH050	2	Cuspidaridae 1	B21	2
GH047	1	Chama 2	B191	1	GH050	3	Anodontia omissa	B26	1
GH047	2	Ascidacea 2	A3	1	GH051	1	Azorinus sp. 2	B134	1
GH047	2	Azorinus sp. 3	B135	1	GH051	1	Glycera sp. 1	P49	1
GH047	2	Natatolana angula	C196	1	GH051	2	Azorinus sp. 2	B134	1
GH047	2	Streblosoma sp. 1	P185	1	GH051	2	Echiuran 3	D2	2
GH047	2	Marphysa depressa	P207	1	GH051	2	Glycera sp. 1	P49	2
GH047	3	Ascidia sydneyensis	A2	2	GH051	3	Echiuran 3	D2	3
GH047	3	Azorinus sp. 3	B135	1	GH051	3	Glycera sp. 1	P49	1
GH047	3	Thoracia 1	C2	1	GH052	1	Soletellina sp. 2	B194	1
GH047	3	Arabella mutans	P10	4	GH052	3	Donax (Tentidona) veruinus	B195	1
GH047	3	Polynoidae 4	P121	1	GH053	1	Leionuculana superba	B131	1
GH047	3	Polynoidae 5	P122	1	GH053	1	Lumbrineris sp. 6	P224	1
GH047	3	Dasybranchus sp. 1	P13	1	GH053	1	Sigalionidae 5	P229	1
GH047	3	Onuphis (onuphis) eremita	P230	1	GH053	2	Leionuculana superba	B131	5
GH047	3	Polynoidae 11	P231	1	GH053	2	Solecurtidae 1	B138	2
GH047	3	Palola sp. 3	P232	1	GH053	2	Linga sp.	B193	1
GH047	3	Eunice tentaculata	P37	1	GH053	2	Portunus sp. 3	C142	1
GH047	3	Australonereis sp. 1	P81	1	GH053	2	Gastropoda 184	G289	1
GH047	3	Nothria sp. 1	P96	1	GH053	2	Marphysa depressa	P207	1
GH047	3	Anthozoa 5	V10	1	GH053	2	Orbiniidae 4	P227	1
GH048	1	Chama limbula	B85	1	GH053	2	Goniadidae 1	P50	1
GH048	1	Gobiidae 1	F2	1	GH053	2	Progoniada sp. 1	P52	2
GH048	2	Eunice sp. 1	P34	2	GH053	3	Leionuculana superba	B131	3
GH048	2	Goniadidae 1	P50	1	GH053	3	Orbiniidae 2	P190	1
GH048	3	Eunice sp. 1	P34	3	GH053	3	Marphysa bifurcata	P197	1
GH048	3	Eunice vittata	P36	1	GH053	3	Progoniada sp. 1	P52	4
GH048	3	Nephtys sp. 1	P75	1	GH053	3	Lumbrineris sp. 4	P62	2
GH049	1	Corbula (Serracorbula) crassa	B1	1	GH053	3	Diopatra denata	P94	1
GH049	1	Leionuculana superba	B131	1	GH054	1	Leionuculana superba	B131	1
GH049	1	Strigilla euronina	B147	1	GH054	1	Notomastus sp. 2	P18	1
GH049	1	Tellina sp. 4	B152	1	GH054	1	Sthenelais sp. 1	P205	1
GH049	1	Cleistostoma sp. 2	C241	1	GH054	2	Cryptoma sp. 1	B43	1
GH049	1	Processa sp. 2	C280	1	GH054	2	Notomastus sp. 2	P18	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH054	2	Marphysa bifurcata	P197	1	GH059	1	Lumbrineris sp. 2	P60	1
GH054	2	Sipuncula 6	S6	1	GH059	2	Azorinus sp. 2	B134	4
GH054	3	Natatolana sp. 1	C197	1	GH059	2	Mactra abbreviata	B28	1
GH054	3	Leucothoe sp.	C21	1	GH059	2	Potamididae 1	G226	1
GH055	1	Gari weinkauffi	B205	1	GH059	2	Nemertea 10	N8	4
GH055	1	Mitrella sp. 1	G291	1	GH059	2	Glycera sp. 1	P49	2
GH055	1	Sigalionidae 7	P238	1	GH059	3	Azorinus sp. 2	B134	2
GH055	2	Mysella sp. 1	B210	1	GH059	3	Mactra abbreviata	B28	1
GH055	2	Hiatella australis	B52	1	GH059	3	Ilyoplax strigicarpus	C175	1
GH055	2	Marginella sp. 1	G61	1	GH059	3	Turritellidae 1	G272	1
GH056	1	Mactra abbreviata	B28	5	GH059	3	Natica euzona	G84	3
GH056	1	Grafrum transversarium	B58	1	GH059	3	Glycera sp. 1	P49	3
GH056	1	Glycera sp. 1	P49	1	GH060	1	Ascidia sydneyensis	A2	2
GH056	2	Mactra abbreviata	B28	4	GH060	1	Corbula (Serracorbula) crassa	B1	2
GH056	2	Hiatella australis	B52	1	GH060	1	Corbula (Notocorbula) tunicata	B11	2
GH056	2	Glycera sp. 1	P49	1	GH060	1	Mimachlamys gloriosa	B119	1
GH056	2	Lumbrineris sp. 5	P63	1	GH060	1	Carditella (Carditellona) torresi	B17	1
GH056	3	Soletellina petalina	B132	1	GH060	1	Tawera subnodulosa	B56	1
GH056	3	Azorinus sp. 2	B134	22	GH060	1	Grafrum transversarium	B58	3
GH056	3	Mactra abbreviata	B28	5	GH060	1	Thalamita sima	C140	1
GH056	3	Gobiidae 1	F2	1	GH060	1	Holothuroidea 3	E24	1
GH056	3	Glycera sp. 1	P49	1	GH060	1	Nereis sp. 2	P204	1
GH056	3	Nephtys sp. 1	P75	1	GH060	1	Marphysa 4	P212	1
GH057	1	Azorinus sp. 2	B134	1	GH060	1	Notocirrus australis	P221	2
GH057	1	Arcidae 1	B2	1	GH060	1	Eunice vittata	P36	2
GH057	1	Mactra abbreviata	B28	2	GH060	1	Isolda pulchella	P4	1
GH057	1	Ilyoplax strigicarpus	C175	5	GH060	1	Nothria sp. 1	P96	6
GH057	1	Cleistostoma mcneilli	C176	1	GH060	2	Ascidia sydneyensis	A2	2
GH057	1	Haminoea wallasi	G11	1	GH060	2	Bivalvia 78	B105	1
GH057	1	Lumbrineris sp. 2	P60	1	GH060	2	Corbula (Notocorbula) tunicata	B11	1
GH057	2	Azorinus sp. 2	B134	3	GH060	2	Veneridae 1	B164	1
GH057	2	Anodontia omissa	B26	1	GH060	2	Carditella (Carditellona) torresi	B17	1
GH057	2	Mactra abbreviata	B28	5	GH060	2	Placamen tiara	B175	1
GH057	2	Cleistostoma mcneilli	C176	1	GH060	2	Pahies heterodon	B35	1
GH057	2	Haminoea wallasi	G11	4	GH060	2	Modiolus sp. 1	B40	1
GH057	2	Atys cylindricus	G9	1	GH060	2	Grafrum transversarium	B58	2
GH057	2	Lumbrineris sp. 2	P60	1	GH060	2	Thoracia 1	C2	2
GH057	3	Leucothoe sp.	C21	2	GH060	2	Orbiniidae 1	P103	1
GH057	3	Cheiriphotis australis	C29	2	GH060	2	Nereis sp. 2	P204	1
GH057	3	Ophelina sp. 1	P101	1	GH060	2	Nereididae 14	P213	1
GH058	1	Mactra abbreviata	B28	1	GH060	2	Notocirrus australis	P221	1
GH058	2	Azorinus sp. 2	B134	1	GH060	2	Eunice vittata	P36	1
GH058	2	Mactra abbreviata	B28	1	GH060	2	Nematoneris unicornis	P44	1
GH058	3	Uca sp. 2	C128	2	GH060	2	Lumbrineris sp. 2	P60	1
GH058	3	Ilyoplax strigicarpus	C175	2	GH060	2	Nereididae 10	P86	1
GH058	3	Cleistostoma mcneilli	C176	1	GH060	2	Nothria sp. 1	P96	5
GH058	3	Cleistostoma sp. 1	C178	1	GH060	3	Corbula (Serracorbula) crassa	B1	1
GH058	3	Cleistostoma sp. 3	C276	1	GH060	3	Bivalvia 78	B105	1
GH058	3	Glycera sp. 1	P49	1	GH060	3	Mimachlamys gloriosa	B119	1
GH059	1	Azorinus sp. 2	B134	1	GH060	3	Tellina sp. 5	B153	1
GH059	1	Mactra abbreviata	B28	1	GH060	3	Cardita incrassata	B16	1
GH059	1	Uca sp. 2	C128	1	GH060	3	Grafrum transversarium	B58	2
GH059	1	Ancylocheles gravelei	C131	1	GH060	3	Pisidia dispar	C129	1
GH059	1	Ilyoplax strigicarpus	C175	1	GH060	3	Thalamita sima	C140	3
GH059	1	Cleistostoma sp. 2	C241	1	GH060	3	Tanaidacea 10	C220	1
GH059	1	Turritellidae 1	G272	5	GH060	3	Galathea corallicola	C253	1
GH059	1	Glycera sp. 1	P49	2	GH060	3	Alpheus pacifica	C55	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH060	3	Ceradocus rubromaculatus	C9	2	GH062	1	Ophiuroidea 30	E63	1
GH060	3	Pilumnus sp. 1	C94	1	GH062	1	Nemertea 1	N1	2
GH060	3	Holothuroidea 3	E24	1	GH062	1	Polynoidae 5	P122	1
GH060	3	Ophiuroidea 5	E33	1	GH062	1	Pista typha	P184	1
GH060	3	Syllidae 4	P172	1	GH062	1	Eunice vittata	P36	7
GH060	3	Nereididae 14	P213	3	GH062	1	Glycera sp. 1	P49	1
GH060	3	Eunice vittata	P36	5	GH062	1	Goniadidae 1	P50	1
GH060	3	Nematoneris unicornis	P44	2	GH062	1	Sipuncula 5	S5	1
GH060	3	Lumbrineris sp. 2	P60	1	GH062	1	Ceriantharia 3	V21	2
GH060	3	Lumbrineris sp. 3	P61	1	GH062	2	Corbula (Serracorbula) crassa	B1	1
GH060	3	Maldanidae 2	P66	1	GH062	2	Leionuculana superba	B131	3
GH060	3	Nereididae 10	P86	12	GH062	2	Solecurtidae 1	B138	1
GH060	3	Nothria sp. 1	P96	11	GH062	2	Tellina sp. 6	B154	4
GH061	1	Solecurtidae 1	B138	1	GH062	2	Placamen tiara	B175	5
GH061	1	Tellina sp. 5	B153	1	GH062	2	Callista (Costacallista) sp.	B223	2
GH061	1	Antigona materna	B162	1	GH062	2	Modiolus sp. 1	B40	1
GH061	1	Erullia rubra	B206	1	GH062	2	Bivalvia 53	B80	3
GH061	1	Macra abbreviata	B28	1	GH062	2	Alpheus pacifica	C55	1
GH061	1	Alpheus pacifica	C55	1	GH062	2	Echiuran 3	D2	1
GH061	1	Polynoidae 2	P119	1	GH062	2	Gobiidae 1	F2	1
GH061	1	Trichobranchidae 1	P177	2	GH062	2	Ophelina sp. 1	P101	1
GH061	1	Eunice vittata	P36	4	GH062	2	Polychaete 31	P242	1
GH061	1	Nematoneris unicornis	P44	1	GH062	2	Eunice vittata	P36	5
GH061	1	Nothria sp. 1	P96	12	GH062	2	Goniadidae 1	P50	1
GH061	1	Sipuncula 5	S5	2	GH062	2	Australonereis sp. 1	P81	1
GH061	2	Bivalvia 74	B101	1	GH062	2	Nereididae 9	P85	1
GH061	2	Carditella (Carditellona) torresi	B17	3	GH062	3	Azorinus sp. 3	B135	1
GH061	2	Placamen tiara	B175	1	GH062	3	Placamen tiara	B175	1
GH061	2	Speocarcinus sp. 1	C165	1	GH062	3	Modiolus sp. 1	B40	1
GH061	2	Allogalatea elegans	C257	1	GH062	3	Natatolana sp. 1	C197	1
GH061	2	Cirolana curtensis	C277	1	GH062	3	Alpheus pacifica	C55	2
GH061	2	Ceradocus rubromaculatus	C9	2	GH062	3	Polynoidae 4	P121	1
GH061	2	Heterometra crenulata	E12	1	GH062	3	Notomastus sp. 3	P20	1
GH061	2	Notomastus sp. 2	P18	1	GH062	3	Lygdomis sp. 1	P239	1
GH061	2	Eunice sp. 1	P34	1	GH062	3	Eunice vittata	P36	3
GH061	2	Eunice vittata	P36	2	GH062	3	Progoniada sp. 1	P52	1
GH061	2	Nothria sp. 1	P96	1	GH062	3	Anthozoa 4	V9	1
GH061	2	Ceriantharia 3	V21	10	GH063	1	Ascidia sydneyensis	A2	1
GH061	3	Placamen tiara	B175	1	GH063	1	Soletellina petalina	B132	1
GH061	3	Myadora pulleini	B196	1	GH063	1	Veneridae 1	B164	1
GH061	3	Mallacoota sp. 1	C14	3	GH063	1	Carditella (Carditellona) torresi	B17	1
GH061	3	Alpheus pacifica	C55	1	GH063	1	Placamen tiara	B175	5
GH061	3	Ophiuroidea 11	E38	1	GH063	1	Myadora sp. 1	B36	1
GH061	3	Ophelina sp. 1	P101	1	GH063	1	Bivalvia 53	B80	1
GH061	3	Polynoidae 10	P225	1	GH063	1	Leptochela sydneyensis	C143	1
GH061	3	Eunice vittata	P36	1	GH063	1	Parelasomopus ya	C27	1
GH061	3	Nematoneris unicornis	P44	1	GH063	1	Alpheus pacifica	C55	1
GH061	3	Maldanidae 1	P65	1	GH063	1	Gobiidae 1	F2	1
GH061	3	Nothria sp. 1	P96	5	GH063	1	Eunice vittata	P36	2
GH061	3	Ceriantharia 3	V21	3	GH063	1	Maldanidae 1	P65	1
GH062	1	Corbula (Notocorbula) tunicata	B11	1	GH063	2	Corbula (Notocorbula) tunicata	B11	2
GH062	1	Gari sp. 1	B127	1	GH063	2	Leionuculana superba	B131	1
GH062	1	Leionuculana superba	B131	1	GH063	2	Antigona materna	B162	1
GH062	1	Tellina sp. 6	B154	1	GH063	2	Veneridae 1	B164	1
GH062	1	Modiolus sp. 1	B40	1	GH063	2	Placamen tiara	B175	2
GH062	1	Periclimenes sp. 1	C145	1	GH063	2	Modiolus sp. 1	B40	2
GH062	1	Natatolana sp. 1	C197	2	GH063	2	Bivalvia 53	B80	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH063	2	Gobiidae 1	F2	1	GH066	2	Thalamita sima	C140	1
GH063	2	Ophelina sp. 1	P101	2	GH066	2	Lumbrineris sp. 6	P224	1
GH063	2	Polynoidae 2	P119	1	GH066	2	Eunice sp. 1	P34	1
GH063	2	Leanira sp. 1	P157	1	GH066	2	Sipuncula 6	S6	1
GH063	2	Eunice sp. 1	P34	1	GH066	3	Leionuculana superba	B131	1
GH063	2	Eunice vittata	P36	6	GH066	3	Xenocheira fasciata	C22	1
GH063	2	Progoniada sp. 1	P52	1	GH066	3	Gobiidae 3	F10	1
GH063	3	Veneridae 1	B164	1	GH066	3	Lumbrineris sp. 2	P60	1
GH063	3	Placamen tiara	B175	1	GH066	3	Sipuncula 5	S5	1
GH063	3	Natatolana sp. 1	C197	1	GH067	1	Globivenus embrithes	B197	1
GH063	3	Eunice vittata	P36	6	GH067	1	Tawera subnodulosa	B56	1
GH063	3	Glycera sp. 1	P49	1	GH067	1	Cirratulidae 6	P245	2
GH064	1	Leionuculana superba	B131	1	GH067	1	Anthozoa 17	V25	1
GH064	1	Branchiostoma moretonensis	F9	1	GH067	2	Arcidae 1	B2	1
GH064	2	Linga sp.	B193	1	GH067	2	Gari weinkauffi	B205	2
GH064	2	Bivalvia 42	B69	5	GH067	2	Nothria sp. 1	P96	1
GH064	2	Branchiostoma moretonensis	F9	1	GH067	3	Gari weinkauffi	B205	1
GH064	2	Armandia sp. 1	P100	2	GH067	3	Mactra (Nannomactra) sp. 2	B208	1
GH064	2	Orbiniidae 2	P190	1	GH067	3	Bivalvia 45	B72	1
GH064	2	Eunice vittata	P36	1	GH067	3	Echinoidae 5	E60	1
GH064	3	Lutraria sp.	B207	1	GH067	3	Marphysa bifurcata	P197	1
GH064	3	Branchiostoma minucaudata	F12	1	GH067	3	Nereididae 14	P213	1
GH065	1	Leionuculana superba	B131	3	GH067	3	Dorvilleidae 3	P240	1
GH065	1	Solecurtidae 1	B138	4	GH067	3	Nothria sp. 1	P96	3
GH065	1	Tellina sp. 2	B150	1	GH068	1	Tellina sp. 6	B154	1
GH065	1	Placamen tiara	B175	1	GH068	1	Mactra abbreviata	B28	4
GH065	1	Linga sp.	B193	1	GH068	1	Nephtys sp. 1	P75	1
GH065	1	Echinoidae 1	E19	1	GH068	2	Mactra abbreviata	B28	9
GH065	1	Holothuroidea 11	E59	1	GH068	2	Leucothoe sp.	C21	1
GH065	1	Dasybranchus sp. 1	P13	1	GH068	2	Trichobranchidae 1	P177	2
GH065	1	Leanira sp. 1	P157	1	GH068	2	Eunice sp. 1	P34	3
GH065	1	Anthozoa 4	V9	2	GH068	2	Nephtys sp. 1	P75	2
GH065	2	Leionuculana superba	B131	2	GH068	3	Leionuculana superba	B131	1
GH065	2	Solecurtidae 1	B138	2	GH068	3	Mactra abbreviata	B28	8
GH065	2	Anodontia omissa	B26	3	GH068	3	Speocarcinus luteus	C81	1
GH065	2	Maldanidae 9	P237	2	GH068	3	Echiuran 3	D2	1
GH065	2	Progoniada sp. 1	P52	1	GH068	3	Ophiuroidea 5	E33	1
GH065	2	Lumbrineris sp. 3	P61	1	GH068	3	Trichobranchidae 1	P177	2
GH065	2	Anthozoa 11	V5	1	GH068	3	Eunice sp. 1	P34	1
GH065	2	Anthozoa 4	V9	1	GH068	3	Nephtys sp. 1	P75	2
GH065	3	Leionuculana superba	B131	1	GH069	1	Epitonium sp. 4	G40	1
GH065	3	Cuspidaria sp. 1	B20	1	GH069	1	Leanira sp. 1	P157	1
GH066	1	Leionuculana superba	B131	2	GH069	1	Glycera sp. 1	P49	1
GH066	1	Cuspidaridae 1	B21	1	GH069	2	Ophiuroidea 9	E36	2
GH066	1	Leucothoe sp.	C21	1	GH069	2	Gastropoda 184	G289	2
GH066	1	Xenocheira fasciata	C22	1	GH069	3	Natatolana sp. 1	C197	1
GH066	1	Maera sp. 2	C273	1	GH069	3	Gastropoda 184	G289	1
GH066	1	Gobiidae 1	F2	1	GH069	3	Nassarius sp. 4	G75	1
GH066	1	Orbiniidae 2	P190	1	GH070	1	Armandia sp. 1	P100	1
GH066	1	Lumbrineris sp. 2	P60	1	GH070	1	Marphysa depressa	P207	1
GH066	1	Nephtys sp. 1	P75	1	GH070	1	Lumbrineris sp. 6	P224	1
GH066	1	Sipuncula 6	S6	3	GH070	2	Azorinus sp. 3	B135	1
GH066	2	Leionuculana superba	B131	1	GH070	2	Mactra abbreviata	B28	2
GH066	2	Tellina sp. 3	B151	2	GH070	2	Modiolus sp. 1	B40	2
GH066	2	Tellina sp. 6	B154	1	GH070	2	Grafrum transversarium	B58	30
GH066	2	Anodontia omissa	B26	2	GH070	2	Ceradocus rubromaculatus	C9	1
GH066	2	Nuculana darwini	B45	1	GH070	2	Pilumnus sp. 1	C94	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH070	2	Nassarius sp. 3	G74	1	GH072	3	Sabellidae 6	P138	1
GH070	2	Nereis sp. 2	P204	3	GH072	3	Palola sp. 2	P195	1
GH070	2	Marphysa depressa	P207	2	GH072	3	Notomastus sp. 3	P20	1
GH070	2	Anthozoa 5	V10	5	GH072	3	Eunice vittata	P36	1
GH070	3	Grafrum transversarium	B58	3	GH072	3	Nematoneris unicornis	P44	1
GH070	3	Collumbellidae 1	G20	1	GH072	3	Lumbrineris sp. 4	P62	1
GH071	2	Ascidacea 5	A6	28	GH072	3	Anthozoa 4	V9	3
GH071	2	Corbula (Notocorbula) tunicata	B11	2	GH073	1	Ascidacea 5	A6	14
GH071	2	Azorinus sp. 3	B135	1	GH073	1	Leionuculana superba	B131	1
GH071	2	Placamen tiara	B175	1	GH073	1	Azorinus sp. 3	B135	1
GH071	2	Pahies heterodon	B35	1	GH073	1	Solecurtidae 1	B138	1
GH071	2	Ophiuroidea 11	E38	1	GH073	1	Carditella (Carditellona) torresi	B17	2
GH071	2	Orbiniidae 1	P103	1	GH073	1	Placamen tiara	B175	4
GH071	2	Polynoidae 3	P120	1	GH073	1	Bivalvia 53	B80	1
GH071	2	Streblosoma sp. 1	P185	1	GH073	1	Natatolana sp. 1	C197	1
GH071	2	Marphysa depressa	P207	1	GH073	1	Eunice vittata	P36	1
GH071	2	Eunice vittata	P36	1	GH073	1	Progoniada sp. 1	P52	2
GH071	2	Lumbrineris sp. 4	P62	1	GH073	1	Sipuncula 11	S11	1
GH071	2	Australonereis sp. 1	P81	2	GH073	1	Sipuncula 13	S13	1
GH071	3	Ascidia sydneyensis	A2	29	GH073	1	Anthozoa 4	V9	1
GH071	3	Ascidacea 7	A8	1	GH073	2	Corbula (Notocorbula) tunicata	B11	2
GH071	3	Mimachlamys gloriosa	B119	1	GH073	2	Soletellina petalina	B132	1
GH071	3	Azorinus sp. 3	B135	2	GH073	2	Antigona materna	B162	1
GH071	3	Cuspidaridae 2	B48	1	GH073	2	Carditella (Carditellona) torresi	B17	1
GH071	3	Hiatella australis	B52	3	GH073	2	Placamen tiara	B175	8
GH071	3	Pisidia dispar	C129	1	GH073	2	Chama 2	B191	1
GH071	3	Biarctus sordidus	C265	1	GH073	2	Pahies heterodon	B35	1
GH071	3	Alpheus pacifica	C55	2	GH073	2	Hiatella australis	B52	1
GH071	3	Gastropoda 129	G168	1	GH073	2	Rhaphidopus ciliatus	C132	1
GH071	3	Fissurellidae 1	G48	1	GH073	2	Natatolana sp. 1	C197	1
GH071	3	Polyplacophora 2	K2	2	GH073	2	Amphinomidae 1	P2	1
GH071	3	Eunice tentaculata	P37	2	GH073	2	Lygdomis sp. 1	P239	1
GH071	3	Eunice gracilis	P40	4	GH073	2	Eunice vittata	P36	6
GH072	1	Birubius wallisae	C278	1	GH073	2	Eunice afra	P38	2
GH072	1	Ophiuroidea 21	E48	2	GH073	2	Progoniada sp. 1	P52	1
GH072	1	Palola sp. 2	P195	1	GH073	2	Virgularia sp. 1	V18	1
GH072	1	Eunice vittata	P36	1	GH074	1	Corbula (Notocorbula) tunicata	B11	1
GH072	1	Goniadidae 1	P50	1	GH074	1	Mimachlamys gloriosa	B119	1
GH072	2	Corbula (Notocorbula) tunicata	B11	2	GH074	1	Gari sp. 1	B127	1
GH072	2	Bivalvia 53	B80	1	GH074	1	Azorinus sp. 3	B135	1
GH072	2	Tanaidacea 11	C221	1	GH074	1	Placamen tiara	B175	1
GH072	2	Birubius wallisae	C278	1	GH074	1	Natatolana sp. 1	C197	2
GH072	2	Holothuroidea 8	E55	1	GH074	1	Alpheus pacifica	C55	1
GH072	2	Eunice vittata	P36	2	GH074	1	Cirratulidae 6	P245	1
GH072	2	Nematoneris unicornis	P44	1	GH074	1	Eunice vittata	P36	2
GH072	2	Goniadidae 1	P50	1	GH074	1	Nematoneris unicornis	P44	1
GH072	3	Corbula (Notocorbula) tunicata	B11	1	GH074	1	Progoniada sp. 1	P52	1
GH072	3	Solecurtidae 1	B138	3	GH074	1	Lumbrineris sp. 4	P62	1
GH072	3	Veneridae 1	B164	1	GH074	1	Anthozoa 11	V5	10
GH072	3	Paphia sp. 1	B170	1	GH074	2	Ascidacea 7	A8	1
GH072	3	Placamen tiara	B175	5	GH074	2	Corbula (Notocorbula) tunicata	B11	1
GH072	3	Pahies heterodon	B35	3	GH074	2	Placamen tiara	B175	2
GH072	3	Alpheus pacifica	C55	1	GH074	2	Myadora sp. 1	B36	1
GH072	3	Clibanarius longitarsus	C71	1	GH074	2	Tanaidacea 2	C212	2
GH072	3	Echiuran 3	D2	1	GH074	2	Clibanarius longitarsus	C71	1
GH072	3	Gastropoda 46	G115	1	GH074	2	Echiuran 3	D2	1
GH072	3	Orbiniidae 1	P103	1	GH074	2	Arabellidae 3	P208	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH074	2	Eunice vittata	P36	3	GH077	1	Anodontia omissa	B26	1
GH074	2	Eunice gracilis	P40	1	GH077	1	Leucothoe sp.	C21	1
GH074	2	Nematoneris unicornis	P44	1	GH077	1	Gobiidae 3	F10	1
GH074	2	Maldanidae 1	P65	1	GH077	1	Sabellidae 2	P134	1
GH074	2	Nereididae 9	P85	1	GH077	1	Eunice sp. 1	P34	2
GH074	3	Corbula (Serracorbula) crassa	B1	1	GH077	2	Leionuculana superba	B131	6
GH074	3	Tellina sp. 2	B150	1	GH077	2	Cuspidaridae 1	B21	1
GH074	3	Placamen tiara	B175	3	GH077	2	Tanaidacea 11	C221	1
GH074	3	Pahies heterodon	B35	1	GH077	2	Alpheus pacifica	C55	1
GH074	3	Tanaidacea 10	C220	1	GH077	2	Gobiidae 3	F10	1
GH074	3	Echiuran 3	D2	1	GH077	2	Leanira sp. 1	P157	1
GH074	3	Bedevea hanleyi	G63	1	GH077	2	Eunice sp. 1	P34	1
GH074	3	Notomastus sp. 3	P20	1	GH077	2	Lumbrineris sp. 1	P59	1
GH074	3	Eunice vittata	P36	2	GH077	3	Leionuculana superba	B131	2
GH074	3	Progoniada sp. 1	P52	1	GH077	3	Alpheus polyxo	C56	1
GH074	3	Anthozoa 11	V5	1	GH077	3	Gobiidae 1	F2	1
GH075	1	Corbula (Notocorbula) tunicata	B11	1	GH077	3	Lumbrineris sp. 1	P59	1
GH075	1	Azorinus sp. 3	B135	2	GH077	3	Nephtys sp. 1	P75	1
GH075	1	Solecurtidae 1	B138	1	GH077	3	Sipuncula 5	S5	2
GH075	1	Antigona materna	B162	1	GH078	1	Branchiostoma moretonensis	F9	1
GH075	1	Carditella (Carditellona) torresi	B17	1	GH078	1	Nothria sp. 2	P97	2
GH075	1	Modiolus sp. 1	B40	1	GH078	2	Nuclana (Scaededa) crassa	B182	1
GH075	1	Astropectinidae 2	E2	1	GH078	2	Leptochela sydniensis	C143	1
GH075	1	Ophiuroidea 2	E30	1	GH078	2	Tanaidacea 10	C220	1
GH075	1	Orbiniidae 1	P103	1	GH078	2	Leanira sp. 1	P157	1
GH075	1	Marphysa depressa	P207	1	GH078	3	Corbula (Serracorbula) crassa	B1	1
GH075	1	Eupanthalis sp. 2	P244	1	GH078	3	Nuclana (Scaededa) crassa	B182	1
GH075	1	Eunice vittata	P36	2	GH078	3	Bivalvia 53	B80	4
GH075	1	Nereididae 9	P85	2	GH079	1	Corbula (Serracorbula) crassa	B1	1
GH075	2	Leionuculana superba	B131	3	GH079	1	Tellina sp. 3	B151	1
GH075	2	Carditella (Carditellona) torresi	B17	1	GH079	1	Alpheus pacifica	C55	1
GH075	2	Eunice vittata	P36	1	GH079	1	Callianassa cf orientalis	C61	2
GH075	2	Ceriantharia 3	V21	1	GH079	1	Leanira sp. 1	P157	2
GH075	2	Anthozoa 11	V5	1	GH079	1	Sternapis scutata	P168	1
GH075	3	Ascidia sydneyensis	A2	1	GH079	1	Orbiniidae 2	P190	3
GH075	3	Placamen tiara	B175	3	GH079	1	Lumbrineris sp. 2	P60	2
GH075	3	Mactra abbreviata	B28	1	GH079	1	Lumbrineris sp. 4	P62	1
GH075	3	Waldeckia sp. 1	C15	1	GH079	1	Nephtys sp. 1	P75	1
GH075	3	Ophiuroidea 29	E62	1	GH079	1	Sipuncula 6	S6	2
GH075	3	Ophelina sp. 1	P101	1	GH079	2	Corbula (Notocorbula) tunicata	B11	1
GH075	3	Orbiniidae 2	P190	1	GH079	2	Charybdis truncata	C279	1
GH076	1	Leionuculana superba	B131	1	GH079	2	Echinoidae 1	E19	1
GH076	1	Strigilla euronina	B147	1	GH079	2	Isolda pulchella	P4	1
GH076	1	Macrophthalmus latreillei	C126	1	GH079	2	Lumbrineris sp. 1	P59	1
GH076	1	Ophiuroidea 5	E33	1	GH079	2	Diopatra denata	P94	1
GH076	1	Leanira sp. 1	P157	1	GH079	2	Sipuncula 6	S6	1
GH076	2	Holothuroidea 11	E59	1	GH080	1	Leionuculana superba	B131	1
GH076	2	Lingulua sp. 1	L1	1	GH080	1	Branchiostoma moretonensis	F9	1
GH076	2	Progoniada sp. 1	P52	2	GH080	1	Amphinomidae 1	P2	1
GH076	2	Nephtys sp. 1	P75	1	GH080	2	Branchiostoma moretonensis	F9	1
GH076	2	Sipuncula 5	S5	1	GH080	2	Sthenelais sp.2	P210	1
GH076	3	Marphysa bifurcata	P197	1	GH080	3	Corbula (Serracorbula) crassa	B1	1
GH076	3	Progoniada sp. 1	P52	1	GH080	3	Leionuculana superba	B131	1
GH076	3	Diopatra denata	P94	1	GH080	3	Timoclea lionata	B198	1
GH077	1	Soletellina sp. 1	B129	1	GH080	3	Tanaidacea 10	C220	1
GH077	1	Leionuculana superba	B131	3	GH080	3	Callianassa cf orientalis	C61	3
GH077	1	Strigilla euronina	B147	2	GH080	3	Echinoidae 1	E19	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH080	3	Branchiostoma moretonensis	F9	1	GH085	1	Tellina sp. 6	B154	1
GH080	3	Sthenelais sp.2	P210	1	GH085	1	Veneridae 1	B164	1
GH080	3	Eunice vittata	P36	1	GH085	1	Placamen tiara	B175	5
GH080	3	Lumbrineris sp. 5	P63	1	GH085	1	Alpheus pacifica	C55	1
GH081	1	Ascidia sydneiensis	A2	1	GH085	1	Speocarcinus luteus	C81	1
GH081	1	Corbula (Serracorbula) crassa	B1	2	GH085	1	Progoniada sp. 1	P52	1
GH081	1	Tanaidacea 10	C220	1	GH085	1	Nereididae 9	P85	1
GH081	1	Echinoidae 1	E19	1	GH085	2	Antigona materna	B162	1
GH081	1	Sipuncula 11	S11	1	GH085	2	Placamen tiara	B175	4
GH081	1	Sipuncula 5	S5	1	GH085	2	Pahies heterodon	B35	1
GH081	1	Virgularia sp. 1	V18	1	GH085	2	Modiolus sp. 1	B40	2
GH081	2	Gari gracilentia	B199	1	GH085	2	Gonodactylaceus graphurus	C252	1
GH081	3	Limopsis sp. 3	B200	1	GH085	2	Orbiniidae 1	P103	1
GH081	3	Branchiostoma moretonensis	F9	1	GH085	2	Polynoidae 2	P119	1
GH081	3	Cylichna sp. 1	G10	1	GH085	2	Eunice vittata	P36	2
GH082	1	Timoclea lionata	B198	1	GH085	2	Pherusa sp. 2	P46	1
GH082	1	Eurydice minya	C283	1	GH085	2	Progoniada sp. 1	P52	1
GH082	1	Branchiostoma moretonensis	F9	1	GH085	2	Australonereis sp. 1	P81	1
GH082	2	Tanaidacea 10	C220	1	GH085	3	Mimachlamys gloriosa	B119	6
GH082	2	Callianassa cf orientalis	C61	1	GH085	3	Antigona materna	B162	2
GH082	2	Diopatra denata	P94	3	GH085	3	Placamen tiara	B175	2
GH082	2	Nothria sp. 2	P97	2	GH085	3	Modiolus sp. 1	B40	1
GH082	3	Birubius wallisae	C278	1	GH085	3	Orbiniidae 1	P103	1
GH082	3	Callianassa cf orientalis	C61	1	GH085	3	Polynoidae 4	P121	1
GH082	3	Speocarcinus luteus	C81	1	GH085	3	Marphysa depressa	P207	1
GH083	1	Mimachlamys gloriosa	B119	2	GH085	3	Eunice vittata	P36	2
GH083	1	Mactra abbreviata	B28	12	GH085	3	Isolda pulchella	P4	1
GH083	1	Grafrum transversarium	B58	1	GH085	3	Sipuncula 5	S5	3
GH083	1	Leptochela sydniensis	C143	1	GH086	1	Ascidia sydneiensis	A2	4
GH083	1	Leucothoe sp.	C21	1	GH086	1	Natatolana angula	C196	1
GH083	1	Holothuroidea 3	E24	1	GH086	1	Thoracia 1	C2	1
GH083	1	Marphysa depressa	P207	1	GH086	1	Echiuran 6	D5	1
GH083	1	Eunice sp. 1	P34	4	GH086	1	Eunice vittata	P36	2
GH083	1	Glycera sp. 1	P49	1	GH086	1	Eunice tentaculata	P37	1
GH083	1	Nephtys sp. 1	P75	1	GH086	1	Lumbrineris sp. 2	P60	2
GH083	2	Mactra abbreviata	B28	7	GH086	1	Diopatra denata	P94	1
GH083	2	Serpulidae 1	P150	2	GH086	1	Sipuncula 13	S13	1
GH083	2	Marphysa depressa	P207	1	GH086	2	Placamen tiara	B175	1
GH083	2	Eunice sp. 1	P34	1	GH086	2	Marphysa depressa	P207	1
GH083	2	Lumbrineris sp. 2	P60	1	GH086	2	Australonereis sp. 1	P81	1
GH083	3	Mactra abbreviata	B28	9	GH086	3	Azorinus sp. 3	B135	1
GH083	3	Arcidae 3	B4	1	GH086	3	Clibanarius longitarsus	C71	1
GH083	3	Grafrum transversarium	B58	1	GH086	3	Orbiniidae 1	P103	1
GH083	3	Athanas sibogae	C54	1	GH086	3	Sabellastarte langa	P139	1
GH083	3	Alpheus richardsoni	C57	2	GH086	3	Palola sp. 1	P194	1
GH083	3	Leanira sp. 1	P157	1	GH086	3	Sigalionidae 7	P238	1
GH083	3	Nereis sp. 2	P204	1	GH086	3	Eunice gracilis	P40	2
GH083	3	Marphysa 4	P212	1	GH087	1	Arcidae 1	B2	1
GH084	1	Macrophthalmus telescopicus	C266	1	GH087	1	Pahies heterodon	B35	1
GH084	1	Alpheus pacifica	C55	2	GH087	1	Cheiriphotis australis	C29	1
GH084	1	Eunice sp. 1	P34	1	GH087	1	Syllidae 2	P170	1
GH084	1	Goniadidae 1	P50	1	GH087	1	Marphysa 4	P212	2
GH084	2	Macrophthalmus telescopicus	C266	1	GH087	1	Polychaete 28	P246	2
GH084	2	Sipuncula 5	S5	1	GH087	1	Nereididae 9	P85	1
GH084	3	Macrophthalmus telescopicus	C266	1	GH087	2	Ascidia sydneiensis	A2	1
GH085	1	Corbula (Notocorbula) tunicata	B11	4	GH087	2	Azorinus sp. 3	B135	1
GH085	1	Leionuculana superba	B131	1	GH087	2	Eupolymnia sp. 1	P179	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH087	2	Eunice vittata	P36	1	GH090	1	Tellina sp. 15	B204	2
GH087	2	Progoniada sp. 1	P52	1	GH090	1	Mactra abbreviata	B28	1
GH087	3	Chama 2	B191	2	GH090	1	Grafrum transversarium	B58	12
GH087	3	Gari gracilenta	B199	1	GH090	2	Tellina sp. 2	B150	1
GH087	3	Hiatella australis	B52	1	GH090	2	Tellina sp. 15	B204	1
GH087	3	Eupanthalis sp. 2	P244	1	GH090	2	Mactra abbreviata	B28	2
GH087	3	Progoniada sp. 1	P52	1	GH090	2	Grafrum transversarium	B58	23
GH088	1	Azorinus sp. 3	B135	2	GH090	3	Tellina sp. 2	B150	1
GH088	1	Chama 2	B191	1	GH090	3	Tellina sp. 7	B155	1
GH088	1	Limopsis sp. 2	B201	1	GH090	3	Donax (Tentidonax) veruinus	B195	1
GH088	1	Hiatella australis	B52	1	GH090	3	Grafrum transversarium	B58	22
GH088	1	Tanaidacea 11	C221	1	GH090	3	Nereididae 10	P86	1
GH088	1	Ophiuroidea 9	E36	2	GH091	1	Mictyris longicarpus	C106	25
GH088	1	Marphysa bifurcata	P197	1	GH091	2	Mictyris longicarpus	C106	7
GH088	1	Eunice vittata	P36	1	GH091	2	Neverita sp. 1	G86	1
GH088	1	Progoniada sp. 1	P52	1	GH091	3	Mictyris longicarpus	C106	1
GH088	1	Samytha sp. 1	P8	1	GH092	1	Ascidia sydneyensis	A2	1
GH088	1	Nereididae 9	P85	1	GH092	1	Ascidacea 2	A3	1
GH088	1	Sipuncula 3	S3	1	GH092	1	Ascidacea 5	A6	12
GH088	2	Corbula (Notocorbula) tunicata	B11	1	GH092	1	Mimachlamys gloriosa	B119	1
GH088	2	Ophiuroidea 1	E29	1	GH092	1	Thoracia 1	C2	3
GH088	2	Conus aureus	G292	1	GH092	1	Patellidae 1	G243	1
GH088	3	Ascidia sydneyensis	A2	1	GH092	2	Mimachlamys gloriosa	B119	2
GH088	3	Azorinus sp. 3	B135	1	GH092	2	Eunice vittata	P36	1
GH088	3	Paphia sp. 1	B170	1	GH092	2	Diopatra denata	P94	3
GH088	3	Gastropoda 8	G106	1	GH092	2	Sipuncula 5	S5	3
GH088	3	Marphysa 4	P212	1	GH092	2	Ceriantharia 3	V21	1
GH089	1	Soletellina sp. 1	B129	8	GH092	3	Ophiuroidea 1	E29	1
GH089	1	Leionuculana superba	B131	19	GH092	3	Marphysa 4	P212	1
GH089	1	Pharella wardi	B140	1	GH092	3	Progoniada sp. 1	P52	1
GH089	1	Thalamita sima	C140	1	GH092	3	Diopatra denata	P94	1
GH089	1	Leucothoe sp.	C21	1	GH092	3	Nothria sp. 2	P97	1
GH089	1	Macrophthalmus telescopicus	C266	4	GH093	1	Mactra abbreviata	B28	1
GH089	1	Glycera sp. 1	P49	1	GH093	1	Modiolus sp. 1	B40	1
GH089	1	Lumbrineris sp. 1	P59	1	GH093	1	Clibanarius longitarsus	C71	1
GH089	1	Lumbrineris sp. 2	P60	1	GH093	1	Polynoidae 2	P119	1
GH089	2	Corbula (Notocorbula) tunicata	B11	1	GH093	1	Trichobranchidae 1	P177	1
GH089	2	Soletellina sp. 1	B129	4	GH093	1	Streblosoma sp. 1	P185	1
GH089	2	Leionuculana superba	B131	21	GH093	1	Orbiniidae 2	P190	1
GH089	2	Tellina sp. 6	B154	1	GH093	1	Polychaete 28	P246	1
GH089	2	Linga sp.	B193	1	GH093	1	Eunice vittata	P36	2
GH089	2	Portunus sp. 2	C137	1	GH093	1	Progoniada sp. 1	P52	1
GH089	2	Natanolana angula	C196	2	GH093	1	Sipuncula 5	S5	3
GH089	2	Macrophthalmus telescopicus	C266	6	GH093	2	Trisidos tortuosa	B5	1
GH089	2	Cheiriphotis australis	C29	1	GH093	2	Speocarcinus luteus	C81	1
GH089	2	Alpheus pacifica	C55	2	GH093	2	Ophiuroidea 1	E29	1
GH089	2	Eunice sp. 1	P34	2	GH093	2	Arabella mutans	P10	1
GH089	2	Progoniada sp. 1	P52	1	GH093	2	Marphysa 4	P212	1
GH089	2	Lumbrineris sp. 4	P62	1	GH093	2	Polychaete 28	P246	7
GH089	3	Soletellina sp. 1	B129	4	GH093	2	Eunice vittata	P36	1
GH089	3	Leionuculana superba	B131	8	GH093	2	Maldanidae 1	P65	1
GH089	3	Cuspidaridae 1	B21	1	GH093	2	Nereididae 9	P85	1
GH089	3	Macrophthalmus telescopicus	C266	1	GH093	2	Sipuncula 5	S5	2
GH089	3	Alpheus pacifica	C55	1	GH093	3	Corbula (Notocorbula) tunicata	B11	1
GH089	3	Eunice sp. 1	P34	2	GH093	3	Paphia sp. 1	B170	2
GH089	3	Sipuncula 6	S6	1	GH093	3	Tanaidacea 10	C220	1
GH090	1	Tellina sp. 2	B150	1	GH093	3	Chitonidae 2	K8	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH093	3	Orbiniidae 1	P103	2	GH097	1	Polychaete 28	P246	2
GH093	3	Polynoidae 2	P119	1	GH097	1	Nephtys sp. 1	P75	3
GH093	3	Marphysa 4	P212	1	GH097	1	Virgularia sp. 1	V18	1
GH093	3	Polynoidae 11	P231	1	GH097	2	Branchiostoma moretonensis	F9	1
GH093	3	Cirratulidae 6	P245	2	GH097	2	Nephtys sp. 1	P75	1
GH093	3	Polychaete 28	P246	10	GH097	2	Sipuncula 5	S5	1
GH093	3	Eunice vittata	P36	6	GH097	3	Eruilia rubra	B206	1
GH093	3	Isolda pulchella	P4	1	GH097	3	Notocirrus australis	P221	2
GH093	3	Glycera sp. 1	P49	1	GH097	3	Arabellidae 6	P250	1
GH093	3	Maldanidae 1	P65	1	GH097	3	Lumbrineris sp. 1	P59	1
GH093	3	Nephtys sp. 1	P75	1	GH097	3	Nephtys sp. 1	P75	1
GH093	3	Nereididae 9	P85	2	GH097	3	Diopatra denata	P94	1
GH093	3	Sipuncula 5	S5	2	GH097	3	Dentalium sp. 1	T2	1
GH093	3	Sipuncula 6	S6	1	GH098	1	Ascidia sydneyensis	A2	1
GH094	3	Nothria sp. 1	P96	1	GH098	1	Mauraenichthys breviceps	F14	1
GH095	1	Leionuculana superba	B131	1	GH098	2	Ostracoda 2	C225	1
GH095	1	Placamen tiara	B175	1	GH098	2	Lumbrineris sp. 5	P63	1
GH095	1	Speocarcinus luteus	C81	1	GH098	2	Nothria sp. 1	P96	1
GH095	1	Ophiuroidea 1	E29	1	GH099	1	Gari sp. 2	B128	6
GH095	1	Nemertea 8	N6	1	GH099	1	Mactra abbreviata	B28	1
GH095	1	Dasybranchus sp. 1	P13	2	GH099	1	Grafrum transversarium	B58	2
GH095	1	Arabellidae 4	P219	1	GH099	1	Diogenes guttatus	C72	1
GH095	1	Orbiniidae 4	P227	1	GH099	2	Gari sp. 2	B128	4
GH095	1	Sigalionidae 5	P229	1	GH099	2	Mactra abbreviata	B28	4
GH095	1	Diopatra denata	P94	2	GH099	2	Grafrum transversarium	B58	1
GH095	2	Corbula (Serracorbula) crassa	B1	1	GH099	3	Gari sp. 2	B128	3
GH095	2	Callianassa cf orientalis	C61	2	GH099	3	Orbiniidae 4	P227	1
GH095	2	Clibanarius longitarsus	C71	1	GH100	1	Tellina sp. 7	B155	1
GH095	2	Mertonia integra	C82	1	GH100	1	Paphia sp. 1	B170	1
GH095	2	Gastropoda 184	G289	1	GH100	1	Circe sulcata	B186	9
GH095	2	Naticidae 3	G89	14	GH100	1	Tellina sp. 15	B204	6
GH095	2	Orbiniidae 2	P190	8	GH100	1	Mactra abbreviata	B28	194
GH095	2	Cirratulidae 6	P245	15	GH100	1	Birubius wallisae	C278	1
GH095	2	Progoniada sp. 1	P52	3	GH100	1	Lysaretidae 3	P251	1
GH095	3	Corbula (Serracorbula) crassa	B1	1	GH100	1	Lumbrineris sp. 2	P60	3
GH095	3	Soletellina sp. 1	B129	1	GH100	1	Diopatra denata	P94	2
GH095	3	Linga sp.	B193	1	GH100	2	Gari sp. 2	B128	2
GH096	1	Soletellina sp. 1	B129	1	GH100	2	Circe sulcata	B186	7
GH096	1	Polynoidae 2	P119	1	GH100	2	Tellina sp. 15	B204	1
GH096	1	Dasybranchus sp. 1	P13	2	GH100	2	Mactra abbreviata	B28	61
GH096	1	Notomastus sp. 1	P16	1	GH100	2	Glycera sp. 1	P49	1
GH096	1	Eunice sp. 1	P34	1	GH100	3	Circe sulcata	B186	12
GH096	1	Lumbrineris sp. 3	P61	1	GH100	3	Tellina sp. 15	B204	3
GH096	2	Leionuculana superba	B131	1	GH100	3	Mactra abbreviata	B28	133
GH096	2	Dasybranchus sp. 1	P13	1	GH100	3	Modiolus sp. 1	B40	1
GH096	2	Notomastus sp. 1	P16	1	GH100	3	Rissoidae 1	G245	1
GH096	2	Cirratulidae 6	P245	1	GH100	3	Lumbrineris sp. 2	P60	1
GH096	2	Lumbrineris sp. 3	P61	1	GH101	3	Ophelina sp. 1	P101	1
GH096	2	Nephtys sp. 1	P75	1	GH102	1	Donax (Tentidonax) veruinus	B195	1
GH096	3	Azorus minutus	B203	1	GH102	1	Zoea 3	C267	1
GH096	3	Leptochela sydneyensis	C143	1	GH102	1	Glycera sp. 1	P49	1
GH096	3	Eunice sp. 1	P34	2	GH102	2	Tellina sp. 5	B153	3
GH096	3	Nephtys sp. 1	P75	1	GH102	2	Ostracoda 2	C225	1
GH097	1	Timaclea (Timaclea) infans	B169	1	GH102	2	Glycera sp. 1	P49	2
GH097	1	Cheiriphotis australis	C29	1	GH103	1	Ascidia sydneyensis	A2	2
GH097	1	Echinoidae 1	E19	1	GH103	1	Tellina sp. 6	B154	1
GH097	1	Nemertea 8	N6	1	GH103	1	Cardita incrassata	B16	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH103	1	Cheiriphotis australis	C29	1	GH104	3	Anthozoa 4	V9	2
GH103	1	Branchiostoma moretonensis	F9	2	GH105	2	Mictyris longicarpus	C106	1
GH103	1	Notomastus sp. 3	P20	1	GH105	2	Birubius wallisae	C278	1
GH103	1	Glycera sp. 1	P49	2	GH105	2	Nephtys sp. 1	P75	1
GH103	1	Lumbrineris sp. 4	P62	1	GH105	3	Birubius wallisae	C278	1
GH103	2	Gari gracilentia	B199	1	GH105	3	Paraonidae 3	P254	2
GH103	2	Sabellidae 10	P142	1	GH106	1	Ascidia sydneyensis	A2	2
GH103	2	Marphysa depressa	P207	2	GH106	1	Corbula (Notocorbula) tunicata	B11	1
GH103	3	Ascidia sydneyensis	A2	2	GH106	1	Mimachlamys gloriosa	B119	4
GH103	3	Mimachlamys gloriosa	B119	3	GH106	1	Arcidae 1	B2	1
GH103	3	Arcidae 1	B2	1	GH106	1	Diopatra denata	P94	1
GH103	3	Anodontia omisssa	B26	1	GH106	2	Ascidia sydneyensis	A2	2
GH103	3	Thoracia 1	C2	9	GH106	2	Antigona materna	B162	1
GH103	3	Patellidae 1	G243	2	GH106	2	Photis sp. 2	C235	1
GH103	3	Eunice gracilis	P40	3	GH106	2	Cheiriphotis australis	C29	1
GH103	3	Diopatra denata	P94	3	GH106	2	Ophiuroidea 5	E33	3
GH103	3	Nothria sp. 2	P97	1	GH106	2	Ophiuroidea 21	E48	2
GH104	1	Azorinus sp. 3	B135	1	GH106	2	Maldanidae 9	P237	5
GH104	1	Veneridae 1	B164	1	GH106	2	Sabellaridae 2	P255	1
GH104	1	Placamen tiara	B175	1	GH106	2	Eunice vittata	P36	2
GH104	1	Myadora sp. 1	B36	1	GH106	2	Sipuncula 5	S5	1
GH104	1	Ophiuroidea 1	E29	1	GH106	2	Anthozoa 17	V25	1
GH104	1	Branchiostoma moretonensis	F9	1	GH106	3	Ascidia sydneyensis	A2	3
GH104	1	Nemertea 8	N6	1	GH106	3	Mimachlamys gloriosa	B119	1
GH104	1	Notomastus sp. 2	P18	2	GH106	3	Solecurtidae 1	B138	1
GH104	1	Isolda pulchella	P4	1	GH106	3	Mallacoota sp. 1	C14	1
GH104	1	Maldanidae 5	P69	1	GH106	3	Callianassa cf orientalis	C61	1
GH104	1	Nereididae 9	P85	1	GH106	3	Ophiuroidea 5	E33	1
GH104	2	Corbula (Serracorbula) crassa	B1	1	GH106	3	Ophiuroidea 21	E48	1
GH104	2	Corbula (Notocorbula) tunicata	B11	3	GH106	3	Branchiostoma moretonensis	F9	1
GH104	2	Rhaphidopus ciliatus	C132	1	GH106	3	Arabella mutans	P10	1
GH104	2	Waldeckia sp. 1	C15	1	GH107	1	Donax sp. 1	B212	2
GH104	2	Natatolana angula	C196	1	GH107	2	Donax sp. 1	B212	4
GH104	2	Nursia sinuata	C95	1	GH107	2	Albunea thurstoni	C208	1
GH104	2	Branchiostoma moretonensis	F9	1	GH107	2	Glycera sp. 1	P49	1
GH104	2	Arabella mutans	P10	1	GH107	3	Donax sp. 1	B212	4
GH104	2	Pista typha	P184	1	GH107	3	Bivalvia 42	B69	1
GH104	2	Orbiniidae 2	P190	1	GH108	1	Leptochela sydneyensis	C143	1
GH104	2	Sigalionidae 9	P252	1	GH108	1	Urochaustorius halei	C199	2
GH104	2	Goniadidae 1	P50	1	GH108	2	Bivalvia 42	B69	1
GH104	2	Maldanidae 1	P65	1	GH109	1	Lucinidae 1	B214	1
GH104	2	Magelona sp. 1	P73	1	GH109	2	Birubius wallisae	C278	1
GH104	2	Samytha sp. 1	P8	1	GH109	2	Osteichthyes 2	F15	1
GH104	2	Sipuncula 5	S5	1	GH109	3	Urochaustorius halei	C199	3
GH104	2	Anthozoa 19	V28	1	GH109	3	Photis sp. 2	C235	1
GH104	3	Solecurtidae 1	B138	1	GH109	3	Platyschnopus mam	C30	2
GH104	3	Placamen tiara	B175	1	GH109	3	Lumbrineris sp. 2	P60	1
GH104	3	Tellina (Cadella) diluta	B211	1	GH110	1	Echiuran 6	D5	1
GH104	3	Trisidos tortuosa	B5	1	GH110	1	Pectinaria (Pectinaria) Papillosa	P130	1
GH104	3	Holothuroidea 10	E57	1	GH110	1	Maldanidae 1	P65	1
GH104	3	Branchiostoma moretonensis	F9	1	GH110	1	Nothria sp. 1	P96	1
GH104	3	Leanira sp. 1	P157	1	GH110	2	Corbula (Serracorbula) crassa	B1	1
GH104	3	Arabellidae 4	P219	1	GH110	2	Echiuran 6	D5	1
GH104	3	Polynoidae 10	P225	1	GH110	2	Maldanidae 1	P65	1
GH104	3	Eunice vittata	P36	5	GH110	2	Diopatra denata	P94	2
GH104	3	Progoniada sp. 1	P52	1	GH110	3	Platyschnopus mam	C30	1
GH104	3	Nothria sp. 1	P96	1	GH110	3	Nothria sp. 1	P96	2

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH111	1	Linga sp.	B193	1	GH113	3	Placamen tiara	B175	1
GH111	1	Callianassa cf orientalis	C61	1	GH113	3	Malleidae 1	B32	1
GH111	1	Clibanarius longitarsus	C71	2	GH113	3	Trisidos tortuosa	B5	1
GH111	1	Mertonia integra	C82	2	GH113	3	Hyastenus planasius	C268	1
GH111	1	Turritella sp. 1	G273	1	GH113	3	Echinoidae 1	E19	1
GH111	1	Arabella mutans	P10	1	GH113	3	Polynoidae 2	P119	2
GH111	1	Trichobranchidae 1	P177	1	GH113	3	Eunice vittata	P36	2
GH111	1	Orbiniidae 4	P227	1	GH113	3	Lumbrineris sp. 4	P62	2
GH111	1	Eunice sp. 1	P34	1	GH113	3	Sipuncula 5	S5	2
GH111	1	Lumbrineris sp. 2	P60	1	GH114	1	Bivalvia 53	B80	2
GH111	1	Nephtys sp. 1	P75	3	GH114	2	Bivalvia 53	B80	1
GH111	1	Anthozoa 4	V9	14	GH114	2	Haplostylus cf queenslandensis	C206	1
GH111	2	Nephtys sp. 1	P75	1	GH114	2	Onuphis (onuphis) eremita	P230	1
GH111	3	Corbula (Notocorbula) tunicata	B11	2	GH114	3	Bivalvia 53	B80	1
GH111	3	Nemertea 8	N6	1	GH114	3	Progoniada sp. 1	P52	1
GH111	3	Dasybranchus sp. 1	P13	1	GH115	1	Talabrica sp.	B215	1
GH112	1	Tellina sp. 2	B150	1	GH115	1	Glycera sp. 1	P49	1
GH112	1	Linga sp.	B193	3	GH115	2	Mactra sp. 3	B213	1
GH112	1	Portunus sp. 3	C142	1	GH115	2	Halicreion sp. 1	C281	2
GH112	1	Leptochela sydneyensis	C143	1	GH115	2	Platyischnopus mam	C30	1
GH112	1	Macrophthalmus telescopicus	C266	1	GH115	2	Orbiniidae 4	P227	3
GH112	1	Diogenes guttatus	C72	1	GH115	3	Anthozoa 17	V25	1
GH112	1	Echiuran 3	D2	1	GH116	1	Ascidacea 15	A18	1
GH112	1	Leanira sp. 1	P157	3	GH116	1	Ascidia sydneyensis	A2	3
GH112	1	Flabelligeridae 4	P193	1	GH116	1	Ascidacea 2	A3	1
GH112	1	Sthenelais sp.2	P210	5	GH116	1	Pinctada sp. 1	B125	3
GH112	2	Tellina sp. 2	B150	2	GH116	1	Azorinus sp. 3	B135	1
GH112	2	Latreutes sp. 2	C282	1	GH116	1	Solecurtidae 1	B138	4
GH112	2	Echiuran 3	D2	4	GH116	1	Paphia sp. 1	B170	1
GH112	2	Sthenelais sp.2	P210	2	GH116	1	Chama 2	B191	1
GH112	2	Sigalionidae 4	P211	2	GH116	1	Arcidae 1	B2	10
GH112	2	Diopatra denata	P94	1	GH116	1	Modiolus sp. 1	B40	3
GH112	3	Bivalvia 42	B69	1	GH116	1	Tawera subnodulosa	B56	4
GH112	3	Portunus sp. 3	C142	2	GH116	1	Ancylocheles gravelei	C131	1
GH112	3	Echiuran 3	D2	1	GH116	1	Thoracia 1	C2	8
GH112	3	Nemertea 8	N6	5	GH116	1	Alpheus pacifica	C55	1
GH112	3	Leanira sp. 1	P157	1	GH116	1	Pilumnus sp. 1	C94	1
GH112	3	Flabelligeridae 4	P193	1	GH116	1	Ophiuroidea 5	E33	1
GH112	3	Anthozoa 20	V29	1	GH116	1	Idanthysus pennatus	P146	1
GH113	1	Veneridae 3	B166	1	GH116	1	Leanira sp. 1	P157	1
GH113	1	Placamen tiara	B175	1	GH116	1	Arabellidae 4	P219	2
GH113	1	Modiolus sp. 1	B40	1	GH116	1	Lumbrineris sp. 6	P224	1
GH113	1	Mytilidae 1	B41	1	GH116	1	Eunice vittata	P36	1
GH113	1	Trisidos tortuosa	B5	1	GH116	1	Eunice tentaculata	P37	1
GH113	1	Leucosia ocellata	C89	1	GH116	1	Pherusa sp. 1	P48	1
GH113	1	Holothuroidea 3	E24	1	GH116	1	Progoniada sp. 1	P52	1
GH113	1	Leanira sp. 1	P157	1	GH116	1	Lumbrineris sp. 2	P60	1
GH113	1	Flabelligeridae 4	P193	1	GH116	1	Nereididae 6	P82	3
GH113	1	Eunice vittata	P36	1	GH116	1	Anthozoa 4	V9	3
GH113	1	Sipuncula 5	S5	1	GH116	2	Ascidia sydneyensis	A2	4
GH113	2	Holothuroidea 3	E24	1	GH116	2	Ascidacea 2	A3	1
GH113	2	Gobiidae 3	F10	1	GH116	2	Corbula (Serracorbula) crassa	B1	3
GH113	2	Branchiostoma moretonensis	F9	1	GH116	2	Corbula (Notocorbula) tunicata	B11	3
GH113	2	Pectinaria (Pectinaria) Papillosa	P130	1	GH116	2	Veneridae 3	B166	1
GH113	2	Eunice vittata	P36	1	GH116	2	Chama 2	B191	1
GH113	2	Glycera sp. 1	P49	1	GH116	2	Pahies heterodon	B35	1
GH113	3	Leionuculana superba	B131	1	GH116	2	Modiolus sp. 1	B40	3

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH116	2	Mytilidae 1	B41	1	GH120	1	Conus aureus	G292	1
GH116	2	Hyotissa hyotis	B99	1	GH120	1	Leanira sp. 1	P157	1
GH116	2	Sphaeromatidae 1	C192	1	GH120	1	Orbiniidae 3	P198	1
GH116	2	Thoracia 1	C2	3	GH120	1	Notomastus sp. 3	P20	2
GH116	2	Branchiostoma moretonensis	F9	1	GH120	1	Marphysa depressa	P207	1
GH116	2	Syllidae 2	P170	1	GH120	1	Eupanthalis sp. 2	P244	1
GH116	2	Sigalionidae 7	P238	1	GH120	1	Polychaete 28	P246	2
GH116	2	Polychaete 28	P246	1	GH120	1	Diopatra denata	P94	6
GH116	2	Eunice vittata	P36	6	GH120	1	Nothria sp. 1	P96	1
GH116	2	Goniadidae 1	P50	1	GH120	1	Nothria sp. 2	P97	2
GH116	2	Samytha sp. 1	P8	1	GH120	1	Sipuncula 13	S13	1
GH116	2	Nothria sp. 1	P96	1	GH120	2	Mactra abbreviata	B28	1
GH116	2	Sipuncula 11	S11	1	GH120	2	Speocarcinus luteus	C81	1
GH116	3	Ascidia sydneyensis	A2	6	GH120	2	Ophiuroidea 2	E30	1
GH116	3	Ascidacea 4	A5	1	GH120	2	Sipuncula 11	S11	2
GH116	3	Corbula (Serracorbula) crassa	B1	1	GH120	3	Soletellina sp. 1	B129	1
GH116	3	Mimachlamys gloriosa	B119	2	GH120	3	Leionuculana superba	B131	1
GH116	3	Veneridae 1	B164	1	GH120	3	Circe sulcata	B186	1
GH116	3	Veneridae 3	B166	1	GH120	3	Callianassa cf orientalis	C61	1
GH116	3	Placamen tiara	B175	1	GH121	1	Anodontia omissa	B26	1
GH116	3	Chama 2	B191	1	GH121	1	Echinoidae 1	E19	1
GH116	3	Mactra (Nannomactra) sp. 2	B208	1	GH121	1	Ophiuroidea 5	E33	1
GH116	3	Modiolus sp. 1	B40	1	GH121	1	Spirobranchus tetracerous	P155	1
GH116	3	Tawera subnodulosa	B56	1	GH121	1	Leanira sp. 1	P157	1
GH116	3	Nemertea 1	N1	3	GH121	1	Notomastus sp. 1	P16	2
GH116	3	Arabella mutans	P10	1	GH121	1	Amphinomidae 1	P2	1
GH116	3	Dasybranchus sp. 1	P13	1	GH121	1	Polynoidae 10	P225	1
GH116	3	Leanira sp. 1	P157	1	GH121	1	Nephtys sp. 1	P75	1
GH116	3	Syllidae 2	P170	1	GH121	1	Nothria sp. 1	P96	1
GH116	3	Trichobranchidae 1	P177	1	GH121	1	Sipuncula 13	S13	1
GH116	3	Lumbrineris sp. 7	P256	1	GH121	2	Leanira sp. 1	P157	2
GH116	3	Eunice vittata	P36	3	GH121	2	Nothria sp. 1	P96	1
GH116	3	Eunice tentaculata	P37	1	GH121	3	Nuculana corbuloides	B178	1
GH116	3	Goniadidae 1	P50	2	GH121	3	Leanira sp. 1	P157	1
GH116	3	Nothria sp. 1	P96	1	GH122	1	Mactra abbreviata	B28	1
GH116	3	Sipuncula 13	S13	1	GH122	1	Ophiuroidea 10	E37	1
GH116	3	Sipuncula 5	S5	1	GH122	2	Diogenes dubius	C251	1
GH117	1	Talabrica sp.	B215	1	GH122	2	Sthenelais sp.2	P210	1
GH117	2	Bivalvia 53	B80	1	GH122	3	Leanira sp. 1	P157	1
GH117	2	Sthenelais sp.2	P210	1	GH123	1	Bivalvia 42	B69	9
GH117	3	Talabrica sp.	B215	1	GH123	1	Nemertea 8	N6	2
GH117	3	Pista typha	P184	1	GH123	1	Leanira sp. 1	P157	1
GH117	3	Streblosoma sp. 1	P185	1	GH123	1	Sthenelais sp.2	P210	1
GH118	1	Placamen tiara	B175	1	GH123	1	Lumbrineris sp. 2	P60	1
GH118	2	Tellina sp. 5	B153	2	GH123	2	Bivalvia 42	B69	19
GH118	2	Mactra abbreviata	B28	2	GH123	2	Leptochela sydneyensis	C143	1
GH118	2	Ophiuroidea 1	E29	1	GH123	2	Leanira sp. 1	P157	1
GH118	2	Branchiostoma minucaudata	F12	1	GH123	3	Bivalvia 42	B69	20
GH118	2	Nothria sp. 2	P97	1	GH123	3	Leanira sp. 1	P157	1
GH118	3	Ophiuroidea 1	E29	2	GH123	3	Orbiniidae 4	P227	1
GH118	3	Nephtys sp. 1	P75	3	GH124	1	Gari sp. 2	B128	1
GH119	1	Birubius wallisae	C278	1	GH124	1	Leionuculana superba	B131	1
GH119	1	Marginella sp. 1	G61	1	GH124	1	Natanolana sp. 1	C197	1
GH119	2	Marginella sp. 1	G61	1	GH124	1	Callianassa cf orientalis	C61	2
GH119	3	Bivalvia 42	B69	3	GH124	1	Ophiuroidea 21	E48	2
GH120	1	Leionuculana superba	B131	1	GH124	1	Branchiostoma moretonensis	F9	2
GH120	1	Tanaidacea 1	C211	1	GH124	1	Conus aureus	G292	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH124	1	Cirratulidae 6	P245	1	GH127	1	Thalamita sima	C140	1
GH124	1	Eunice vittata	P36	1	GH127	1	Armandia sp. 1	P100	1
GH124	1	Goniadidae 1	P50	1	GH127	2	Ascidacea 17	A20	1
GH124	1	Sipuncula 14	S14	23	GH127	2	Ctenocardia (Ctenocardia) sp.	B220	1
GH124	1	Sipuncula 5	S5	6	GH127	2	Trochidae 18	G258	1
GH124	2	Gari sp. 2	B128	2	GH127	2	Polychaete 28	P246	1
GH124	2	Tellimya sp.	B217	5	GH127	2	Eunice vittata	P36	1
GH124	2	Callianassa cf orientalis	C61	1	GH127	2	Sipuncula 6	S6	1
GH124	2	Clibanarius longitarsus	C71	1	GH127	3	Veneridae 2	B165	1
GH124	2	Sthenelais sp.2	P210	1	GH127	3	Arca (Arca) navicularis	B221	1
GH124	2	Sigalionidae 4	P211	1	GH127	3	Tellina sp. 16	B222	1
GH124	2	Orbiniidae 4	P227	2	GH127	3	Tanaidacea 10	C220	1
GH124	2	Nothria sp. 2	P97	1	GH127	3	Pomacuma australiae	C51	1
GH124	2	Sipuncula 14	S14	3	GH127	3	Syllidae 2	P170	1
GH124	2	Sipuncula 5	S5	5	GH127	3	Orbiniidae 4	P227	1
GH124	3	Nemertea 8	N6	1	GH127	3	Sigalionidae 7	P238	1
GH124	3	Orbiniidae 4	P227	1	GH128	1	Urochaustorius halei	C199	2
GH124	3	Onuphis (onuphis) eremita	P230	1	GH128	1	Orbiniidae 4	P227	1
GH124	3	Progoniada sp. 1	P52	1	GH128	3	Urochaustorius halei	C199	1
GH124	3	Sipuncula 14	S14	1	GH128	3	Anthozoa 17	V25	1
GH124	3	Sipuncula 5	S5	2	GH129	1	Ascidacea 14	A17	1
GH125	1	Corbula (Serracorbula) crassa	B1	1	GH129	1	Ascidacea 2	A3	1
GH125	1	Soletellina sp. 1	B129	1	GH129	1	Muraenichthys breviceps	F14	1
GH125	1	Leionucula superba	B131	1	GH129	1	Naticidae 3	G89	1
GH125	1	Solen sp. 1	B141	1	GH129	3	Ascidia sydneyensis	A2	3
GH125	1	Tellina sp. 5	B153	1	GH129	3	Phoxichilidiidae 1	H4	1
GH125	1	Placamen tiara	B175	1	GH129	3	Leanira sp. 1	P157	1
GH125	1	Glycera sp. 1	P49	1	GH130	1	Ascidia sydneyensis	A2	6
GH125	2	Corbula (Serracorbula) crassa	B1	1	GH130	1	Arcidae 1	B2	1
GH125	2	Placamen tiara	B175	1	GH130	1	Mactra (Nannomactra) sp. 2	B208	1
GH125	2	Macrophthalmus telescopicus	C266	2	GH130	1	Nereididae 14	P213	1
GH125	2	Alpheus pacifica	C55	1	GH130	1	Eunice vittata	P36	1
GH125	2	Leanira sp. 1	P157	2	GH130	1	Eunice tentaculata	P37	1
GH125	2	Sthenelais sp.2	P210	1	GH130	1	Sipuncula 13	S13	1
GH125	2	Arbellidae 4	P219	1	GH130	2	Ascidia sydneyensis	A2	4
GH125	2	Eunice vittata	P36	1	GH130	2	Corbula (Serracorbula) crassa	B1	1
GH125	2	Maldanidae 2	P66	1	GH130	2	Corbula (Notocorbula) tunicata	B11	1
GH125	2	Anthozoa 4	V9	1	GH130	2	Leionucula superba	B131	1
GH125	3	Ascidia sydneyensis	A2	1	GH130	2	Veneridae 3	B166	1
GH125	3	Soletellina sp. 1	B129	2	GH130	2	Chama 2	B191	3
GH125	3	Circe sulcata	B186	1	GH130	2	Ophiuroidea 5	E33	1
GH125	3	Antigona (Antigona) lamellaris	B216	1	GH130	2	Branchiostoma moretonensis	F9	1
GH125	3	Ophichthidae 1	F13	1	GH130	2	Sabellidae 2	P134	1
GH125	3	Nemertea 10	N8	1	GH130	2	Leanira sp. 1	P157	1
GH125	3	Notomastus sp. 2	P18	1	GH130	2	Polynoidae 10	P225	1
GH125	3	Sigalionidae 9	P252	1	GH130	2	Orbiniidae 4	P227	1
GH125	3	Eunice sp. 1	P34	1	GH130	2	Onuphis (onuphis) eremita	P230	1
GH125	3	Sipuncula 5	S5	1	GH130	2	Sigalionidae 8	P243	1
GH126	1	Ascidia sydneyensis	A2	1	GH130	3	Ascidacea 12	A15	1
GH126	1	Anodontia omisssa	B26	1	GH130	3	Ascidia sydneyensis	A2	5
GH126	1	Notosinister maculosa	G251	1	GH130	3	Pinnidae 1	B121	1
GH126	1	Notomastus sp. 3	P20	1	GH130	3	Azorinus sp. 3	B135	1
GH126	1	Anthozoa 5	V10	1	GH130	3	Modiolus sp. 1	B40	1
GH126	2	Echinoidae 3	E21	1	GH130	3	Anchistus custos	C147	2
GH127	1	Ascidacea 17	A20	1	GH130	3	Leucothoe sp.	C21	1
GH127	1	Nuclana (Scaededa) crassa	B182	1	GH130	3	Gonodactylaceus graphurus	C252	1
GH127	1	Bivalvia 91	B218	1	GH130	3	Galathea corallicola	C253	2

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH130	3	Ophiuroidea 5	E33	2	GH134	1	Azorinus sp. 3	B135	1
GH130	3	Ophiuroidea 12	E39	1	GH134	1	Tellina sp. 5	B153	1
GH130	3	Amphiuridae sp. 1	E41	1	GH134	1	Veneridae 3	B166	1
GH130	3	Gastropoda 113	G154	1	GH134	1	Chama 2	B191	1
GH130	3	Tudivasum armigera	G293	1	GH134	1	Saccostrea sp.	B55	1
GH130	3	Polyplacophora 2	K2	1	GH134	1	Waldeckia sp. 1	C15	1
GH130	3	Arabella mutans	P10	1	GH134	1	Thoracia 1	C2	5
GH130	3	Trichobranchidae 1	P177	1	GH134	1	Heterometra crenulata	E12	2
GH130	3	Pista typha	P184	1	GH134	1	Natica collei	G295	1
GH130	3	Lysaretidae 2	P188	1	GH134	1	Nemertea 1	N1	1
GH130	3	Marphysa depressa	P207	2	GH134	1	Syllidae 2	P170	1
GH130	3	Phyllodocidae 10	P258	1	GH134	1	Arabellidae 4	P219	1
GH130	3	Eunice afra	P38	1	GH134	1	Eunice vittata	P36	2
GH130	3	Nematoneris unicornis	P44	1	GH134	1	Nematoneris unicornis	P44	1
GH130	3	Lumbrineris sp. 2	P60	2	GH134	1	Lumbrineris sp. 4	P62	1
GH130	3	Nothria sp. 2	P97	1	GH134	1	Maldanidae 1	P65	2
GH130	3	Sipuncula 15	S15	1	GH134	1	Nothria sp. 1	P96	1
GH130	3	Anthozoa 21	V30	1	GH134	1	Sipuncula 5	S5	1
GH131	1	Corbula (Serracorbula) crassa	B1	2	GH134	1	Anthozoa 21	V30	1
GH131	1	Progoniada sp. 1	P52	1	GH134	2	Ascidia sydneyensis	A2	6
GH131	2	Linga sp.	B193	1	GH134	2	Corbula (Serracorbula) crassa	B1	3
GH131	2	Leptochela sydneyensis	C143	1	GH134	2	Leionuculana superba	B131	1
GH131	2	Tanadacea 10	C220	2	GH134	2	Azorinus sp. 3	B135	1
GH131	2	Cyclaspis sp. 1	C272	1	GH134	2	Solecurtidae 1	B138	1
GH131	2	Echinoidae 1	E19	1	GH134	2	Placamen tiara	B175	1
GH131	2	Echinoidae 3	E21	1	GH134	2	Chama 2	B191	1
GH131	2	Branchiostoma moretonensis	F9	2	GH134	2	Modiolus sp. 1	B40	1
GH131	2	Nemertea 8	N6	1	GH134	2	Ophiuroidea 29	E62	1
GH131	2	Haploscleroplos sp. 1	P102	1	GH134	2	Polynoidae 2	P119	1
GH131	2	Sthenelais sp.2	P210	1	GH134	2	Syllidae 2	P170	1
GH131	2	Cirratulidae 6	P245	3	GH134	2	Cirratulidae 5	P206	1
GH131	2	Lumbrineris sp. 2	P60	4	GH134	2	Arabellidae 4	P219	1
GH131	3	Leptochela sydneyensis	C143	1	GH134	2	Polynoidae 10	P225	1
GH131	3	Nemertea 8	N6	5	GH134	2	Eupanthalis sp. 2	P244	1
GH131	3	Sigalionidae 8	P243	1	GH134	2	Eunice vittata	P36	2
GH131	3	Cirratulidae 6	P245	1	GH134	2	Nematoneris unicornis	P44	2
GH132	1	Sipuncula 5	S5	1	GH134	2	Maldanidae 1	P65	1
GH132	2	Veneridae 1	B164	1	GH134	2	Nothria sp. 1	P96	2
GH132	2	Pitar trevori	B174	1	GH134	2	Sipuncula 5	S5	1
GH132	2	Bivalvia 42	B69	1	GH134	3	Corbula (Notocorbula) tunicata	B11	1
GH132	2	Ophelina sp. 1	P101	1	GH134	3	Leionuculana superba	B131	2
GH132	3	Ascidia sydneyensis	A2	9	GH134	3	Tellina sp. 5	B153	1
GH132	3	Ascidacea 17	A20	1	GH134	3	Placamen tiara	B175	1
GH132	3	Ascidacea 18	A21	1	GH134	3	Tellina (Merisca) sp. 17	B226	1
GH132	3	Ascidacea 2	A3	1	GH134	3	Bivalvia 42	B69	1
GH132	3	Pinctada sp. 1	B125	2	GH134	3	Nothria sp. 1	P96	1
GH132	3	Modiolus sp. 1	B40	3	GH135	1	Ascidia sydneyensis	A2	1
GH132	3	Periclimenes sp. 1	C145	1	GH135	1	Diogenes guttatus	C72	1
GH132	3	Thoracia 1	C2	17	GH135	1	Amphinomidae 1	P2	1
GH132	3	Palola sp. 1	P194	1	GH135	1	Progoniada sp. 1	P52	1
GH132	3	Nothria sp. 1	P96	1	GH135	2	Nuclana (Scaededa) crassa	B182	1
GH133	1	Diogenes guttatus	C72	1	GH135	2	Leanira sp. 1	P157	1
GH133	1	Polinices didyma	G294	1	GH135	2	Onuphis (onuphis) eremita	P230	1
GH133	1	Naticidae 5	G91	6	GH135	3	Diogenes guttatus	C72	1
GH133	3	Sthenelais sp.2	P210	1	GH135	3	Flabelligeridae 4	P193	1
GH133	3	Glycera sp. 1	P49	1	GH136	1	Uca sp. 2	C128	1
GH134	1	Ascidia sydneyensis	A2	4	GH136	1	Echiuran 3	D2	5

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH136	1	Syllidae 1	P169	1	GH141	1	Tanaidacea 2	C212	2
GH136	2	Mytilidae 2	B181	1	GH141	1	Speocarcinus luteus	C81	1
GH136	2	Ancylocheles gravelei	C131	1	GH141	1	Ophiuroidea 9	E36	1
GH136	3	Pitar trevori	B174	1	GH141	1	Streblosoma sp. 1	P185	1
GH137	1	Corbula (Notocorbula) tunicata	B11	2	GH141	1	Nematoneris unicornis	P44	1
GH137	1	Azorinus sp. 2	B134	1	GH141	1	Glycera sp. 1	P49	1
GH137	1	Circe sulcata	B186	4	GH141	1	Sipuncula 6	S6	1
GH137	1	Anodontia omissa	B26	2	GH141	2	Leionuculana superba	B131	1
GH137	1	Mactra abbreviata	B28	7	GH141	2	Azorinus sp. 3	B135	1
GH137	1	Glycera sp. 1	P49	1	GH141	2	Tellina sp. 5	B153	1
GH137	1	Lumbrineris sp. 2	P60	1	GH141	2	Gobiidae 1	F2	1
GH137	2	Corbula sp. 3	B219	1	GH141	3	Corbula (Serracorbula) crassa	B1	1
GH137	2	Anodontia omissa	B26	2	GH141	3	Leanira sp. 1	P157	1
GH137	2	Mactra abbreviata	B28	7	GH142	1	Strigilla euronica	B147	1
GH137	2	Glycera sp. 1	P49	1	GH142	1	Paphia undulata	B176	1
GH137	3	Anodontia omissa	B26	1	GH142	1	Azorinus minutus	B203	1
GH137	3	Mactra abbreviata	B28	2	GH142	1	Alpheus pacifica	C55	1
GH137	3	Glycera sp. 1	P49	2	GH142	2	Gari sp.3	B202	1
GH138	1	Ostracoda 2	C225	1	GH142	2	Leucothoe sp.	C21	1
GH138	1	Gastropoda 184	G289	1	GH142	2	Ophiuroidea 28	E58	3
GH138	1	Nassarius sp. 4	G75	1	GH142	2	Arabella mutans	P10	1
GH138	2	Cuspidaridae 1	B21	2	GH142	2	Leanira sp. 1	P157	2
GH138	2	Zoea 3	C267	1	GH142	2	Lumbrineris sp. 2	P60	1
GH138	2	Philocheras incisus	C269	1	GH142	2	Nephtys sp. 1	P75	1
GH138	2	Leanira sp. 1	P157	1	GH142	3	Pharella wardi	B140	1
GH138	3	Cuspidaridae 1	B21	1	GH143	1	Donax (Tentidonax) veruinus	B195	1
GH139	1	Natatolana sp. 1	C197	1	GH143	1	Diogenes guttatus	C72	1
GH139	1	Holothuroidea 4	E25	1	GH143	1	Branchiostoma moretonensis	F9	3
GH139	1	Pectinaria (Pectinaria) Papillosa	P130	1	GH143	1	Armandia sp. 1	P100	2
GH139	1	Amphinomidae 1	P2	1	GH143	1	Glycera sp. 1	P49	1
GH139	1	Nematoneris unicornis	P44	1	GH143	2	Donax (Tentidonax) veruinus	B195	1
GH139	2	Macoma (Psammacoma) sp.	B225	1	GH143	2	Bivalvia 42	B69	2
GH139	2	Ophelina sp. 1	P101	1	GH143	2	Diogenes guttatus	C72	1
GH139	2	Sternapis scutata	P168	1	GH143	2	Branchiostoma moretonensis	F9	1
GH139	2	Polychaete 1	P89	2	GH143	2	Armandia sp. 1	P100	1
GH139	2	Sipuncula 2	S2	1	GH143	3	Bivalvia 53	B80	2
GH139	3	Ascidia sydneyensis	A2	1	GH143	3	Branchiostoma moretonensis	F9	1
GH139	3	Nassarius sp. 1	G72	2	GH144	1	Gari sp. 1	B127	1
GH139	3	Lumbrineris sp. 2	P60	1	GH144	1	Strigilla euronica	B147	1
GH139	3	Sipuncula 5	S5	1	GH144	1	Placamen tiara	B175	1
GH140	1	Alpheus pacifica	C55	1	GH144	1	Callista (Costacallista) sp.	B223	2
GH140	2	Leionuculana superba	B131	3	GH144	1	Mactra abbreviata	B28	2
GH140	2	Azorinus sp. 1	B133	3	GH144	1	Dentalium javanum	T1	1
GH140	2	Tellina sp. 2	B150	1	GH144	2	Leionuculana superba	B131	1
GH140	2	Mactra abbreviata	B28	1	GH144	2	Strigilla euronica	B147	1
GH140	2	Grandidierella sp. 2	C20	1	GH144	2	Tellina sp. 2	B150	4
GH140	2	Gastropoda 184	G289	1	GH144	2	Linga sp.	B193	1
GH140	2	Haploscoplos sp. 1	P102	1	GH144	2	Mactra abbreviata	B28	1
GH140	2	Leanira sp. 1	P157	3	GH144	2	Periclimenes sp. 1	C145	1
GH140	2	Amphinomidae 1	P2	1	GH144	2	Diogenes guttatus	C72	7
GH140	2	Glycera sp. 1	P49	1	GH144	2	Leucosia ocellata	C89	1
GH140	2	Progoniada sp. 1	P52	4	GH144	2	Plicarularia burchardi	G82	1
GH140	2	Polychaete 1	P89	1	GH144	2	Leanira sp. 1	P157	2
GH140	3	Linga sp.	B193	1	GH144	2	Polychaete 1	P89	1
GH140	3	Progoniada sp. 1	P52	1	GH144	3	Strigilla euronica	B147	1
GH141	1	Ascidia sydneyensis	A2	1	GH144	3	Tellina sp. 2	B150	2
GH141	1	Leionuculana superba	B131	1	GH144	3	Grafrum transversarium	B58	1

Station	Grab	Species	Code	N	Station	Grab	Species	Code	N
GH144	3	Alpheus richardsoni	C57	1	GH148	3	Photis sp. 2	C235	3
GH144	3	Ophiuroidea 5	E33	1	GH148	3	Upogebia spinifrons	C63	1
GH144	3	Ophiuroidea 9	E36	1	GH148	3	Armandia sp. 1	P100	1
GH144	3	Progoniada sp. 1	P52	2	GH148	3	Sternapis scutata	P168	1
GH144	3	Nephtys sp. 1	P75	1	GH148	3	Marphysa 4	P212	1
GH145	1	Alpheus pacifica	C55	1	GH149	1	Armandia sp. 1	P100	2
GH145	2	Ophiuroidea 9	E36	1	GH149	1	Ophelina sp. 1	P101	1
GH145	3	Rhaphidopus ciliatus	C132	1	GH149	1	Nephtys sp. 1	P75	2
GH145	3	Alpheus pacifica	C55	1	GH149	2	Tellina (Cadella) obtusalis	B230	1
GH146	1	Nothria sp. 2	P97	1	GH149	2	Armandia sp. 1	P100	1
GH146	2	Strigilla euronina	B147	1	GH149	2	Nephtys sp. 1	P75	1
GH146	2	Pitar (Pitarina) queenslandica	B224	2	GH149	3	Arabellidae 3	P208	1
GH146	2	Mactra abbreviata	B28	1					
GH146	3	Tellina sp. 5	B153	1					
GH146	3	Mactra abbreviata	B28	1					
GH147	1	Branchiostoma moretonensis	F9	2					
GH147	2	Nematoneris unicornis	P44	3					
GH147	3	Branchiostoma moretonensis	F9	4					
GH147	3	Nemertea 1	N1	1					
GH147	3	Arabella mutans	P10	1					
GH147	3	Arabellidae 5	P241	1					
GH147	3	Eunice vittata	P36	2					
GH147	3	Glycera sp. 1	P49	1					
GH147	3	Ampharetidae 1	P5	1					
GH147	3	Progoniada sp. 1	P52	1					
GH147	3	Lumbrineris sp. 5	P63	1					
GH147	3	Nephtys sp. 1	P75	1					
GH147	3	Samytha sp. 1	P8	1					
GH148	1	Saccostrea glomerata	B227	3					
GH148	1	Armandia sp. 1	P100	1					
GH148	1	Nephtys sp. 1	P75	1					
GH148	2	Gari sp.3	B202	1					
GH148	2	Anodontia omissa	B26	1					
GH148	2	Mactra abbreviata	B28	1					
GH148	2	Trisidos tortuosa	B5	1					
GH148	2	Orthoprotella australis	C11	1					
GH148	2	Waldeckia sp. 1	C15	1					
GH148	2	Natatolana sp. 1	C197	1					
GH148	2	Grandierella sp. 2	C20	4					
GH148	2	Leucothoe sp.	C21	3					
GH148	2	Tanaidacea 2	C212	5					
GH148	2	Xenocheira fasciata	C22	3					
GH148	2	Photis sp. 2	C235	6					
GH148	2	Corophium cf. acutum	C238	1					
GH148	2	Cirolana sp. 1	C264	1					
GH148	2	Philocheras incisus	C269	1					
GH148	2	Maera sp. 2	C273	1					
GH148	2	Grandierella cf. gilesii	C274	7					
GH148	2	Pomacuma australiae	C51	1					
GH148	2	Upogebia spinifrons	C63	1					
GH148	2	Ophiuroidea 5	E33	1					
GH148	2	Armandia sp. 1	P100	3					
GH148	2	Haploscoplos sp. 1	P102	1					
GH148	2	Sternapis scutata	P168	1					
GH148	2	Nephtys sp. 1	P75	3					
GH148	2	Australonereis sp. 1	P81	1					
GH148	2	Polychaete 1	P89	1					

Appendix 5. Relative proportions (%) of seven sedimentary size classes in replicate grab samples collected from 149 stations in Port Curtis during 2002.

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH001	1	9.18	0.99	5.72	8.79	6.60	6.42	62.30
GH001	2	6.17	0.66	5.74	11.55	11.47	12.96	51.45
GH001	3	9.62	0.96	5.22	10.04	9.84	9.01	55.30
GH002	1	70.70	5.52	9.55	6.99	4.12	2.20	0.92
GH002	2	68.85	5.47	9.85	7.13	4.94	2.49	1.27
GH002	3	58.68	5.15	11.03	10.03	8.08	4.90	2.14
GH003	1	2.29	0.23	15.06	27.89	18.63	13.53	22.37
GH003	2	1.74	0.25	20.51	33.28	21.48	12.15	10.60
GH003	3	2.84	0.26	27.39	30.55	15.63	10.76	12.56
GH004	1	89.64	3.79	2.67	1.49	0.93	0.53	0.96
GH004	2	87.46	4.19	3.83	1.70	0.98	0.72	1.11
GH004	3	84.52	4.47	4.50	2.58	1.54	0.87	1.51
GH005	1	89.26	5.52	3.08	1.37	0.42	0.28	0.06
GH005	2	88.20	6.97	3.15	0.76	0.28	0.06	0.58
GH005	3	90.47	5.45	2.23	0.85	0.39	0.25	0.36
GH006	1	37.20	2.33	15.19	18.18	6.80	3.95	16.35
GH006	2	35.73	2.30	14.80	18.04	7.02	4.29	17.83
GH006	3	49.69	2.77	17.12	14.84	4.65	2.37	8.55
GH007	1	27.90	1.35	10.56	20.43	15.09	9.13	15.53
GH007	2	39.43	1.24	12.20	16.65	8.56	7.25	14.67
GH007	3	40.21	0.91	8.87	16.05	8.42	6.25	19.30
GH008	1	73.97	4.24	11.78	5.28	1.91	1.07	1.75
GH008	2	66.33	4.29	15.08	6.93	2.92	1.50	2.94
GH008	3	63.27	4.98	13.46	6.79	2.80	1.55	7.14
GH009	1	6.27	0.51	20.11	18.27	14.39	10.05	30.39
GH009	2	10.02	1.06	21.07	17.52	11.63	8.74	29.97
GH009	3	10.82	0.89	21.34	21.24	12.62	9.98	23.11
GH010	1	16.91	3.47	48.06	6.76	2.31	2.92	19.57
GH010	2	13.11	1.85	49.98	12.06	1.72	2.89	18.39
GH010	3	27.57	2.59	34.96	9.83	3.84	5.21	15.99
GH011	1	60.49	1.93	7.48	10.52	2.14	3.57	13.87
GH011	2	33.43	1.84	11.01	12.18	3.73	9.34	28.47
GH011	3	56.79	1.53	4.26	11.46	2.81	5.43	17.72
GH012	1	84.97	8.50	5.64	0.45	0.23	0.10	0.10
GH012	2	84.06	7.00	6.59	1.01	0.39	0.19	0.75
GH012	3	81.64	9.64	7.07	0.54	0.34	0.20	0.58
GH013	1	17.74	0.84	8.70	14.69	13.80	9.66	34.57
GH013	2	36.35	1.44	12.64	15.61	9.04	8.19	16.74
GH013	3	28.37	1.30	8.82	15.33	11.64	9.50	25.05
GH014	1	25.81	1.82	40.54	21.73	5.62	2.75	1.74
GH014	2	9.10	0.33	26.22	55.65	6.51	1.15	1.03
GH014	3	29.13	0.57	29.05	34.00	4.88	1.29	1.08
GH015	1	60.48	2.73	28.58	4.46	1.50	0.96	1.29
GH015	2	70.57	4.21	21.97	1.16	0.45	0.37	1.28
GH015	3	62.95	4.43	30.68	0.86	0.33	0.25	0.51
GH016	1	17.55	0.68	5.13	12.13	14.41	13.57	36.52
GH016	2	12.93	0.67	4.83	11.66	15.31	14.80	39.79
GH016	3	17.04	1.07	6.32	14.68	16.99	14.48	29.42
GH017	1	18.02	0.93	10.35	8.65	9.49	7.05	45.50
GH017	2	28.73	1.08	11.07	12.97	14.55	9.46	22.14
GH017	3	23.28	1.09	11.68	12.47	11.95	8.22	31.31
GH018	1	10.96	0.19	11.37	39.29	14.96	13.79	9.44
GH018	2	12.69	0.32	11.36	35.60	13.24	14.66	12.12
GH018	3	13.38	0.33	13.10	38.33	14.26	12.60	8.00
GH019	1	29.48	0.47	11.21	3.32	3.13	4.05	48.34
GH019	2	40.12	0.95	11.39	3.27	3.04	4.55	36.68

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH019	3	64.54	1.25	7.51	5.39	3.35	3.10	14.85
GH020	1	2.64	8.65	74.35	11.94	1.67	0.69	0.06
GH020	2	2.10	3.52	74.03	18.37	1.32	0.53	0.12
GH020	3	2.73	6.58	79.02	9.70	1.26	0.65	0.07
GH021	1	75.61	13.05	10.22	0.55	0.33	0.17	0.07
GH021	2	68.95	12.46	17.46	0.55	0.22	0.16	0.20
GH021	3	76.87	12.59	9.76	0.40	0.26	0.13	0.00
GH022	1	55.75	6.33	34.37	0.63	0.41	0.46	2.07
GH022	2	71.05	7.45	19.16	0.75	0.55	0.46	0.59
GH022	3	74.06	7.28	16.62	0.66	0.36	0.41	0.60
GH023	1	72.98	8.12	8.12	4.05	2.54	1.93	2.27
GH023	2	67.31	9.61	9.70	4.88	3.31	2.55	2.63
GH023	3	69.16	9.39	9.95	5.55	2.94	1.83	1.18
GH024	1	2.65	22.55	0.00	0.00	0.00	74.80	0.00
GH024	2	21.58	20.52	8.29	8.80	12.64	12.73	15.44
GH024	3	1.65	4.23	3.03	5.66	12.75	13.87	58.81
GH025	1	1.73	4.90	71.23	18.66	3.01	0.44	0.04
GH025	2	2.11	7.21	88.55	0.94	0.97	0.15	0.06
GH025	3	1.65	3.27	94.50	0.34	0.20	0.05	0.00
GH026	1	85.71	8.31	2.94	0.90	0.50	0.42	1.22
GH026	2	93.66	2.85	2.99	0.26	0.14	0.10	0.00
GH026	3	85.78	10.46	2.91	0.42	0.13	0.13	0.18
GH027	1	59.22	14.70	18.94	4.04	1.02	0.63	1.46
GH027	2	58.74	11.83	21.23	4.13	1.22	0.95	1.89
GH027	3	64.59	17.07	14.79	2.40	0.44	0.30	0.42
GH028	1	47.27	2.09	19.76	25.08	3.40	0.95	1.44
GH028	2	61.88	1.96	13.23	16.78	2.38	0.79	3.00
GH028	3	57.06	1.67	15.13	21.88	2.66	0.73	0.87
GH029	1	44.96	2.91	29.93	11.65	3.77	2.72	4.05
GH029	2	46.70	2.30	29.32	12.72	3.53	2.37	3.06
GH029	3	47.52	2.44	27.07	13.71	3.71	2.44	3.10
GH030	1	16.54	22.78	60.28	0.11	0.06	0.08	0.15
GH030	2	18.88	39.86	40.86	0.13	0.09	0.10	0.07
GH030	3	31.01	28.30	40.38	0.07	0.06	0.05	0.13
GH031	1	4.28	2.70	66.13	18.94	4.06	3.15	0.73
GH031	2	6.56	4.74	69.02	10.47	3.57	3.34	2.30
GH031	3	7.17	13.53	63.55	8.54	3.47	2.81	0.93
GH032	1	2.93	2.01	12.96	13.69	7.78	8.37	52.25
GH032	2	4.08	3.15	16.02	24.66	7.79	8.02	36.28
GH032	3	3.06	1.91	13.27	13.10	5.70	5.13	57.82
GH033	1	2.70	36.28	59.17	1.65	0.16	0.05	0.00
GH033	2	4.13	43.25	51.34	1.08	0.15	0.02	0.03
GH033	3	2.67	20.97	61.74	12.24	1.41	0.63	0.35
GH034	1	96.74	2.51	0.55	0.13	0.05	0.03	0.00
GH034	2	93.91	4.56	1.24	0.17	0.09	0.03	0.00
GH034	3	85.80	9.55	3.00	0.37	0.20	0.31	0.78
GH035	1	81.31	6.11	7.10	3.25	0.82	0.91	0.50
GH035	2	82.31	5.60	7.27	2.23	1.06	0.90	0.63
GH035	3	83.23	5.51	8.19	1.83	0.61	0.57	0.06
GH036	1	45.11	13.10	35.19	3.53	1.53	0.75	0.80
GH036	2	65.54	19.23	13.01	1.33	0.52	0.20	0.17
GH036	3	60.45	14.46	19.65	2.40	1.66	0.66	0.72
GH037	1	94.77	3.72	1.18	0.13	0.05	0.08	0.08
GH037	2	95.55	3.83	0.50	0.05	0.02	0.05	0.00
GH037	3	94.32	4.53	0.86	0.10	0.07	0.07	0.05
GH038	1	43.72	25.41	24.48	1.92	0.98	1.01	2.48
GH038	2	46.37	26.24	22.21	1.54	0.93	1.07	1.63
GH038	3	48.31	30.86	15.00	1.74	1.03	1.19	1.88
GH039	1	25.22	3.93	10.04	23.19	10.42	5.06	22.14
GH039	2	44.75	4.42	9.03	22.00	6.75	3.27	9.80

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH039	3	38.32	4.89	8.04	20.76	6.87	2.87	18.24
GH040	1	24.06	39.50	9.82	1.17	1.42	1.91	22.13
GH040	2	23.10	29.83	15.90	1.85	2.50	3.83	22.99
GH040	3	17.65	35.54	22.52	1.86	2.95	4.85	14.63
GH041	1	12.45	8.71	60.30	9.75	3.87	1.99	2.93
GH041	2	15.47	11.39	59.28	6.75	3.71	1.72	1.67
GH041	3	8.49	5.59	55.30	21.56	4.42	2.28	2.37
GH042	1	28.15	15.57	39.76	11.22	1.90	1.37	2.04
GH042	2	26.51	15.25	39.66	8.60	1.68	1.81	6.49
GH042	3	25.40	9.83	38.09	9.02	1.86	2.19	13.62
GH043	1	4.23	50.83	39.80	1.93	2.49	0.44	0.27
GH043	2	5.71	52.96	37.99	1.65	1.10	0.41	0.18
GH043	3	4.52	60.54	30.39	1.88	1.92	0.68	0.07
GH044	1	84.00	11.95	2.78	0.76	0.27	0.17	0.07
GH044	2	82.24	13.75	3.01	0.63	0.21	0.16	0.00
GH044	3	87.92	6.38	4.10	0.80	0.29	0.12	0.39
GH045	1	77.26	12.77	7.06	1.22	0.49	0.40	0.81
GH045	2	76.42	10.55	8.13	1.30	0.60	0.75	2.25
GH045	3	72.97	12.26	8.72	1.28	0.63	0.84	3.30
GH046	1	3.36	1.59	31.49	17.93	7.55	7.73	30.35
GH046	2	9.48	0.99	17.88	12.12	9.48	11.37	38.67
GH046	3	13.60	0.92	19.69	12.95	10.98	11.96	29.91
GH047	1	0.67	0.10	0.96	10.77	12.72	6.58	68.19
GH047	2	2.37	0.15	1.77	15.71	9.91	5.13	64.96
GH047	3	4.49	0.21	3.02	35.74	17.92	3.82	34.80
GH048	1	42.67	3.54	21.22	20.18	5.72	2.41	4.26
GH048	2	43.24	4.69	17.22	20.34	5.78	2.43	6.30
GH048	3	45.52	4.99	19.70	22.50	4.21	1.21	1.86
GH049	1	22.55	7.51	27.90	21.14	7.43	4.92	8.54
GH049	2	46.36	10.34	31.01	9.01	1.42	0.69	1.17
GH049	3	34.77	7.63	32.19	18.06	4.53	1.36	1.47
GH050	1	70.08	21.29	6.40	0.84	0.67	0.34	0.38
GH050	2	72.65	17.04	8.64	0.66	0.42	0.15	0.44
GH050	3	69.14	23.29	6.06	0.54	0.35	0.21	0.40
GH051	1	66.73	15.64	4.74	1.82	3.03	3.69	4.34
GH051	2	72.79	12.79	2.27	1.30	1.34	1.66	7.86
GH051	3	58.08	15.29	3.49	2.24	3.55	4.87	12.49
GH052	1	1.72	0.33	6.74	39.17	45.35	5.84	0.85
GH052	2	1.80	0.55	6.60	41.79	42.10	6.39	0.77
GH052	3	1.74	0.34	3.80	27.52	52.41	12.29	1.90
GH053	1	11.91	7.77	79.75	0.27	0.17	0.08	0.04
GH053	2	13.56	9.52	76.47	0.25	0.13	0.05	0.01
GH053	3	12.41	10.50	75.00	1.85	0.17	0.04	0.03
GH054	1	21.63	15.90	40.38	11.50	5.78	2.08	2.72
GH054	2	17.09	8.65	45.79	14.22	7.95	2.57	3.74
GH054	3	23.26	10.07	42.03	11.10	5.83	2.00	5.72
GH055	1	1.87	0.86	0.45	9.20	53.39	26.75	7.49
GH055	2	2.15	1.39	0.77	13.37	60.04	13.56	8.72
GH055	3	2.10	0.64	0.62	17.72	64.87	12.86	1.18
GH056	1	89.98	6.90	2.18	0.54	0.17	0.11	0.13
GH056	2	63.46	12.34	9.99	4.02	1.32	1.05	7.81
GH056	3	89.55	6.61	2.72	0.50	0.15	0.27	0.21
GH057	1	73.45	11.37	13.18	1.09	0.20	0.11	0.60
GH057	2	81.17	9.95	7.66	0.45	0.13	0.09	0.56
GH057	3	82.37	8.54	7.92	0.62	0.18	0.11	0.26
GH058	1	65.44	6.69	16.49	8.37	1.53	0.52	0.95
GH058	2	62.82	6.99	19.46	8.53	1.68	0.37	0.16
GH058	3	41.20	5.57	28.98	20.01	3.21	0.59	0.44
GH059	1	70.76	22.69	4.45	1.50	0.37	0.17	0.07
GH059	2	74.34	19.56	4.26	1.29	0.30	0.14	0.11

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH059	3	82.25	13.95	2.86	0.63	0.23	0.09	0.00
GH060	1	7.85	1.14	5.48	14.46	5.98	4.35	60.73
GH060	2	5.68	0.81	4.74	13.41	6.73	4.69	63.94
GH060	3	7.81	0.88	5.13	16.62	9.42	5.76	54.39
GH061	1	14.02	7.10	19.55	11.58	11.44	9.46	26.85
GH061	2	23.77	7.37	34.79	15.12	6.88	4.34	7.72
GH061	3	17.82	7.40	23.41	25.55	9.55	5.43	10.83
GH062	1	15.97	5.53	9.50	24.43	18.14	11.54	14.89
GH062	2	12.17	4.47	15.35	29.14	18.93	8.39	11.54
GH062	3	14.83	4.26	11.73	22.55	16.76	8.77	21.11
GH063	1	16.84	3.21	18.17	21.31	14.96	6.74	18.77
GH063	2	22.01	4.06	18.85	26.72	10.91	6.01	11.44
GH063	3	15.24	3.89	21.10	25.12	15.97	5.35	13.33
GH064	1	2.27	1.66	34.40	33.05	19.55	5.44	3.63
GH064	2	2.77	2.83	33.68	21.74	13.88	4.86	20.24
GH064	3	2.27	2.41	33.88	28.32	19.17	5.62	8.33
GH065	1	14.75	5.40	48.03	18.08	8.85	3.39	1.50
GH065	2	11.76	2.81	49.52	24.23	7.94	2.58	1.16
GH065	3	18.33	3.76	46.73	18.38	8.42	3.08	1.30
GH066	1	68.04	25.26	6.33	0.28	0.09	-0.02	0.02
GH066	2	61.38	32.43	4.89	0.49	0.32	0.20	0.30
GH066	3	71.45	23.62	4.50	0.23	0.09	0.05	0.07
GH067	1	4.28	10.62	17.32	20.82	23.64	3.64	19.70
GH067	2	2.15	3.63	5.71	8.93	11.73	14.33	53.52
GH067	3	2.39	1.05	1.74	7.31	14.57	21.41	51.53
GH068	1	26.45	4.93	33.48	31.48	2.58	0.55	0.53
GH068	2	45.74	7.08	32.63	12.77	1.14	0.26	0.39
GH068	3	22.66	5.53	34.63	35.82	1.09	0.21	0.07
GH069	1	95.68	3.72	0.39	0.13	0.08	0.00	0.00
GH069	2	96.30	2.82	0.61	0.16	0.11	0.00	0.00
GH069	3	96.79	2.66	0.26	0.20	0.09	0.00	0.00
GH070	1	85.59	13.01	0.89	0.27	0.13	0.05	0.05
GH070	2	27.38	2.82	10.31	18.19	4.19	1.79	35.31
GH070	3	35.09	2.10	5.58	28.37	21.81	5.12	1.92
GH071	1	3.81	0.37	5.95	15.85	21.95	12.07	40.01
GH071	2	3.73	0.45	5.83	18.95	7.50	6.89	56.65
GH071	3	5.07	1.35	8.74	9.70	6.97	5.74	62.43
GH072	1	6.39	0.66	3.80	20.03	29.78	7.74	31.61
GH072	2	6.97	0.65	3.09	17.09	27.20	7.33	37.66
GH072	3	7.12	1.24	6.96	15.11	19.44	9.91	40.23
GH073	1	6.44	2.09	9.33	21.85	24.65	11.10	24.54
GH073	2	10.12	2.58	8.21	20.26	25.73	11.08	22.00
GH073	3	10.26	2.75	9.45	18.89	21.68	9.29	27.68
GH074	1	6.39	1.42	10.48	28.21	15.84	7.23	30.43
GH074	2	8.19	2.13	9.44	22.58	25.76	10.91	20.98
GH074	3	11.64	2.84	12.28	25.15	17.72	8.76	21.60
GH075	1	12.20	4.57	17.73	14.81	13.48	9.61	27.60
GH075	2	12.00	3.35	14.53	15.96	24.13	14.84	15.19
GH075	3	16.81	4.10	15.61	16.89	16.67	12.60	17.32
GH076	1	12.29	12.80	65.90	4.45	1.13	1.14	2.28
GH076	2	13.57	9.42	69.23	0.75	4.06	0.63	2.33
GH076	3	9.64	13.54	70.18	4.43	0.79	0.64	0.78
GH077	1	49.93	20.91	19.76	3.11	2.73	1.01	2.55
GH077	2	46.10	24.24	22.20	3.60	0.00	1.13	2.72
GH077	3	46.78	29.95	13.11	3.14	3.20	1.04	2.79
GH078	1	4.87	68.22	24.61	1.26	0.73	0.22	0.08
GH078	2	17.32	33.22	47.32	1.34	0.61	0.15	0.05
GH078	3	3.33	51.56	43.93	0.76	0.29	0.09	0.05
GH079	1	33.45	24.86	23.70	7.73	6.00	2.08	2.19
GH079	2	29.56	27.22	25.15	7.61	6.23	2.54	1.68

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH079	3	23.88	35.63	31.07	3.65	2.77	1.39	1.61
GH080	1	3.21	3.71	80.03	9.41	2.85	0.61	0.18
GH080	2	8.65	6.32	67.16	10.97	5.54	0.84	0.52
GH080	3	3.90	30.11	54.66	7.89	2.64	0.60	0.20
GH081	1	1.47	0.99	50.54	40.28	4.77	1.04	0.92
GH081	2	2.37	0.93	44.19	40.51	8.64	2.26	1.11
GH081	3	2.10	1.22	38.30	46.42	7.43	2.37	2.16
GH082	1	2.48	1.01	27.01	31.62	26.84	7.08	3.96
GH082	2	3.35	3.18	26.69	34.21	17.13	5.62	9.81
GH082	3	3.76	1.96	22.48	26.23	25.22	9.01	11.35
GH083	1	53.17	8.75	19.96	8.55	1.80	2.34	5.44
GH083	2	64.50	9.81	16.05	5.43	0.93	0.89	2.40
GH083	3	65.49	12.02	14.48	4.35	0.96	0.77	1.93
GH084	1	27.87	17.50	49.47	1.41	1.03	1.16	1.55
GH084	2	27.81	17.63	47.89	1.36	1.43	1.39	2.49
GH084	3	29.68	16.66	49.40	0.87	0.71	0.85	1.83
GH085	1	7.45	3.36	11.50	21.27	17.02	8.33	31.06
GH085	2	9.20	3.69	16.52	23.88	18.69	6.03	22.00
GH085	3	6.26	3.86	14.05	22.23	24.03	9.74	19.83
GH086	1	2.92	1.12	10.23	38.01	16.61	6.44	24.67
GH086	2	9.75	1.72	9.16	29.79	16.40	9.47	23.73
GH086	3	2.91	1.16	10.92	35.46	9.84	7.54	32.17
GH087	1	6.57	1.17	5.24	23.95	11.41	4.76	46.90
GH087	2	6.54	0.99	6.45	24.50	19.21	8.96	33.35
GH087	3	2.77	0.66	5.02	28.54	25.76	14.07	23.19
GH088	1	6.28	2.69	10.55	21.13	19.95	14.97	24.43
GH088	2	6.67	1.76	6.40	21.01	22.20	16.10	25.86
GH088	3	4.18	1.27	5.19	19.10	16.08	10.13	44.05
GH089	1	26.33	24.27	40.23	4.96	3.28	0.64	0.29
GH089	2	30.87	17.88	40.16	5.03	4.29	0.78	0.99
GH089	3	28.31	13.92	47.19	5.16	4.32	0.78	0.31
GH090	1	3.14	0.40	3.83	15.42	60.72	15.87	0.63
GH090	2	2.17	0.62	5.69	8.57	43.19	35.81	3.95
GH090	3	2.17	0.26	1.93	19.62	63.65	11.38	1.00
GH091	1	3.00	18.54	78.20	0.14	0.08	0.01	0.03
GH091	2	4.24	65.68	29.85	0.15	0.08	0.00	0.00
GH091	3	4.74	52.37	42.44	0.22	0.20	0.02	0.00
GH092	1	1.05	0.09	0.31	5.41	54.47	30.81	7.85
GH092	2	3.61	0.82	3.70	11.77	26.23	13.99	39.89
GH092	3	4.27	1.28	8.30	16.58	18.65	12.60	38.32
GH093	1	7.75	3.08	8.17	6.65	8.23	10.43	55.70
GH093	2	10.06	4.51	9.11	10.06	12.90	16.16	37.20
GH093	3	12.10	5.41	10.29	10.70	10.77	16.40	34.33
GH094	1	1.33	0.26	0.90	23.56	34.73	13.32	25.91
GH094	2	1.55	0.19	0.79	21.31	33.54	18.88	23.74
GH094	3	1.67	0.27	1.45	37.26	37.52	10.08	11.76
GH095	1	27.69	24.29	31.43	3.60	4.78	2.55	5.66
GH095	2	30.65	44.76	17.68	1.54	1.22	1.04	3.12
GH095	3	19.67	39.06	16.74	2.70	5.40	4.68	11.75
GH096	1	35.87	28.11	10.51	13.13	8.47	1.98	1.93
GH096	2	32.84	31.72	13.92	12.50	5.96	1.31	1.75
GH096	3	21.27	20.79	18.57	20.36	10.60	2.31	6.11
GH097	1	22.55	13.37	31.00	14.52	10.17	5.28	3.12
GH097	2	33.82	17.33	29.46	10.05	5.10	2.04	2.21
GH097	3	25.65	12.49	34.37	14.60	7.12	2.87	2.90
GH098	1	4.37	3.91	43.11	23.81	14.54	6.78	3.48
GH098	2	4.62	4.95	49.29	25.33	10.89	3.16	1.75
GH098	3	2.47	1.74	27.84	38.68	18.46	6.01	4.80
GH099	1	1.39	0.13	3.62	18.78	47.28	26.32	2.48
GH099	2	2.00	0.09	1.65	19.20	54.10	21.05	1.91

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH099	3	1.63	0.09	2.16	17.93	49.00	28.37	0.82
GH100	1	13.94	2.90	15.79	39.13	11.79	3.36	13.08
GH100	2	24.89	4.70	20.23	41.50	5.38	1.22	2.08
GH100	3	17.05	3.05	17.75	40.91	12.49	2.94	5.81
GH101	1	1.19	0.07	2.13	32.46	33.89	10.38	19.89
GH101	2	1.25	0.21	5.43	38.33	24.10	16.15	14.53
GH101	3	1.57	0.11	2.36	34.85	39.18	11.67	10.25
GH102	1	1.74	1.57	77.92	18.08	0.54	0.10	0.05
GH102	2	1.66	1.17	76.59	20.35	0.17	0.04	0.02
GH102	3	1.62	0.22	63.90	33.54	0.27	0.13	0.32
GH103	1	3.35	0.75	4.36	31.46	13.86	7.54	38.67
GH103	2	9.06	0.88	4.16	34.58	14.91	4.99	31.42
GH103	3	4.66	0.35	2.88	27.43	10.01	4.43	50.24
GH104	1	11.43	5.48	22.75	33.77	9.48	5.25	11.84
GH104	2	13.54	6.91	25.81	27.51	8.22	5.16	12.85
GH104	3	14.29	6.72	31.46	21.68	7.92	6.06	11.87
GH105	1	1.80	21.30	76.79	0.08	0.02	0.00	0.00
GH105	2	6.99	11.20	81.70	0.11	0.00	0.00	0.00
GH105	3	1.60	7.34	90.91	0.13	0.02	0.00	0.00
GH106	1	7.60	0.91	3.11	18.34	24.69	4.76	40.59
GH106	2	7.84	1.08	3.02	20.40	17.95	6.18	43.53
GH106	3	2.10	0.42	3.86	26.74	22.40	5.17	39.31
GH107	1	1.36	0.19	9.43	56.43	24.94	4.82	2.83
GH107	2	1.39	0.14	11.18	62.01	21.20	3.31	0.78
GH107	3	0.00	0.26	20.10	61.67	11.25	3.19	3.53
GH108	1	1.73	9.10	83.56	5.34	0.24	0.02	0.00
GH108	2	1.53	3.72	87.72	6.55	0.29	0.10	0.09
GH108	3	1.38	2.67	87.36	8.06	0.36	0.11	0.06
GH109	1	2.05	12.48	83.95	1.20	0.18	0.11	0.02
GH109	2	1.72	8.60	87.37	1.95	0.28	0.09	0.00
GH109	3	2.00	16.59	78.84	2.04	0.33	0.18	0.04
GH110	1	35.75	22.28	14.57	15.94	6.26	2.62	2.58
GH110	2	17.66	14.09	21.58	26.28	9.75	4.01	6.63
GH110	3	2.18	1.71	3.59	22.27	31.31	19.89	19.05
GH111	1	31.86	35.49	29.21	2.48	0.68	0.20	0.09
GH111	2	25.95	38.57	31.19	2.91	0.67	0.31	0.40
GH111	3	32.01	37.67	24.54	3.09	1.14	0.61	0.94
GH112	1	4.47	8.92	85.40	0.91	0.11	0.09	0.10
GH112	2	2.26	7.87	80.35	9.30	0.10	0.07	0.04
GH112	3	2.37	6.72	88.25	2.46	0.10	0.05	0.04
GH113	1	10.28	2.19	9.52	36.72	16.29	7.26	17.75
GH113	2	12.40	2.32	10.30	32.51	17.12	7.91	17.44
GH113	3	22.68	3.39	12.70	27.79	16.27	5.72	11.44
GH114	1	2.42	11.60	85.54	0.35	0.03	0.01	0.04
GH114	2	2.22	15.57	82.02	0.20	0.00	0.00	0.00
GH114	3	2.51	7.06	89.93	0.44	0.04	0.02	0.00
GH115	1	1.61	3.17	84.66	9.60	0.73	0.13	0.10
GH115	2	1.40	2.81	78.29	16.69	0.66	0.09	0.04
GH115	3	1.85	2.71	88.80	5.54	0.80	0.21	0.08
GH116	1	8.80	1.64	8.07	12.94	12.97	11.47	44.11
GH116	2	9.87	1.74	8.65	10.69	10.10	7.58	51.37
GH116	3	7.02	1.53	11.21	14.00	16.49	16.81	32.94
GH117	1	2.68	12.17	73.91	9.35	1.11	0.49	0.29
GH117	2	2.09	10.97	77.43	8.01	0.94	0.32	0.23
GH117	3	1.64	8.32	70.55	15.39	2.35	0.89	0.86
GH118	1	33.87	7.27	6.53	12.76	24.72	10.33	4.52
GH118	2	3.11	3.92	20.03	38.62	31.78	2.19	0.36
GH118	3	39.05	8.56	15.33	28.84	7.99	0.22	0.00
GH119	1	1.39	3.53	80.85	14.06	0.16	0.01	0.00
GH119	2	1.40	4.11	72.31	22.03	0.11	0.02	0.01

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH119	3	1.77	4.71	86.09	7.32	0.10	0.00	0.00
GH120	1	16.39	7.59	22.27	22.03	10.76	6.18	14.77
GH120	2	17.00	6.86	11.56	14.47	8.86	5.24	36.02
GH120	3	17.52	5.64	16.93	16.86	15.18	8.66	19.20
GH121	1	10.29	12.02	40.37	20.59	8.67	4.55	3.51
GH121	2	17.76	10.56	40.36	14.93	8.27	5.48	2.65
GH121	3	20.72	13.22	41.49	11.64	5.94	3.79	3.20
GH122	1	13.22	75.34	10.73	0.51	0.10	0.06	0.03
GH122	2	7.72	71.37	20.61	0.22	0.04	0.02	0.01
GH122	3	5.18	81.46	13.04	0.21	0.05	0.05	0.01
GH123	1	3.04	7.34	80.55	8.61	0.28	0.12	0.05
GH123	2	2.88	5.71	88.42	2.69	0.19	0.05	0.07
GH123	3	2.73	3.99	85.28	7.20	0.20	0.16	0.44
GH124	1	9.93	25.89	58.90	3.29	0.54	0.47	0.97
GH124	2	14.16	32.29	45.60	4.07	1.47	0.65	1.76
GH124	3	12.51	25.41	54.23	4.83	1.10	0.64	1.28
GH125	1	17.49	27.20	22.43	10.42	7.45	4.68	10.33
GH125	2	14.16	19.76	35.73	12.84	5.87	4.53	7.11
GH125	3	12.22	23.64	26.08	11.66	6.31	5.87	14.22
GH126	1	1.23	0.52	4.85	46.24	11.50	4.29	31.36
GH126	2	1.75	0.43	5.99	79.33	10.51	0.94	1.05
GH126	3	1.71	0.43	7.88	62.81	9.10	2.15	15.93
GH127	1	2.71	1.21	11.51	30.10	19.81	12.14	22.52
GH127	2	3.44	0.91	9.63	27.05	19.71	12.78	26.48
GH127	3	0.60	1.03	12.85	33.89	21.70	11.92	18.01
GH128	1	1.67	5.31	92.57	0.26	0.11	0.05	0.03
GH128	2	1.84	12.90	84.89	0.26	0.10	0.03	0.00
GH128	3	1.66	6.64	91.25	0.31	0.10	0.05	0.00
GH129	1	1.34	17.89	33.78	5.98	5.64	4.88	30.49
GH129	2	1.82	31.17	20.60	13.31	13.15	9.74	10.21
GH129	3	1.94	23.70	31.58	12.78	7.43	10.45	12.13
GH130	1	3.65	3.38	12.28	24.81	11.22	6.79	37.87
GH130	2	4.08	4.36	22.27	21.29	6.10	4.16	37.74
GH130	3	4.70	4.42	15.06	19.90	9.27	7.16	39.50
GH131	1	11.56	19.93	51.37	13.55	2.47	0.95	0.17
GH131	2	6.75	57.80	30.87	0.58	3.73	0.21	0.05
GH131	3	9.10	60.62	23.00	5.33	1.31	0.54	0.10
GH132	1	6.16	1.16	5.97	29.94	21.88	18.30	16.59
GH132	2	1.98	0.62	4.57	30.47	32.69	20.66	9.02
GH132	3	1.59	0.51	4.36	19.27	17.15	15.44	41.69
GH133	1	1.74	6.25	87.88	2.96	0.62	0.46	0.09
GH133	2	1.97	5.42	91.51	0.72	0.14	0.09	0.15
GH133	3	1.91	4.57	91.93	0.88	0.31	0.34	0.07
GH134	1	7.66	4.43	16.83	15.13	5.64	8.85	41.47
GH134	2	2.34	1.66	12.96	7.77	10.22	8.83	56.22
GH134	3	7.93	2.53	10.70	45.50	10.45	5.40	17.48
GH135	1	4.16	16.30	77.20	2.07	0.18	0.05	0.04
GH135	2	3.44	14.32	70.23	11.74	0.24	0.03	0.00
GH135	3	3.18	10.81	73.81	11.29	0.68	0.19	0.03
GH136	1	19.87	1.57	4.18	48.04	23.36	2.15	0.83
GH136	2	30.07	1.82	5.48	36.58	18.50	3.34	4.22
GH136	3	23.89	1.73	5.80	39.48	15.20	4.27	9.62
GH137	1	68.94	10.45	4.61	3.31	1.83	1.35	9.51
GH137	2	70.67	15.37	6.10	3.43	1.85	1.50	1.09
GH137	3	76.52	11.17	3.35	2.82	1.62	1.46	3.06
GH138	1	84.30	11.75	2.75	0.78	0.18	0.16	0.08
GH138	2	84.07	11.32	3.37	0.85	0.19	0.21	0.00
GH138	3	83.68	11.11	3.81	0.94	0.23	0.10	0.13
GH139	1	29.74	14.61	17.28	31.49	4.88	0.65	1.36
GH139	2	27.37	11.39	32.81	26.11	1.65	0.32	0.35

Station	Grab	<63µm	>63µm	>125µm	>250µm	>500µm	>1mm	>2mm
GH139	3	23.11	9.04	16.91	32.35	8.90	1.85	7.83
GH140	1	27.63	23.41	44.55	2.64	0.83	0.33	0.61
GH140	2	18.20	13.89	57.74	4.45	1.89	1.40	2.43
GH140	3	22.27	21.03	50.17	3.58	1.00	0.72	1.22
GH141	1	18.43	7.24	47.48	13.76	6.58	2.97	3.54
GH141	2	19.24	11.13	42.52	15.02	5.78	2.70	3.61
GH141	3	24.66	13.92	33.13	14.59	6.91	2.86	3.94
GH142	1	42.81	4.58	13.65	20.12	13.59	3.05	2.18
GH142	2	42.96	4.28	12.50	17.79	16.90	3.38	2.19
GH142	3	44.13	4.41	11.36	18.28	15.39	3.75	2.68
GH143	1	1.57	1.12	7.52	68.97	15.71	2.10	3.01
GH143	2	1.41	0.72	5.77	60.70	26.57	2.86	1.98
GH143	3	1.73	0.33	5.19	53.19	35.01	3.20	1.34
GH144	1	17.52	16.58	42.81	8.48	3.72	2.37	8.51
GH144	2	28.55	23.44	44.11	2.81	0.50	0.32	0.27
GH144	3	21.42	13.47	29.82	11.63	5.83	3.98	13.86
GH145	1	44.92	9.56	12.78	19.36	6.77	2.66	3.96
GH145	2	43.56	6.28	11.12	22.16	8.49	4.12	4.27
GH145	3	44.06	8.10	14.11	21.19	7.16	2.52	2.86
GH146	1	3.12	10.35	1.60	36.84	25.55	8.67	13.87
GH146	2	3.15	4.20	6.23	10.30	22.54	20.66	32.90
GH146	3	0.35	1.48	17.02	43.08	21.63	8.27	8.17
GH147	1	4.87	5.36	7.72	14.01	21.58	20.69	25.77
GH147	2	2.75	6.68	6.09	13.44	24.55	19.93	26.56
GH147	3	2.87	5.47	3.38	12.33	24.61	28.46	22.88
GH148	1	67.53	20.27	7.17	1.50	0.64	0.87	2.02
GH148	2	74.11	14.55	7.65	1.45	0.68	0.70	0.85
GH148	3	71.66	17.87	6.39	2.07	0.69	0.53	0.79
GH149	1	85.81	2.97	3.44	1.61	2.08	1.79	2.29
GH149	2	43.62	1.71	3.45	5.12	12.20	12.15	21.75
GH149	3	40.81	1.48	3.19	4.57	9.44	10.15	30.35

Appendix 6. Summary table of environmental parameters measured at 149 macrobenthic sampling station in Port Curtis during 2002. All measures presented for water temperature (°C), salinity (ppt), dissolved oxygen (mg/L) and pH, are means derived for the water column at each station (1m intervals), and have been standardised by daily readings at navigation buoy A8. Secchi depth (m) and measures of total chlorophyll (µg/L) are individual surface measurements, but have also been standardised by daily readings at buoy A8. Percentage organic carbon measures are given for surface sediments at all stations, and are means derived from three replicate grabs.

Station	Latitude	Longitude	Date	% Organic C	Temperature	Salinity	DO	pH	Secchi	Total Chl
GH001	-23.65012	151.08973	24/07/2002	3.72	18.01	36.65	7.37	8.12	1.30	1.98
GH002	-23.65853	151.10367	24/07/2002	11.89	18.01	37.02	7.04	8.05	1.80	1.98
GH003	-23.66603	151.11837	24/07/2002	5.39	17.83	37.01	6.87	8.06	1.30	2.20
GH004	-23.68103	151.10367	24/07/2002	14.05	18.40	37.10	6.82	8.05	1.30	1.76
GH005	-23.68103	151.11837	24/07/2002	13.45	18.52	37.03	6.87	8.07	1.30	2.20
GH006	-23.68103	151.13307	30/07/2002	8.87	17.71	36.89	7.34	8.07	2.00	2.20
GH007	-23.69455	151.13593	30/07/2002	13.31	18.06	36.98	7.22	8.04	2.50	2.42
GH008	-23.71135	151.13383	30/07/2002	12.30	18.46	37.06	7.22	8.01	1.00	1.76
GH009	-23.71103	151.14777	30/07/2002	17.33	18.11	36.92	7.24	8.05	3.00	1.54
GH010	-23.71783	151.23472	18/07/2002	6.35	16.94	37.36	6.75	7.79	1.00	2.20
GH011	-23.72655	151.13510	30/07/2002	11.61	18.17	37.01	7.27	8.03	2.00	2.42
GH012	-23.72540	151.14938	30/07/2002	10.42	18.82	36.86	7.52	8.11	1.00	1.98
GH013	-23.72603	151.15880	31/07/2002	17.06	17.78	36.84	7.32	8.09	1.70	2.20
GH014	-23.72603	151.22127	18/07/2002	5.61	17.36	37.11	6.83	7.88	1.50	1.98
GH015	-23.73353	151.20657	18/07/2002	10.41	17.26	36.93	6.75	7.91	1.50	2.20
GH016	-23.74052	151.13553	30/07/2002	7.77	18.27	37.15	7.16	7.98	2.00	1.76
GH017	-23.74103	151.16247	31/07/2002	11.32	18.11	36.89	7.22	8.08	2.70	2.42
GH018	-23.74103	151.17717	18/07/2002	6.46	17.77	36.71	6.95	8.02	2.00	2.42
GH019	-23.74103	151.19187	19/08/2002	12.01	18.25	37.21	7.13	8.04	2.50	1.98
GH020	-23.74103	151.30947	02/08/2002	5.08	18.25	36.12	7.48	8.34	4.30	1.54
GH021	-23.75603	151.16247	31/07/2002	8.36	18.79	36.75	7.62	8.14	0.70	1.76
GH022	-23.75603	151.17717	18/07/2002	3.37	17.57	36.61	7.15	8.09	1.00	1.98
GH023	-23.75533	151.25960	07/08/2002	9.80	18.12	36.79	7.22	8.17	1.50	2.20
GH024	-23.75603	151.32417	03/09/2002	18.66	19.08	36.29	6.82	8.28	3.00	2.64
GH025	-23.75657	151.33958	02/08/2002	5.18	18.35	36.02	7.20	8.32	5.30	1.54
GH026	-23.77103	151.14777	23/07/2002	6.64	18.73	37.08	7.27	8.18	1.30	2.20
GH027	-23.77103	151.16247	31/07/2002	9.48	18.61	36.74	7.42	8.12	0.70	2.86
GH028	-23.77103	151.17717	18/07/2002	8.94	18.25	36.56	7.53	8.07	2.50	2.20
GH029	-23.76920	151.26193	07/08/2002	9.71	18.21	36.68	7.31	8.20	1.50	1.76
GH030	-23.77103	151.29477	08/08/2002	5.17	17.51	36.51	7.33		2.70	2.64
GH031	-23.77103	151.30947	02/08/2002	9.03	18.16	36.43	7.48	8.27	0.30	1.54
GH032	-23.77113	151.32592	22/08/2002	7.50	18.54	36.05	7.31	8.26	2.00	2.42
GH033	-23.76893	151.33988	03/09/2002	6.95	18.81	35.99	7.15	8.33	1.50	1.76
GH034	-23.78603	151.16247	23/07/2002	10.93	18.74	36.90	7.27	8.18	1.30	1.76
GH035	-23.78772	151.17452	31/07/2002	11.23	18.71	36.67	7.43	8.17	1.70	2.20
GH036	-23.78603	151.19187	07/08/2002	9.63	18.59	36.63	7.22	8.17	2.00	2.64
GH037	-23.78603	151.20657	18/07/2002	11.20	17.99	36.55	6.95	8.14	1.00	1.98
GH038	-23.78603	151.25067	07/08/2002	8.20	18.40	36.60	7.37	8.23	1.50	2.20
GH039	-23.78603	151.26537	01/08/2002	10.04	17.81	36.45	7.50	8.28	1.60	2.64
GH040	-23.78542	151.29417	22/08/2002	11.15	18.62	36.12	7.30	8.29	1.50	2.86
GH041	-23.78603	151.30947	02/08/2002	7.36	18.31	36.32	7.68	8.24	0.30	1.76
GH042	-23.78603	151.32417	08/08/2002	4.33	17.07	36.39	7.58		1.70	2.42
GH043	-23.78603	151.35357	03/09/2002	6.39	18.65	35.96	7.23	8.35	5.50	1.98
GH044	-23.80103	151.17717	23/07/2002	10.46	18.77	36.88	7.17	8.17	1.30	1.76
GH045	-23.80103	151.19187	07/08/2002	9.82	18.88	36.68	7.14	8.16	2.00	2.20
GH046	-23.80103	151.20657	19/08/2002	11.30	18.86	36.77	7.30	8.20	2.00	1.98
GH047	-23.80103	151.22127	19/08/2002	3.67	18.71	36.78	7.26	8.19	1.50	1.76

Station	Latitude	Longitude	Date	% Organic C	Temperature	Salinity	DO	pH	Secchi	Total Chl
GH102	-23.87603	151.33887	22/08/2002	5.93	18.23	36.12	7.34	8.32	1.50	2.64
GH103	-23.87603	151.35357	30/08/2002	6.93	18.11	36.36	7.71	8.28	2.00	2.64
GH104	-23.89103	151.33887	25/07/2002	11.33	18.63	36.47	7.39	8.23	2.50	2.42
GH105	-23.89103	151.35357	15/08/2002	4.32	18.44	36.22	8.18	8.33	1.40	1.98
GH106	-23.89103	151.36827	05/08/2002	3.30	18.24	36.30	7.70	8.24	3.50	1.98
GH107	-23.89103	151.39767	30/08/2002	5.84	18.18	36.02	7.66	8.40	1.80	3.08
GH108	-23.89103	151.42707	02/09/2002	5.01	18.49	35.94	7.20	8.43	2.50	2.42
GH109	-23.89103	151.45647	02/09/2002	5.07	18.44	35.96	7.20	8.43	4.50	1.76
GH110	-23.89103	151.48587	02/09/2002	8.40	18.28	35.91	7.33	8.44	7.50	1.98
GH111	-23.89103	151.51527	02/09/2002	10.51	18.16	35.90	7.36	8.46	10.50	2.42
GH112	-23.90603	151.33887	25/07/2002	5.36	18.99	36.53	7.44	8.27	2.50	2.86
GH113	-23.90603	151.35357	25/07/2002	10.36	18.50	36.39	7.51	8.28	3.00	3.08
GH114	-23.90603	151.36827	17/07/2002	5.07	18.33	36.41	7.50	8.30	3.50	2.42
GH115	-23.92103	151.35357	26/07/2002	5.97	18.37	36.42	7.66	8.27	2.50	2.42
GH116	-23.92103	151.36827	30/08/2002	13.83	17.95	36.09	7.75	8.35	4.00	2.86
GH117	-23.92103	151.39767	30/08/2002	5.79	18.04	36.07	7.34	8.38	2.00	2.86
GH118	-23.92103	151.42707	30/08/2002	6.68	18.18	36.06	6.99	8.41	1.50	3.08
GH119	-23.92103	151.45647	30/08/2002	5.81	18.51	35.83	5.50	8.34	4.00	2.64
GH120	-23.92103	151.48587	30/08/2002	15.25	18.59	35.84	4.90	8.38	4.00	2.64
GH121	-23.92103	151.51527	03/09/2002	10.97	18.38	35.91	7.62	8.33	8.50	2.64
GH122	-23.93603	151.36827	17/07/2002	8.57	18.09	36.42	7.57	8.29	3.50	2.20
GH123	-23.95103	151.39767	25/07/2002	15.05	18.37	36.30	7.55	8.30	5.00	2.86
GH124	-23.95103	151.42707	30/08/2002	8.41	18.82	35.91	7.18	8.37	3.00	2.86
GH125	-23.95103	151.45647	03/09/2002	10.43	18.40	36.02	7.66	8.28	4.50	1.98
GH126	-23.95103	151.48587	30/08/2002	16.51	18.75	35.83	3.96	8.38	3.50	2.86
GH127	-23.95103	151.51527	03/09/2002	10.89	18.59	35.89	7.70	8.35	5.50	2.20
GH128	-23.98103	151.42707	25/07/2002	4.10	18.65	36.32	7.44	8.31	1.50	2.64
GH129	-23.98103	151.45647	30/08/2002	6.69	18.36	35.79	3.81	8.33	2.50	3.08
GH130	-23.98103	151.48587	03/09/2002	13.96	18.88	36.03	7.43	8.32	1.50	2.20
GH131	-23.98103	151.51527	03/09/2002	8.52	19.26	35.86	7.30	8.31	2.50	2.20
GH132	-23.99603	151.43442	30/08/2002	4.71	18.09	36.00	7.48	8.34	2.00	3.08
GH133	-23.99603	151.45647	25/07/2002	5.96	18.16	36.42	7.54	8.32	5.50	3.08
GH134	-24.01103	151.43442	30/08/2002	7.69	17.74	36.04	7.08	8.32	2.00	2.86
GH135	-24.01103	151.51527	25/07/2002	7.39	18.42	36.29	7.44	8.32	4.50	2.86
GH136	-23.63822	151.07397	24/07/2002	8.99	18.00	36.56	7.07	8.13	1.30	1.98
GH137	-23.63367	151.06338	24/07/2002	10.32	17.85	36.62	6.87	8.15	1.30	1.54
GH138	-23.83285	151.26205	29/07/2002	14.24	18.51	36.59	7.07	8.24	2.10	2.42
GH139	-23.85263	151.31012	29/07/2002	8.77	18.26	36.49	7.18	8.30	3.10	2.64
GH140	-23.85283	151.31487	26/07/2002	9.70	18.46	36.47	7.56	8.23	3.00	1.98
GH141	-23.86492	151.30243	29/07/2002	7.06	18.40	36.51	7.17	8.24	2.10	2.20
GH142	-23.91506	151.29965	29/07/2002	9.13	17.68	37.12	6.97	8.11	2.10	1.76
GH143	-23.93951	151.35474	26/07/2002	6.00	18.11	36.43	7.56	8.25	5.50	2.42
GH144	-23.96627	151.34847	26/07/2002	10.71	18.30	36.74	6.86	8.11	3.00	2.42
GH145	-23.83688	151.24683	09/08/2002	9.96	18.18	36.56	7.24	8.27	2.20	2.20
GH146	-23.87603	151.47117	02/09/2002	6.74	18.36	35.88	7.32	8.46	9.50	2.42
GH147	-23.92985	151.51527	03/09/2002	14.46	18.46	35.89	7.50	8.32	7.50	2.42
GH148	-23.84823	151.23018	20/08/2002	9.77	18.34	36.57	7.23	8.16	1.00	1.76
GH149	-23.85805	151.23583	20/08/2002	8.95	18.50	37.11	7.40	8.09	0.00	