



Figure 6-4 Mangrove root assemblages at site C1





Figure 6-5 Mangrove root assemblages at site C2





Figure 6-6 Mangrove root assemblages at site C3

### **6.3 Benthic faunal analysis**

#### Summary

Benthic infaunal analysis found no obvious signs of existing impacts on macrobenthic communities at the Doug Pt farm sites or adjacent control sites in the Madford and Tahlee Inlets. Analysis of faunal similarities amongst samples from these sites detected habitat-related variation, with intertidal communities distinct from the subtidal communities. Within the intertidal and subtidal groupings, some differentiation was also observed between farm and control sites, although overlap was observed between these localities, particularly in the subtidal samples. Diversity indices and K-dominance curves revealed no consistent trends in biodiversity or dominance on the basis of habitat, depth or inlet. Communities were generally diverse and exhibited low levels of faunal dominance. The benthic infaunal data gathered in this survey will provide a useful baseline against which future biological change can be assessed.

#### **Methods**

##### Sampling methods

Macroinvertebrates were collected using a Van Veen grab which sampled a 0.07 m<sup>2</sup> area of seabed. A total of three replicate samples were collected at each monitoring site (F1 to F6) and each control site (C1 to C6). The samples were sieved in the field using a 1 mm mesh sieve, and animal and sediment material retained on the sieve placed into vials diluted with 5% buffered formalin. In the laboratory, collected material was washed through a stacked series of sieves (1, 1.4, 2, 2.8 and 4 mm) using the methods described by Edgar (1990). Material retained on each sieve was sorted under a dissecting microscope with animals separated into species groups, counted and placed in labelled vials for long term storage.

##### Analytical methods

Benthic infauna data were analysed using univariate and multivariate statistical methods to assess patterns of spatial variation in the baseline data.

Benthic infauna data were analysed using multidimensional scaling (MDS), as run by SYSTAT (Wilkinson 1989) and PRIMER (Carr 1996) programs, in order to produce the best graphical depiction of faunal similarities among samples. For this analysis, the data matrix showing total abundance of species in each sample was double square root transformed and converted to a symmetric matrix of biotic similarity between pairs of samples using the Bray-Curtis similarity index. These procedures follow the recommendations of Faith *et al.* (1987) and Clarke (1993) for data matrices with numerous zero records. The usefulness of the two dimensional MDS display of relationships among samples is indicated by the stress statistic, which if <0.1 indicates that the depiction of relationships is good, and if >0.2 that the depiction is poor (Clarke 1993).

Several indices were calculated to provide information on macrobenthic diversity at sites sampled:

**Species number, S**

Where S equals the number of species or equivalent taxonomic unit collected in a sample.

**Individuals, N**

Where N equals then number of individuals of all species collected in a sample.

**Diversity (Shannon-Wiener),  $H' = - \sum_i \rho_i(\log \rho_i)$**

Where  $\rho_i$  is the proportion of the total count arising from the  $i$ th species.

**Evenness (Pielou's),  $J' = H'(\text{observed})/H'_{\max}$**

Where  $H'_{\max}$  is the maximum possible Shannon diversity which could be achieved if all species contained the same number of individuals (=log S).

**Richness (Margalef's),  $d = (S-1)/\log N$**

Where d is a measure of the number of species present for a given number of individuals.

In addition, K-dominance curves were calculated for each site sampled, based on pooled replicate data. K-dominance curves rank the families collected at each site from most abundant to least abundant and allow easy determination of levels of faunal dominance. K-dominance curves provide a useful indicator of benthic infauna community health, with large y-intercept values and steep curves indicative of high levels of faunal dominance and hence low levels of community health.

Results and interpretation

Macrobenthic species collected during the survey are shown in Table 8.7.1 and

Table 8.7.2 and consisted of 154 species represented by a total of 1159 individuals. Samples from the six farm sites at Doug Pt included 119 species and 543 individuals, whilst the remaining 616 individuals, representing 105 species, were identified in samples from the control sites. The samples were dominated by polychaete worms (62 species, 633 individuals), crustaceans (48 species, 348 individuals) and molluscs (29 species, 88 individuals), while echinoderms, nemerteans, anthozoans and a range of less common taxa were also identified. The most common species were the polychaete worm *Scyphoproctus* sp. (163 individuals) and the tanaid crustacean *Kalliapseudes* sp. (77 individuals), with the decapod crustacean Grapsid sp. (35 individuals), isopod crustacean Anthurid sp. (40 individuals), ophiuroid echinoderm *Ophiactis* sp. (32 individuals) and polychaete worms *Glycera cinnamomea* (37 individuals) and *Diopatra* sp. (34 individuals) also relatively common. All of these species were distributed across both farm and control sites. Species diversity was similar to that found in studies carried out by Aquenal for Marine Harvest of six other mangrove estuaries but abundance was about half that found in five of those estuaries and 70% of the sixth.

The results of MDS analysis using all macrobenthic samples are displayed in Figure 6-7. The MDS plot reveals differences between intertidal and subtidal samples, since the former are grouped on the left side of the plot, with the latter on the right side. The only exception was F3, an intertidal farm site that showed a higher level of similarity with certain subtidal sites than with the remaining intertidal sites. Within-site similarity was highly variable, since triplicate samples from some sites formed tight groupings in the MDS plot (e.g. F2, C2, C6), whilst others were widely dispersed (e.g. F1, F3, F4, C4). Within the intertidal and subtidal groupings, there was no clear separation of samples on the basis of the inlet from which they were collected.

The stress statistic for the MDS plot in Figure 6-7 exceeds 0.2 and therefore reflects a relatively poor depiction of patterns of similarity among samples. The data were therefore re-analysed on the basis of pooled replicate samples for each site, with the results provided in Figure 6-8. In this case, the stress statistic of 0.12 reflects an accurate depiction of relationships among sites. The separate groupings of intertidal and subtidal sites were again distinct, with intertidal sites grouped on the left and subtidal sites on the right. On the basis of grouped samples, the benthic infauna at site F3 displayed a higher similarity with other intertidal sites than they did in the MDS analysis of triplicate samples (Figure 6-7). Analysis of pooled samples also revealed more distinct groupings on the basis of geographical locality. Intertidal farm sites (F1-F3), collected from Geranium Channel and Phoenix Inlet, were located in the top half of the MDS plot, while intertidal control sites (C1-C3), collected from Madford Inlet and Tahlee Inlet, were located in the bottom half. Similarly, subtidal farm sites formed a grouping in the bottom right section of the MDS plot, however subtidal control sites were more dispersed due to differentiation of C6, the deepest control site. The two deepest farm sites, F5 and F6 (13 m and 12.1 m depths respectively), showed a high level of similarity and had faunas similar to those at a shallower control site (C5, 6.2 m). Within the subtidal sites, the benthic infauna communities therefore displayed no clear differentiation on the basis of depth.

Overall, patterns of similarity amongst macrobenthic samples reflected a mixture of habitat (intertidal/subtidal) variation and geographical separation of the farm and control localities. The taxa that accounted most for differences in assemblages

between intertidal and subtidal sites were the polychaete worm *Scyphoproctus* sp. and decapod Grapsid sp., which were considerably more abundant at intertidal sites, and the tanaid *Kalliapseudes* sp. and isopod Anthurid sp., which were more common at the subtidal sites. At the subtidal sites, *Kalliapseudes* sp. and Anthurid sp. were less common at the farm sites than at control sites and contributed most to the grouping of subtidal farm sites in the MDS plot. The control site C6 was separated from other subtidal sites in the MDS plot due to higher numbers of *Kalliapseudes* sp. and Anthurid sp. and, in particular, the polychaete worm *Diopatra* sp.

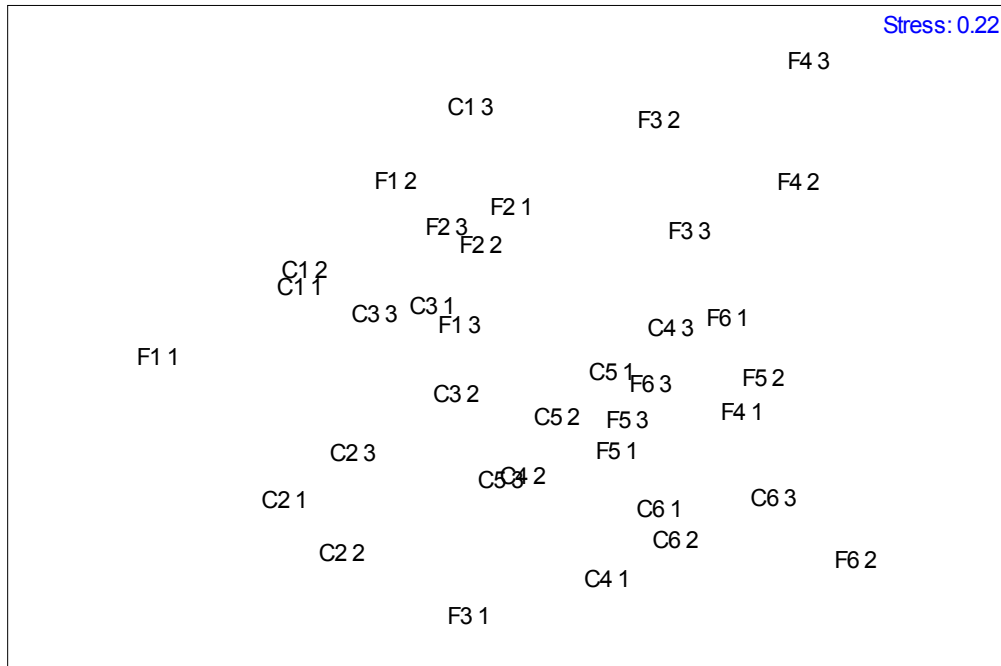


Figure 6-7 Results of MDS analysis using macrobenthic data from triplicate samples at each site.



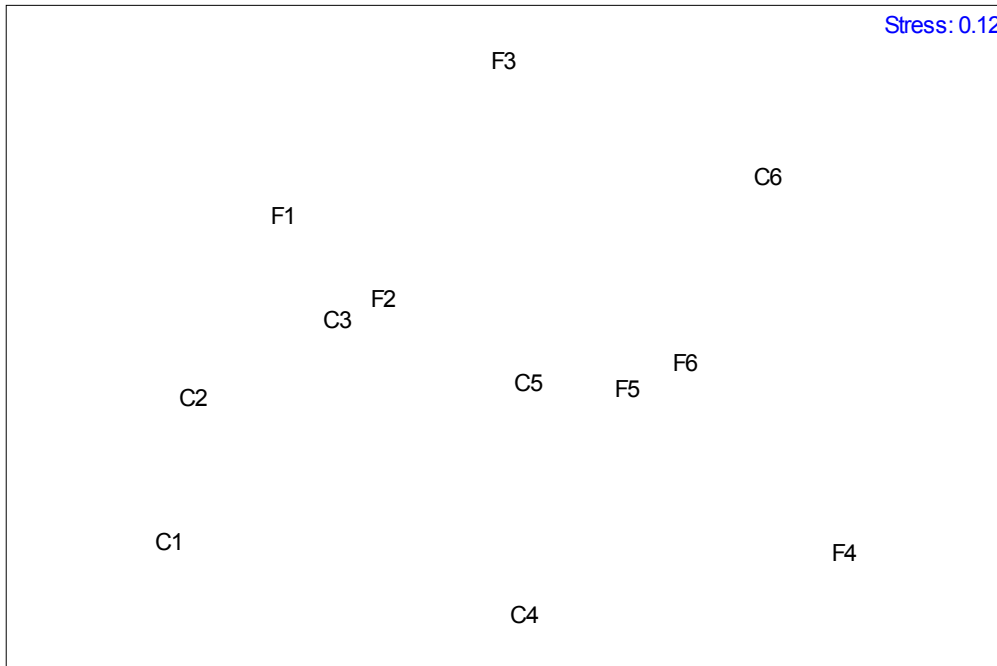


Figure 6-8 Results of MDS analysis using pooled replicate macrobenthic data from each site.

The results of diversity indices calculations are provided in Figure 6-9 and provide baseline data that can be readily compared with future data to assess temporal variation in biodiversity. Species and individual numbers peaked at intertidal sites C3 and F1, while high animal numbers, and to a lesser extent species numbers, were also recorded at subtidal sites C5 and F5. Both animal and species numbers were consistently low at intertidal sites C1 and C2 and subtidal sites C4 and F4. These patterns of variation were present but less pronounced in the Shannon–Wiener diversity index ( $H'$ ) and Margalef’s richness index ( $d$ ) values, with consistently high values at C5 and F5, and lower values at C4 and F4. For these indices, there was no clear relationship between diversity and habitat, depth or inlet, although the deepest farm and control sites (C5, F5 and F6) recorded consistently high or moderate-high values. Pielou’s evenness index ( $J'$ ), which reflects how evenly the numbers of individuals are distributed amongst species, recorded similar values at all sites, with the exception of slightly reduced evenness values at sites C3, C4, and F1. Reduced evenness at these sites can be explained in part by very high numbers, relative to other species, of *Scyphoproctus* sp. at C3 and F1 and of *Kalliapseudes* sp. at C4.



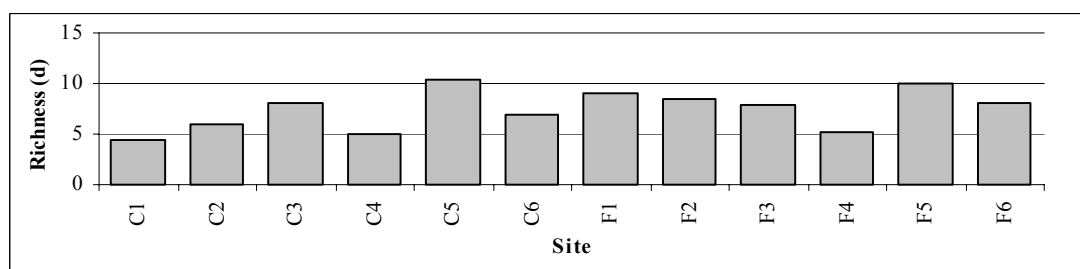
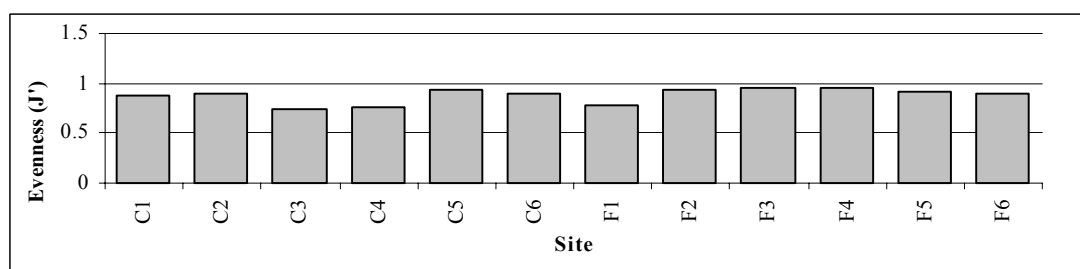
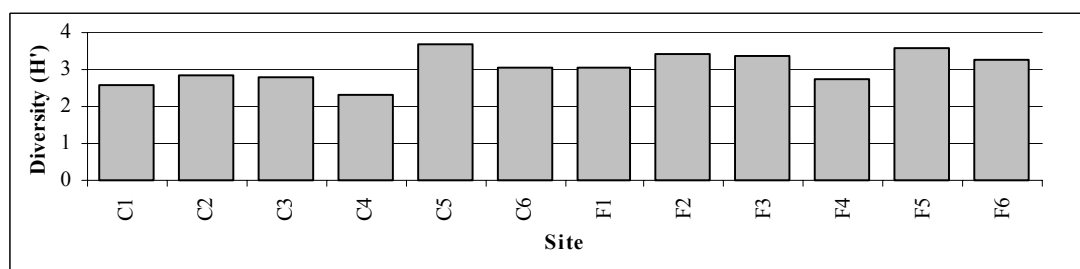
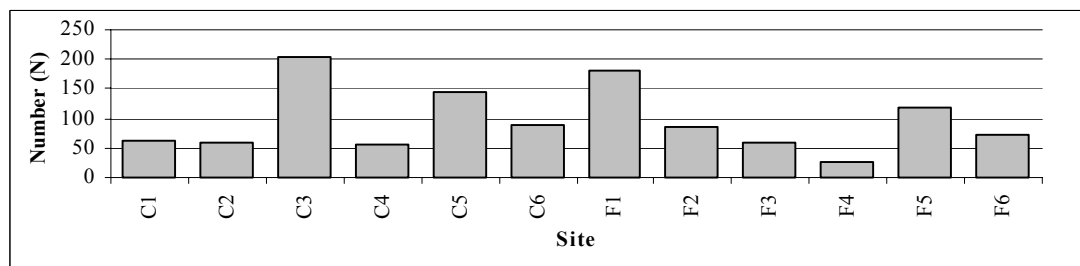
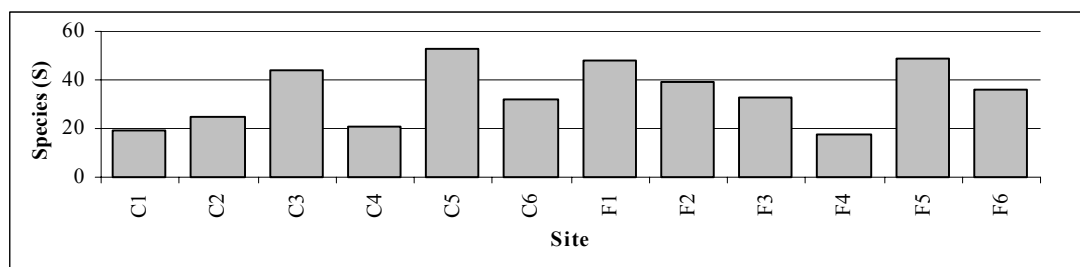


Figure 6-9 Macrobenthic diversity indices for farm and control sites; S = number of species, N = number of individuals, H' = Shannon-Wiener diversity index, J' = Pielou's evenness index, d = Margalef's richness index.

K-dominance curves for pooled replicate samples at each site are presented in Figure 6-10. At the majority of the sites the y-intercept values reflected low levels of faunal dominance, with the most dominant species comprising ~20% or less of animal numbers. At a smaller number of sites (C3, C4, F1), the most dominant species comprised ~30-40% of animals collected, reflecting a slightly higher level of dominance. However, remaining components of the assemblages consisted of a large number of low abundance species, particularly at C3 and F1, reflecting low levels of dominance overall. F1, in addition to having an elevated y-intercept value, had higher dominance than other sites across the 2<sup>nd</sup>-7<sup>th</sup> most common species and had a reduced total number of species, as shown by the elevation of the F1 curve in the plot. Conversely, the subtidal control site C5 had the lowest y-intercept value, lowest dominance levels across species of all ranks and possessed the highest number of species overall, reflecting a very low level of dominance. None of the K-dominance curves depicted in Figure 4 are indicative of high levels of pollution or other forms of environmental degradation, and there was no clear relationship between dominance levels and habitat, depth or inlet.

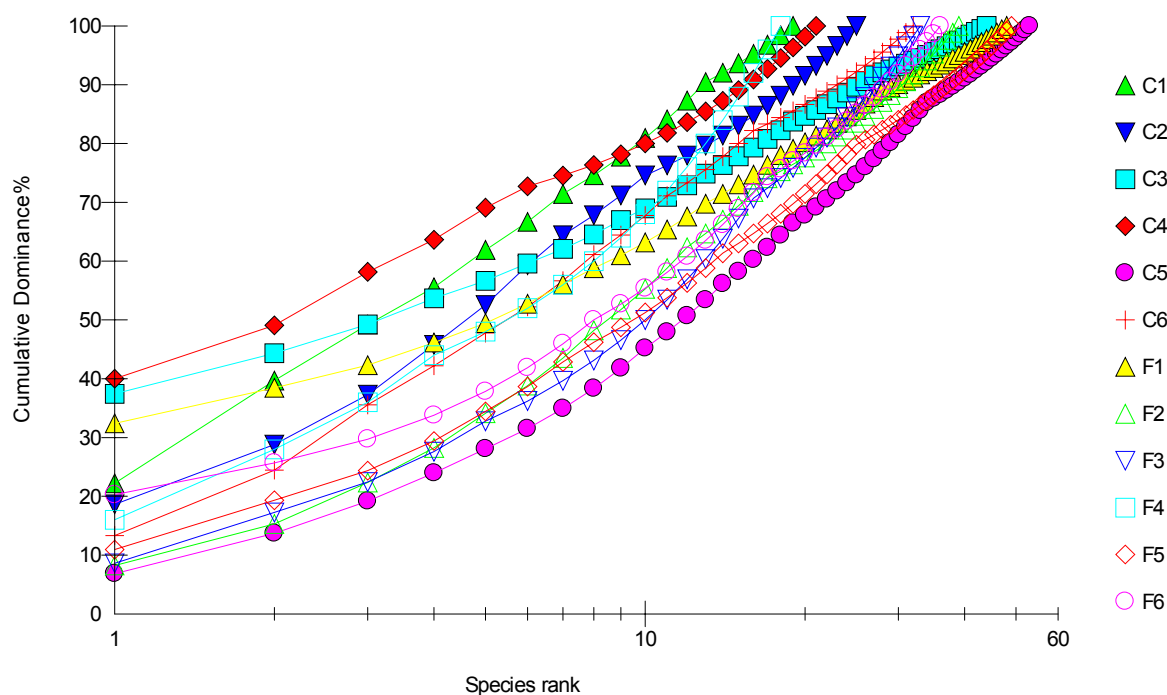


Figure 6-10 K-dominance curves for pooled replicate macrobenthic samples at each site

## 7 References

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## 8 Appendices – Data tables

### 8.1 Survey coordinates

Table 8.1.1 Sample site coordinates UTM WGS 84.

Site No.	Grid	Easting	Northing	Location
F1	52L	661427	8598977	Phoenix Inlet
F2	52L	665243	8598946	Geranium Channel
F3	52L	663404	8594945	McKenzie Arm
F4	52L	665810	8594934	Geranium Channel
F5	52L	664160	8599697	Geranium Channel
F6	52L	663020	8600467	Geranium Channel
C1	52L	650630	8596404	Tahlee Inlet
C2	52L	650237	8596185	Tahlee Inlet
C3	52L	652628	8595860	Madford Inlet
C4	52L	650283	8596057	Tahlee Inlet
C5	52L	652289	8595866	Madford Inlet
C6	52L	651316	8597127	Madford Inlet
FM1	52L	661249	8598774	Phoenix Inlet
FM2	52L	665382	8599009	Geranium Channel
FM3	52L	663404	8594945	McKenzie Arm
CM1	52L	650718	8596418	Tahlee Inlet
CM2	52L	652498	8595406	Madford Inlet

## 8.2 Redox potential

Table 8.2.1 Uncorrected redox potential readings in millivolts at specified depths in sediment cores.

Site No.	Depth (cm)			Comments
	0	1	4	
F1-1	-53	-98	-180	
F1-2	-28	-145	-147	
F1-3	-64	-67	-116	
F2-1	-149	-158	-176	
F2-2	-157	-173	-185	
F2-3	-94	-136	-175	
F3-1	-110	-119	-122	
F3-2	-166	-173	-196	
F3-3	-47	-200	-245	
F4-1	-65	-94	-138	
F4-2	-39	-84	-119	
F4-3	-62	-94	-172	
F5-1	-87	-98	-132	
F5-2	-125	-182	-206	
F5-3	-4	-81	-147	
F6-1	-140	-157	-173	
F6-2	-107	-138	-178	
F6-3	-125	-163	-184	
C1-1	17	14	7	Unreliable readings
C1-2	14	-13	-17	Unreliable readings
C1-3	218	186	147	Unreliable readings
C2-1	-87	-130	-163	
C2-2	-156	-181	-194	
C2-3	-130	-147	-159	
C3-1	-133	-239	-241	Unreliable reading
C3-2	-89	-112	-191	
C3-3	-155	-161	-299	
C4-1	-130	-141	-150	
C4-2	-118	-156	-160	
C4-3	-79	-95	-166	
C5-1	237	-80	-164	
C5-2	161	-131	-165	
C5-3	226	-167	-106	
C6-1	54	-103	-144	
C6-2	180	132	-126	
C6-3	-105	-144	-163	



### 8.3 Particle size analysis

Table 8.3.1 Particle size analysis in percent of top 100 mm of sediment cores from the intertidal farm and control sites.

Sample No	Sieve mesh size (mm)							
	4.0 %	2.0 %	1.0 %	0.5 %	0.250 %	0.125 %	0.063 %	<.063 %
F1-1	0.0	0.0	0.0	1.3	5.8	2.6	1.9	88.3
F1-2	0.0	0.0	0.0	1.3	3.9	2.6	3.9	88.3
F1-3	1.3	0.0	0.0	0.6	3.9	2.6	2.6	89.0
Mean	0.4	0.0	0.0	1.1	4.5	2.6	2.8	88.5
Std Dev	0.7	0.0	0.0	0.4	1.1	0.0	1.0	0.4
Cum %	0.4	0.4	0.4	1.5	6.1	8.7	11.5	100.0
F2-1	4.5	3.2	5.2	8.4	7.1	9.1	3.9	58.4
F2-2	5.2	6.5	5.2	7.8	5.8	7.1	3.9	58.4
F2-3	4.5	3.2	3.2	8.4	6.5	9.1	3.9	61.0
Mean	4.8	4.3	4.5	8.2	6.5	8.4	3.9	59.3
Std Dev	0.4	1.9	1.1	0.4	0.6	1.1	0.0	1.5
Cum %	4.8	9.1	13.6	21.9	28.4	36.8	40.7	100.0
F3-1	1.3	3.2	7.1	6.5	7.8	5.2	3.9	64.9
F3-2	1.3	1.3	2.6	5.2	5.2	5.2	3.2	76.0
F3-3	1.3	1.3	1.9	3.9	5.8	5.2	3.9	76.6
Mean	1.3	1.9	3.9	5.2	6.3	5.2	3.7	72.5
Std Dev	0.0	1.1	2.8	1.3	1.4	0.0	0.4	6.6
Cum %	1.3	3.2	7.1	12.3	18.6	23.8	27.5	100.0
C1-1	0.0	0.0	0.0	1	4	5	6	83
C1-2	0.0	0.0	0.0	1	4	6	10	78
C1-3	0.0	0.0	0.0	3	5	10	12	70
Mean	0.0	0.0	0.0	2	4	7	10	77
Std Dev	0.0	0.0	0.0	0.7	0.7	2.3	3.0	6.5
Cum %	0.0	0.0	0.0	2	6	13	23	100
C2-1	2.6	1.3	2.6	6	5	3	3	75
C2-2	2.6	2.6	2.6	4	5	4	4	75
C2-3	3.2	0.6	3.2	4	6	4	4	75
Mean	2.8	1.5	2.8	5	5	4	4	75
Std Dev	0.4	1.0	0.4	1.5	0.4	0.4	0.4	0.0
Cum %	2.8	4.3	7.1	12	17	21	25	100
C3-1	2.6	4.5	7.8	3	3	3	3	74
C3-2	1.9	0.6	1.3	4	4	4	5	79
C3-3	7.8	3.2	4.5	5	5	5	4	65
Mean	4.1	2.8	4.5	4	4	4	4	73
Std Dev	3.2	2.0	3.2	1.0	1.3	1.3	1.3	7.2
Cum %	4.1	6.9	11.5	16	19	23	27	100

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Table 8.3.2 Particle size analysis in percent of top 100 mm of sediment cores from the subtidal farm and control sites.

Sample No	Sieve mesh size (mm)							
	4.0 %	2.0 %	1.0 %	0.5 %	0.250 %	0.125 %	0.063 %	<.063 %
F4-1	6.5	11.7	11.7	15.6	11.7	5.2	1.9	35.7
F4-2	5.2	12.3	13.6	14.3	14.3	6.5	2.6	31.2
F4-3	6.5	10.4	11.7	12.3	11.0	5.2	1.9	40.9
Mean	6.1	11.5	12.3	14.1	12.3	5.6	2.2	35.9
Std Dev	0.7	1.0	1.1	1.6	1.7	0.7	0.4	4.9
Cum %	6.1	17.5	29.9	43.9	56.3	61.9	64.1	100.0
F5-1	8.4	9.7	17.5	16.2	11.7	5.2	2.6	28.6
F5-2	5.2	9.1	13.6	13.0	9.7	5.2	3.2	40.9
F5-3	2.6	7.8	13.6	13.0	8.4	6.5	2.6	45.5
Mean	5.4	8.9	14.9	14.1	10.0	5.6	2.8	38.3
Std Dev	2.9	1.0	2.2	1.9	1.6	0.7	0.4	8.7
Cum %	5.4	14.3	29.2	43.3	53.2	58.9	61.7	100.0
F6-1	2.6	7.8	10.4	11.7	11.7	3.9	2.6	49.4
F6-2	5.2	7.8	9.7	9.7	7.8	3.9	1.3	54.5
F6-3	3.9	4.5	7.1	11.7	10.4	4.5	3.2	54.5
Mean	3.9	6.7	9.1	11.0	10.0	4.1	2.4	52.8
Std Dev	1.3	1.9	1.7	1.1	2.0	0.4	1.0	3.0
Cum %	3.9	10.6	19.7	30.7	40.7	44.8	47.2	100.0
C4-1	11.7	8.4	7.8	10	6	5	3	48
C4-2	1.9	2.6	3.2	5	6	5	5	71
C4-3	0.0	0.0	1.3	3	6	6	6	77
Mean	4.5	3.7	4.1	6	6	5	5	66
Std Dev	6.3	4.3	3.3	3.7	0.4	1.0	1.4	15.5
Cum %	4.5	8.2	12.3	18	24	30	34	100
C5-1	2.6	1.9	5.8	10	14	12	3	52
C5-2	0.0	0.0	0.6	3	3	5	4	84
C5-3	5.2	2.6	5.2	6	16	16	4	45
Mean	2.6	1.5	3.9	6	11	11	3	60
Std Dev	2.6	1.4	2.8	3.6	6.6	5.5	0.7	21.1
Cum %	2.6	4.1	8.0	14	25	36	40	100
C6-1	18.2	9.7	11.0	13	6	3	5	34
C6-2	10.4	11.0	14.9	16	8	5	3	32
C6-3	14.9	14.9	14.9	18	6	3	5	23
Mean	14.5	11.9	13.6	16	7	3	4	30
Std Dev	3.9	2.7	2.2	2.6	1.0	1.0	1.0	5.5
Cum %	14.5	26.4	40.0	56	63	66	70	100

## 8.4 Water quality measurement

Table 8.4.1 Physico-chemical parameters measured at ebb tide at farm and control sites.

Site	Depth m	Temperature °C	Salinity ppt	DO % sat	DO mg/l	pH
F1	0.8	31.4	39.2	61.2	3.5	6.9
F1	0.8	31.2	39.0	64.2	3.7	7.1
F1	0.8	31.3	39.4	67.1	3.9	7.0
F2	1.1	30.8	38.0	91.4	5.4	7.4
F2	1.1	31.0	38.1	90.8	5.4	7.4
F2	1.1	31.0	38.1	91.5	5.4	7.4
F3	1.4	29.2	40.7	64.5	3.8	6.9
F3	1.3	29.3	40.7	64.4	3.8	6.9
F3	1.3	29.3	40.8	64.9	3.8	6.9
F4	6.5	30.5	38.4	88.9	5.3	7.5
F4	6.4	30.5	38.4	88.1	5.2	7.5
F4	6.5	30.5	38.4	87.6	5.2	7.5
F5	13.6	30.6	38.3	82.9	4.9	7.5
F5	14.4	30.6	38.3	83.4	4.9	7.5
F5	14.2	30.5	38.2	83.5	4.9	7.5
F6	12.7	30.6	38.2	84.3	5.0	7.5
F6	12.2	30.6	38.2	84.6	5.0	7.5
F6	12.5	30.6	38.2	84.3	5.0	7.5
C1	1.0	30.0	38.2	72.2	4.3	7.5
C1	1.0	30.0	38.2	70.0	4.2	7.5
C1	1.0	30.0	38.2	69.1	4.1	7.5
C2	2.3	29.5	38.6	74.9	4.5	7.5
C2	2.3	29.5	38.6	75.1	4.5	7.5
C2	2.3	29.6	38.6	75.0	4.5	7.5
C3	1.0	30.3	38.0	80.8	4.8	7.6
C3	1.1	30.3	37.9	81.9	4.9	7.6
C3	1.1	30.3	38.0	82.4	4.9	7.6
C4	5.0	30.1	39.1	69.6	4.1	7.4
C4	5.0	30.1	39.1	69.1	4.1	7.4
C4	5.0	30.1	39.1	69.2	4.1	7.4
C5	6.2	30.4	38.7	74.1	4.4	7.4
C5	6.1	30.4	38.7	73.8	4.4	7.4
C5	5.9	30.4	38.8	74.0	4.4	7.4
C6	14.6	30.2	38.8	75.0	4.4	7.5
C6	14.5	30.2	38.7	75.4	4.5	7.5
C6	14.4	30.2	38.7	75.4	4.5	7.5



## 8.5 Nutrient and Chlorophyll analysis

Table 8.5.1 Nutrient and Chlorophyll analysis results from Northern Territory Environmental Analysis Laboratories. Chlorophyll analysis was outsourced to Northern Territory Berrimah Farm Water Laboratories

IDENT UNITS SCHEME	Job number	Project code	Ammonia	Nitrite	Nitrate	ChlorophyllA mg/L 10200H	PheophytinA mg/m3 10200H
			NH3_N mg/L FIA	NO2_N mg/L FIA	NO3_N mg/L FIA		
DP F1-1 03/10/05	EL05037	DOUG POINT	0.04	<0.005	<0.005	<1	<1
DP F1-2 03/10/05	EL05037	DOUG POINT	0.05	<0.005	<0.005	<1	1
DP F2-1 03/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP F2-2 03/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP F3-1 03/10/05	EL05037	DOUG POINT	0.025	<0.005	<0.005	2	1
DP F3-2 03/10/05	EL05037	DOUG POINT	0.03	<0.005	<0.005	2	<1
DP F4-1 03/10/05	EL05037	DOUG POINT	0.03	<0.005	0.01	<1	<1
DP F4-2 03/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP F5-1 03/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP F5-2 03/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP F6-1 03/10/05	EL05037	DOUG POINT	0.015	<0.005	<0.005	<1	<1
DP F6-2 03/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP C1-1 05/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP C1-2 05/10/05	EL05037	DOUG POINT	0.02	<0.005	<0.005	<1	1
DP C2-1 05/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP C2-2 05/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP C3-1 05/10/05	EL05037	DOUG POINT	0.005	<0.005	<0.005	<1	<1
DP C3-2 05/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	<1	<1
DP C4-1 05/10/05	EL05037	DOUG POINT	0.015	<0.005	<0.005	<1	<1
DP C4-2 05/10/05	EL05037	DOUG POINT	0.015	<0.005	<0.005	N.A.	N.A.
DP C5-1 05/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	N.A.	N.A.
DP C5-2 05/10/05	EL05037	DOUG POINT	0.01	<0.005	<0.005	1	<1
DP C6-1 05/10/05	EL05037	DOUG POINT	0.02	<0.005	<0.005	<1	<1
DP C6-2 05/10/05	EL05037	DOUG POINT	0.02	<0.005	<0.005	<1	<1

## 8.6 Mangrove stand structure and composition

Table 8.6.1 Mangrove structure and composition at site C1-1

No.	Tag No.	Species	Diam at Breast		Status	Condition	Stem Density
			Height (cm)	Height (m)			
1	C1-1	Rhizophora sp.	11.0	10	1	1	79
2	C1-2	Bruguiera exaristata	6.5	6	1	1	226
3	C1-3	Rhizophora sp.	6.5	10	1	1	226
4	C1-4	Rhizophora sp.	46.0	7	1	1.7	5
5	C1-5	Excoecaria agallocha	13.8	11	1	1	50
6		Rhizophora sp.	16.5	10	1	1	35
7		Rhizophora sp.	11.0	10	1	1	79
8		Rhizophora sp.	10.0	10	1	1.7	95
9		Rhizophora sp.	8.0	10	1	1	149
10		Rhizophora sp.	12.0	10	1	7	66
11		Rhizophora sp.	12.5	10	1	1	61
12		Rhizophora sp.	16.5	10	1	1	35
13		Avacennia marina	44.5	8	1	2.4.3	5
14		Avacennia marina	28.5	5	0	0	12
15		Bruguiera exaristata	6.3	10	1	1	241
16		Rhizophora sp.	9.8	10	1	1	99
17		Rhizophora sp.	17.0	10	1	1.7	33
18		Rhizophora sp.	77.0	10	1	1	2
19		Rhizophora sp.	9.8	10	1	1	99
20		Rhizophora sp.	9.2	10	1	1	113
21		Excoecaria agallocha	14.0	11	1	1	49
22		Rhizophora sp.	13.0	10	1	1.7	57
23		Bruguiera exaristata	6.8	8	1	1	207
24		Rhizophora sp.	14.0	10	1	1	49
25		Avacennia marina	12.5	9	1	4.6.3	61
26		Rhizophora sp.	131.0	10	1	1	1
27		Bruguiera exaristata	7.2	10	1	1.7	184
28		Rhizophora sp.	88.0	9	1	1.7	1
29		Rhizophora sp.	7.0	8	1	1	195
30		Rhizophora sp.	12.3	10	1	1	63
31		Rhizophora sp.	8.5	7	1	1	132
32		Bruguiera exaristata	1.2	2.5	1	1	6631
33		Rhizophora sp.	7.5	7	1	1	170
34		Bruguiera exaristata	1.0	2	1	1	9549
35		Avacennia marina	13.0	8.5	1	1.7	57
36		Ceriops sp.	12.0	2.5	1	1	66

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.2 Mangrove structure and composition at site C1-2

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	C1-6	Rhizophora sp.	7.8	8	1	1	157
2	C1-7	Ceriops sp.	5.3	6	1	1	340
3	C1-8	Bruguiera parviflora	4.2	3.5	1	1	541
4	C1-9	Bruguiera parviflora	2.6	4	1	1	1413
5	C1-10	Bruguiera parviflora	2.2	3	1	1	1973
6		Rhizophora sp.	9.0	10	1	1	118
7		Rhizophora sp.	8.5	9	1	1	132
8		Rhizophora sp.	8.5	9.5	1	1	132
9		Rhizophora sp.	12.0	8	1	1.7	66
10		Bruguiera parviflora	2.9	3.5	1	1	1135
11		Bruguiera parviflora	1.8	3	1	1	2947
12		Bruguiera parviflora	2.6	3.5	1	1	1413
13		Bruguiera parviflora	1.6	2	1	1	3730
14		Bruguiera parviflora	2.0	3	1	1	2387
15		Ceriops sp.	2.8	5	1	1	1218
16		Ceriops sp.	3.9	5	1	1	628
17		Bruguiera parviflora	1.2	2	1	1	6631
18		Bruguiera parviflora	2.3	2.5	1	1	1805
19		Bruguiera parviflora	2.1	2	1	1	2165
20		Bruguiera parviflora	2.4	4	1	1	1658
21		Ceriops sp.	2.5	5	1	1	1528
22		Ceriops sp.	4.2	4.5	1	1	541
23		Rhizophora sp.	10.0	10	1	1	95
24		Bruguiera parviflora	4.2	4	1	1	541
25		Rhizophora sp.	11.8	12	1	1.7	69
26		Bruguiera parviflora	2.4	3.5	1	1	1658
27		Bruguiera parviflora	1.2	2.5	1	1	6631
28		Avacennia marina	16.5	12	1	1.6	35
29		Bruguiera parviflora	0.9	2.5	1	1	11789
30		Rhizophora sp.	9.5	7	1	1.6	106
31		Bruguiera parviflora	3.3	3	1	1	877
32		Bruguiera parviflora	3.8	4	1	1	661
33		Bruguiera parviflora	4.9	5	1	1	398
34		Bruguiera parviflora	1.3	2	1	1	5650
35		Ceriops sp.	0.6	2	1	1	26526
36		Bruguiera parviflora	1.5	2.5	1	1	4244

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning



Table 8.6.3 Mangrove structure and composition at site C1-3

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	C1-11	Rhizophora sp.	7.0	10	1	1	130
2	C1-12	Ceriops sp.	2.6	6	1	1	942
3	C1-13	Ceriops sp.	3.5	5	1	1	520
4	C1-14	Bruguiera parviflora	3.2	4	1	1	622
5	C1-15	Bruguiera exaristata	1.3	2	1	1	3767
6		Rhizophora sp.	5.7	8	1	1	196
7		Rhizophora sp.	7.5	9	1	1	113
8		Rhizophora sp.	15.0	9.5	1	1	28
9		Ceriops sp.	1.2	2	1	1	4421
10		Bruguiera parviflora	2.6	3	1	1	942
11		Bruguiera parviflora	4.0	5	1	1	398
12		Rhizophora sp.	13.0	10	1	1	38
13		Ceriops sp.	2.2	4	1	1	1315
14		Rhizophora sp.	9.0	8	1	1	79
15		Rhizophora sp.	12.5	9	1	1	41
16		Ceriops sp.	4.0	5	1	1	398
17		Rhizophora sp.	13.0	10	1	1.7	38
18		Rhizophora sp.	4.5	6	1	1	314
19		Ceriops sp.	2.5	4	1	1	1019
20		Rhizophora sp.	11.0	9.5	1	1	53
21		Rhizophora sp.	8.5	8	1	1.7	88
22		Rhizophora sp.	4.8	6	1	1.7	276
23		Ceriops sp.	2.6	4.5	1	1	942
24		Ceriops sp.	2.2	3.5	1	1	1315
25		Ceriops sp.	2.3	4.5	1	1	1203
26		Rhizophora sp.	10.0	9.5	1	1.6	64
27		Ceriops sp.	2.6	6	1	1	942
28		Ceriops sp.	1.9	4	1	1	1763
29		Ceriops sp.	1.7	4	1	1	2203
30		Ceriops sp.	5.0	5	1	1	255
31		Ceriops sp.	1.9	4	1	1	1763
32		Bruguiera parviflora	10.0	8	1	1	64
33		Ceriops sp.	5.4	5	1	1	218
34		Avacennia marina	22.5	8	1	2.3.4.6	13
35		Ceriops sp.	3.1	6	1	1	662
36		Avacennia marina	12.5	8	1	1.2.6	41
37		Bruguiera parviflora	1.1	2	0		5261
38		Bruguiera parviflora	10.0	6	1	1.7	64

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

Table 8.6.4 Mangrove structure and composition at site C1-4

No.	Tag No.	Species	Diam at Breast		Status	Condition	Stem Density
			Height (cm)	Height (m)			
1	C1-16	Xylocarpus mekongensis	3.0	4.5	1	1	1415
2	C1-17	Bruguiera exaristata	3.3	6	1	1	1169
3	C1-18	Rhizophora sp.	12.5	12	1	1	81
4	C1-19	Bruguiera exaristata	6.8	10	1	1	275
5	C1-20	Xylocarpus mekongensis	3.7	5	1	1	930
6		Rhizophora sp.	22.0	11	1	3.4	26
7		Rhizophora sp.	13.0	11	1	1.7	75
8		Rhizophora sp.	30.0	12	1	1.4	14
9		Rhizophora sp.	17.8	12	1	1.6	40
10		Excoecaria agallocha	13.0	11	1	1	75
11		Excoecaria agallocha	10.5	10	1	1	115
12		Rhizophora sp.	14.0	12	1	1	65
13		Excoecaria agallocha	13.0	12	1	1	75
14		Rhizophora sp.	11.3	12	1	1	100
15		Excoecaria agallocha	17.0	14	1	1	44
16		Avacennia marina	18.0	14	1	1	39
17		Rhizophora sp.	13.8	12	1	1	67
18		Rhizophora sp.	13.0	12	1	1.7	75
19		Rhizophora sp.	11.0	12	1	1	105
20		Excoecaria agallocha	10.0	11	1	1	127
21		Rhizophora sp.	4.3	5	1	1	689
22		Rhizophora sp.	12.5	12	1	1	81
23		Rhizophora sp.	14.0	12	1	1	65
24		Excoecaria agallocha	11.0	12	1	1	105
25		Rhizophora sp.	8.0	11	1	1	199
26		Excoecaria agallocha	15.0	12	1	1	57
27		Rhizophora sp.	9.0	10	1	1	157
28		Xylocarpus mekongensis	4.5	6	1	1	629
29		Excoecaria agallocha	14.0	11	1	1	65
30		Bruguiera exaristata	6.7	12	1	1	284
31		Rhizophora sp.	11.2	12	1	1	102
32		Excoecaria agallocha	8.0	12	1	1	199
33		Rhizophora sp.	14.5	12	1	1.6	61
34		Rhizophora sp.	14.5	12	1	1	61
35		Rhizophora sp.	15.5	12	1	1.7	53
36		Rhizophora sp.	13.0	12	1	1	75
37		Rhizophora sp.	12.0	12	1	1	88
38		Avacennia marina	21.0	14	1	1	29
39		Rhizophora sp.	16.0	12	1	4.7	50

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

Table 8.6.5 Mangrove structure and composition at site C2-1

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	C2-1	Rhizophora sp.	4.6	5	1	1.6	451
2	C2-2	Rhizophora sp.	6.0	5	1	1	265
3	C2-3	Rhizophora sp.	4.3	4.5	1	1.6	516
4	C2-4	Rhizophora sp.	16.0	8	1	1	37
5	C2-5	Rhizophora sp.	6.2	6	1	1	248
6		Rhizophora sp.	10.0	8	1	1	95
7		Rhizophora sp.	24.5	7	1	1	16
8		Rhizophora sp.	24.0	8	1	1	17
9		Rhizophora sp.	33.0	7	1	2.1	9
10		Rhizophora sp.	16.5	8	1	1	35
11		Rhizophora sp.	14.0	7	1	5.3.6	49
12		Rhizophora sp.	19.0	7	1	1.3	26
13		Rhizophora sp.	20.0	5	0		24
14		Rhizophora sp.	9.8	4	1	1.7	99
15		Rhizophora sp.	28.5	7	1	1.7.6	12
16		Rhizophora sp.	33.0	8	1	1.7	9
17		Rhizophora sp.	8.3	6	1	1.7	139
18		Rhizophora sp.	8.0	7	1	1.6	149
19		Rhizophora sp.	12.0	9	1	1	66
20		Rhizophora sp.	4.5	3	1	3.6	472
21		Rhizophora sp.	4.5	5	1	1	472
22		Rhizophora sp.	14.0	8	1	1.7	49
23		Rhizophora sp.	17.5	10	1	1	31
24		Rhizophora sp.	8.5	6	1	1.7	132
25		Rhizophora sp.	8.0	6	1	1	149
26		Rhizophora sp.	13.0	8	1	1.7	57
27		Rhizophora sp.	14.0	8	1	1	49
28		Rhizophora sp.	4.8	5	1	1.7	414
29		Rhizophora sp.	23.0	10	1	1	18
30		Rhizophora sp.	3.7	4	1	1	698
31		Rhizophora sp.	6.4	4	0	0	233
32		Rhizophora sp.	6.5	8	1	1	226
33		Rhizophora sp.	5.5	5	1	1	316
34		Rhizophora sp.	5.5	6	1	1	316
35		Rhizophora sp.	8.0	7	1	1	149
36		Rhizophora sp.	3.7	4.5	1	1.7	698
37		Rhizophora sp.	11.0	6	0	0	79
38		Rhizophora sp.	9.8	6	1	1	99
39		Rhizophora sp.	6.5	5	1	1	226
40		Rhizophora sp.	5.6	4	1	1.7	305
41		Rhizophora sp.	13.5	6	1	1	52
42		Rhizophora sp.	10.0	6	1	1.3	95
43		Rhizophora sp.	105.0	6	1	1	1

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.6 Mangrove structure and composition at site C2-2

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	C2-6	Ceriops sp.	2.3	2.3	1	1.3	1805
2	C2-7	Ceriops sp.	3.0	4	1	1.6	1061
3	C2-8	Rhizophora sp.	5.5	5	1	1	316
4	C2-9	Rhizophora sp.	3.6	4.5	1	1	737
5	C2-10	Rhizophora sp.	4.7	5	1	1	432
6		Rhizophora sp.	2.0	3	1	1	2387
7		Rhizophora sp.	3.2	4	1	1	933
8		Rhizophora sp.	5.5	4.5	1	1	316
9		Rhizophora sp.	6.6	6	1	1	219
10		Ceriops sp.	1.0	2	0		9549
11		Rhizophora sp.	5.7	5	1	1	294
12		Rhizophora sp.	7.4	5	1	1	174
13		Rhizophora sp.	4.7	4	1	1.3	432
14		Rhizophora sp.	6.4	4	1	1	233
15		Rhizophora sp.	5.0	5	1	1	382
16		Rhizophora sp.	6.5	4	1	1	226
17		Rhizophora sp.	8.5	5	1	1	132
18		Rhizophora sp.	4.7	5	1	1.6	432
19		Rhizophora sp.	6.5	5.5	1	1	226
20		Rhizophora sp.	6.0	5.5	1	1	265
21		Rhizophora sp.	7.5	5	1	1	170
22		Rhizophora sp.	6.5	5	1	1	226
23		Rhizophora sp.	5.9	5	1	1	274
24		Rhizophora sp.	5.9	4	1	1	274
25		Ceriops sp.	2.2	3	0		1973
26		Rhizophora sp.	2.0	2	1	1	2387
27		Rhizophora sp.	3.4	3	1	1	826
28		Ceriops sp.	2.1	2.5	1	1	2165
29		Rhizophora sp.	1.7	2.5	1	1	3304
30		Rhizophora sp.	3.5	5	1	1.7	780
31		Ceriops sp.	2.3	2.5	0		1805

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning



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Table 8.6.7 Mangrove structure and composition at site C2-3

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	C2-11	Ceriops sp.	3.4	3.5	1	1	826
2	C2-12	Rhizophora sp.	4.4	4	1	1.7	493
3	C2-13	Ceriops sp.	1.5	3	1	1	4244
4	C2-14	Ceriops sp.	2.0	3.5	1	1	2387
5	C2-15	Ceriops sp.	3.6	4	1	1	737
6		Rhizophora sp.	2.2	3	1		1973
7		Rhizophora sp.	6.5	4	1	1.6	226
8		Rhizophora sp.	6.5	4	1	1	226
9		Rhizophora sp.	14.0	5	1	1	49
10		Ceriops sp.	3.9	3	0		628
11		Rhizophora sp.	4.6	5	1	1	451
12		Rhizophora sp.	6.1	4.5	1	1	257
13		Rhizophora sp.	6.8	5	1	1	207
14		Rhizophora sp.	4.3	4	1	1.3	516
15		Rhizophora sp.	5.5	5	1	1	316
16		Ceriops sp.	2.5	4	1	1.6	1528
17		Rhizophora sp.	5.5	4.5	1	1.6	316
18		Rhizophora sp.	6.0	4.5	1	1	265
19		Rhizophora sp.	2.1	2.5	1	1	2165
20		Ceriops sp.	1.2	2.5	1	1	6631
21		Rhizophora sp.	6.0	5	1	1.6	265
22		Ceriops sp.	3.3	3.5	1	1.6	877
23		Ceriops sp.	2.9	2	0		1135
24		Rhizophora sp.	2.0	2	1	1	2387
25		Ceriops sp.	3.0	4	1	1	1061
26		Ceriops sp.	1.8	3	1	1	2947
27		Rhizophora sp.	3.7	4.5	1	1	698
28		Rhizophora sp.	8.7	4.5	1	1	126
29		Ceriops sp.	1.7	3	1	1	3304
30		Rhizophora sp.	1.1	1.5	1	1	7892
31		Rhizophora sp.	5.2	4	1	1	353
32		Rhizophora sp.	5.5	4.5	1	1	316
33		Rhizophora sp.	2.2	4	1	1	1973

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

Table 8.6.8 Mangrove structure and composition at site C2-4

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	C2-16	Rhizophora sp.	7.6	10	1	1	165
2	C2-17	Rhizophora sp.	5.5	7	1	1	316
3	C2-18	Ceriops sp.	2.2	5	1	1	1973
4	C2-19	Rhizophora sp.	4.0	6	1	1	597
5	C2-20	Ceriops sp.	3.8	6	1	1	661
6		Ceriops sp.	3.6	4	1	1	737
7		Ceriops sp.	3.6	4	1	1	737
8		Rhizophora sp.	4.9	6	1	1	398
9		Rhizophora sp.	4.7	5	1	1	432
10		Rhizophora sp.	4.5	4	1	1.3	472
11		Rhizophora sp.	13.5	9	1	1	52
12		Avacennia marina	37.0	7	1	2.3.4.7	7
13		Rhizophora sp.	14.5	8	1	1.3	45
14		Ceriops sp.	2.1	5	1	1	2165
15		Ceriops sp.	2.4	4.5	1	1	1658
16		Ceriops sp.	2.0	5	1	1	2387
17		Rhizophora sp.	9.8	7	1	1	99
18		Rhizophora sp.	7.8	7	1	1	157
19		Rhizophora sp.	3.7	6	0		698
20		Rhizophora sp.	14.0	8	1	1	49
21		Rhizophora sp.	9.5	8	1	1	106
22		Rhizophora sp.	11.0	8	1	1	79
23		Rhizophora sp.	14.0	8	1	1	49
24		Rhizophora sp.	7.5	8	1	1	170
25		Rhizophora sp.	5.2	7	1	1	353
26		Rhizophora sp.	11.5	8	1	1	72
27		Rhizophora sp.	9.7	8	1	1	101
28		Rhizophora sp.	10.2	8	1	1	92
29		Rhizophora sp.	9.0	8	1	1	118
30		Rhizophora sp.	17.5	12	1	1	31
31		Rhizophora sp.	16.0	12	1	1	37
32		Rhizophora sp.	2.7	1	1	1.6	1310

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.9 Mangrove structure and composition at site F1-1

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F1-1	Ceriops sp.	4.5	4	1	1.6	472
2	F1-2	Rhizophora sp.	18.0	8.5	1	1	29
3	F1-3	Rhizophora sp.	8.0	8	1	1	149
4	F1-4	Ceriops sp.	2.7	3	1	1.6	1310
5	F1-5	Ceriops sp.	1.8	3.5	1	1	2947
6		Avacennia marina	20.5	11	1	1	23
7		Rhizophora sp.	12.5	9	1	1	61
8		Rhizophora sp.	20.5	11	1	4.7	23
9		Rhizophora sp.	30.0	11	1	4.7	11
10		Rhizophora sp.	11.0	8	1	1.7	79
11		Rhizophora sp.	9.5	7	1	1	106
12		Rhizophora sp.	13.5	6	1	1	52
13		Ceriops sp.	2.5	4	1	1	1528
14		Rhizophora sp.	3.9	4	1	1	628
15		Rhizophora sp.	5.0	2	0		382
16		Ceriops sp.	1.0	2.5	1	1	9549
17		Rhizophora sp.	1.3	2	0		5650
18		Rhizophora sp.	8.5	6	1	1.6	132
19		Rhizophora sp.	11.0	8.5	1	1	79
20		Ceriops sp.	1.0	2.5	1	1	9549
21		Ceriops sp.	2.2	3	1	1	1973
22		Rhizophora sp.	10.0	6	1	1.6	95
23		Ceriops sp.	5.1	4	1	1	367
24		Rhizophora sp.	6.3	4	1	1	241
25		Tree?	31.5		1	2.3.5.6	10
26		Avacennia marina	13.5	10	1	1	52
27		Rhizophora sp.	10.0	5	1	3.6	95
28		Rhizophora sp.	10.5	8	1	1	87
29		Rhizophora sp.	11.5	12	1	1	72
30		Ceriops sp.	3.5	4	1	1.6	780
31		Rhizophora sp.	8.0	6	1	1	149
32		Ceriops sp.	1.7	3.5	1	1	3304
33		Ceriops sp.	1.4	3.5	1	1	4872
34		Ceriops sp.	1.8	2.5	1	1	2947
35		Rhizophora sp.	9.5	8	1	1	106

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.10 Mangrove structure and composition at site F1-2

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F1-6	Ceriops sp.	4.6	5	1	1	301
2	F1-7	Ceriops sp.	3.2	5	1	1	622
3	F1-8	Ceriops sp.	1.5	4	1	1	2829
4	F1-9	Ceriops sp.	3.1	5	1	1	662
5	F1-10	Ceriops sp.	2.3	4.5	1	1	1203
6		Ceriops sp.	2.5	4	1	1	1019
7		Ceriops sp.	2.5	4	1	1	1019
8		Ceriops sp.	1.0	3	1	1	6366
9		Ceriops sp.	3.5	5	1	1	520
10		Ceriops sp.	4.5	4	0		314
11		Ceriops sp.	2.3	4.5	1	1	1203
12		Ceriops sp.	2.4	3	0		1105
13		Ceriops sp.	2.9	4	0		757
14		Ceriops sp.	5.0	5	1	1	255
15		Bruguiera exaristata	11.0	5	1	3.6	53
16		Ceriops sp.	3.5	5	1	1	520
17		Ceriops sp.	3.6	5	1	1	491
18		Ceriops sp.	2.3	4	1	1	1203
19		Ceriops sp.	3.0	6	1	1	707
20		Ceriops sp.	4.0	5	1	1	398
21		Ceriops sp.	2.6	5	1	1	942
22		Ceriops sp.	2.9	4	0		757
23		Ceriops sp.	5.8	6	1	1	189
24		Ceriops sp.	4.0	5	1	1	398
25		Ceriops sp.	2.6	4	1	1	942
26		Ceriops sp.	3.9	4.5	0		419
27		Ceriops sp.	2.6	4	1	1	942
28		Ceriops sp.	2.5	4.5	1	1	1019
29		Avacennia marina	50.0	15	1	1.2.6	2.5
30		Ceriops sp.	3.4	5	1	1	551
31		Ceriops sp.	3.1	5	1	1	662
32		Ceriops sp.	2.5	4	1	1	1019
33		Ceriops sp.	4.2	5	1	1	361
34		Ceriops sp.	3.1	4	0		662

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.11 Mangrove structure and composition at site F1-3

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F1-11	Ceriops sp.	3.3	5	1	1	585
2	F1-12	Ceriops sp.	5.4	5.5	1	1.7	218
3	F1-13	Ceriops sp.	1.9	3.5	1	1	1763
4	F1-14	Ceriops sp.	2.5	4	1	1	1019
5	F1-15	Ceriops sp.	4.6	5	1	1	301
6		Ceriops sp.	4.5	5	1	1	314
7		Ceriops sp.	2.4	4	1	1	1105
8		Ceriops sp.	2.6	5	1	1.7	942
9		Ceriops sp.	2.0	4	1	1	1592
10		Ceriops sp.	4.0	5	1	1	398
11		Ceriops sp.	3.5	5	1	1	520
12		Ceriops sp.	3.5	4.5	1	1	520
13		Ceriops sp.	3.1	5	1	1	662
14		Ceriops sp.	4.4	5	1	1	329
15		Ceriops sp.	4.1	5	1	1	379
16		Ceriops sp.	4.2	5	1	1	361
17		Ceriops sp.	4.4	6	1	1	329
18		Ceriops sp.	1.3	2.5	1	1	3767
19		Ceriops sp.	4.1	5	1	1	379
20		Ceriops sp.	3.9	4.5	1	1	419
21		Ceriops sp.	2.0	2.5	1	1	1592
22		Ceriops sp.	3.6	4.5	1	1.7	491
23		Ceriops sp.	3.3	5	1	1	585
24		Ceriops sp.	4.7	5	1	1	288
25		Ceriops sp.	3.2	5	1	1.7	622
26		Ceriops sp.	2.7	5	1	1	873
27		Ceriops sp.	4.5	4.5	1	1	314
28		Ceriops sp.	4.5	5	1	1	314
29		Ceriops sp.	5.0	5	1	1	255
30		Ceriops sp.	3.1	3	0	0	662
31		Ceriops sp.	5.3	5	1	1	227
32		Ceriops sp.	4.7	5	1	1	288
33		Ceriops sp.	8.0	5	1	1	99
34		Ceriops sp.	3.7	5	1	1.7	465
35		Bruguiera exaristata	11.5	5	0	0	48
36		Ceriops sp.	2.2	3	1	1	1315
37		Avacennia marina	32.5	8	1	4.6	6
38		Ceriops sp.	2.6	5	1	1	942
39		Ceriops sp.	3.9	5	1	1	419
40		Ceriops sp.	3.2	5	1	1	622
41		Ceriops sp.	5.1	5	1	1	245
42		Ceriops sp.	5.5	4	0	0	210
43		Ceriops sp.	5.5	5	1	1	210
44		Avacennia marina	50.0	15	1	1.2.6	3
45		Ceriops sp.	4.3	4.5	1	1	344

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.12 Mangrove structure and composition at site F1-4

No.	Tag No.	Species	Diam at Breast		Status	Condition	Stem Density
			Height (cm)	Height (m)			
1	F1-16	Ceriops sp.	3.3	5	1	1	585
2	F1-17	Ceriops sp.	3.8	5	1	1	441
3	F1-18	Ceriops sp.	1.3	3	1	1	3767
4	F1-19	Ceriops sp.	6.2	5	1	3.6	166
5	F1-20	Ceriops sp.	4.0	5	1	1.6	398
6		Ceriops sp.	4.2	4.5	1	1	361
7		Ceriops sp.	3.2	4.5	1	1	622
8		Ceriops sp.	3.1	4	1	1	662
9		Ceriops sp.	2.5	4	1	1	1019
10		Ceriops sp.	2.4	4	1	1	1105
11		Ceriops sp.	2.4	4	1	1	1105
12		Ceriops sp.	1.0	3.5	1	1	6366
13		Ceriops sp.	3.5	5	1	1	520
14		Ceriops sp.	3.8	5	1	1	441
15		Ceriops sp.	2.5	5.5	1	1	1019
16		Ceriops sp.	2.9	5.5	1	1	757
17		Ceriops sp.	2.4	4.5	1	1	1105
18		Ceriops sp.	2.0	4	1	1	1592
19		Ceriops sp.	1.7	4	1	1	2203
20		Ceriops sp.	1.2	3	0		4421
21		Ceriops sp.	3.8	4.5	1	1	441
22		Ceriops sp.	2.5	4.5	1	1	1019
23		Ceriops sp.	2.8	5	1	5	812
24		Ceriops sp.	1.8	4	1	1	1965
25		Ceriops sp.	1.9	4	1	1	1763
26		Ceriops sp.	1.9	4	1	1	1763
27		Ceriops sp.	2.6	4	1	1	942
28		Ceriops sp.	1.1	2.5	1	1	5261
29		Bruguiera exaristata	9.0	10	0		79
30		Ceriops sp.	2.7	4	1	1	873
31		Ceriops sp.	4.5	4.5	1	1	314
32		Ceriops sp.	3.9	4.5	1	1	419
33		Bruguiera exaristata	12.5	12	1	1	41
34		Ceriops sp.	0.9	3	0		7859
35		Ceriops sp.	2.9	5	1	1	757
36		Ceriops sp.	1.7	4.5	1	1	2203
37		Ceriops sp.	5.5	6	1	1	210
38		Ceriops sp.	2.5	5	1	1	1019
39		Ceriops sp.	4.3	6	1	1	344
40		Bruguiera exaristata	7.2	6	1	1	123
41		Ceriops sp.	2.3	4.5	0		1203
42		Rhizophora sp.	16.5	14	1	1	23
43		Ceriops sp.	1.3	3	1	1	3767
44		Bruguiera exaristata	11.5	8	1	1	48
45		Ceriops sp.	1.7	4	1	1	2203
46		Ceriops sp.	2.6	5	1	1	942
47		Ceriops sp.	3.0	5	1	1	707
48		Ceriops sp.	2.0	4.5	1	1	1592
49		Ceriops sp.	1.6	3.5	1	1	2487
50		Ceriops sp.	5.6	5	1	1	203
51		Ceriops sp.	2.7	4.5	1	1	873
52		Ceriops sp.	5.1	6	1	1.6	245
53		Ceriops sp.	3.7	5	1	1	465
54		Ceriops sp.	3.8	5	1	1	441

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning



Table 8.6.13 Mangrove structure and composition at site F2-1

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F2-1	Rhizophora sp.	4.0	3	1	1	597
2	F2-2	Rhizophora sp.	15.0	5	1	3.6	42
3	F2-3	Rhizophora sp.	13.8	4.5	1	1.7	50
4	F2-4	Rhizophora sp.	2.4	3	1	1	1658
5	F2-5	Rhizophora sp.	9.0	6	1	1	118
6		Rhizophora sp.	12.0	4.5	1	2	66
7		Rhizophora sp.	10.0	4.5	1	1	95
8		Rhizophora sp.	9.0	4	1	1.7	118
9		Rhizophora sp.	9.0	4.5	1	1.6.7	118
10		Rhizophora sp.	10.5	4	1	1	87
11		Rhizophora sp.	12.0	2.5	0		66
12		Rhizophora sp.	8.0	4	1	1	149
13		Rhizophora sp.	11.0	5	1	1	79
14		Rhizophora sp.	10.0	5	1	1	95
15		Rhizophora sp.	10.0	6	1	1	95
16		Rhizophora sp.	12.5	5	1	1	61
17		Rhizophora sp.	11.5	5	1	1	72
18		Rhizophora sp.	15.0	4	1	1	42
19		Rhizophora sp.	8.6	4.5	1	1	129
20		Rhizophora sp.	15.0	5	1	1	42
21		Rhizophora sp.	3.8	3.5	1	6.7	661
22		Rhizophora sp.	3.8	4	1	1	661
23		Rhizophora sp.	25.5	6	1	2.4.6	15
24		Rhizophora sp.	14.0	6	1	1	49
25		Rhizophora sp.	10.5	6	1	1	87
26		Sonneratia alba	38.0	14	1	4.6	7
27		Sonneratia alba	35.0	14	1	4.6	8
28		Rhizophora sp.	16.0	6	1	1	37
29		Rhizophora sp.	9.5	5	1	1	106
30		Rhizophora sp.	13.0	5	1	1.6	57
31		Rhizophora sp.	16.0	5	1	1.6	37
32		Rhizophora sp.	18.5	6	1	1	28

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.14 Mangrove structure and composition at site F2-2

No.	Tag No.	Species	Diam at Breast		Status	Condition	Stem Density
			Height (cm)	Height (m)			
1	F2-6	Rhizophora sp.	3.4	3.5	1	1	551
2	F2-7	Rhizophora sp.	7.8	4	1	1	105
3	F2-8	Ceriops sp.	4.3	3	1	1.6	344
4	F2-9	Ceriops sp.	3.2	3.5	1	1.6	622
5	F2-10	Rhizophora sp.	3.2	2.5	1	1.3	622
6		Rhizophora sp.	3.3	4	1	1	585
7		Rhizophora sp.	2.3	4	1	1	1203
8		Rhizophora sp.	4.0	3	1	1.6.3	398
9		Rhizophora sp.	8.0	4	1	1	99
10		Rhizophora sp.	7.0	4	1	1	130
11		Rhizophora sp.	3.3	4	1	1	585
12		Rhizophora sp.	2.9	3.5	1	1	757
13		Rhizophora sp.	4.3	4	1	1	344
14		Rhizophora sp.	2.8	3	1	1.7	812
15		Rhizophora sp.	6.4	3.5	1	1	155
16		Rhizophora sp.	4.1	4	1	1	379
17		Rhizophora sp.	9.5	4	1	1	71
18		Rhizophora sp.	14.0	4	1	1.6	32
19		Rhizophora sp.	3.5	3	1	1.6	520
20		Rhizophora sp.	3.5	3	1	2.7	520
21		Rhizophora sp.	5.5	4	1	1	210
22		Rhizophora sp.	3.5	3	1	1	520
23		Rhizophora sp.	6.5	5	1	1	151
24		Rhizophora sp.	8.0	4	0		99
25		Rhizophora sp.	4.5	4	1	1	314
26		Rhizophora sp.	9.0	4	1	1.6	79
27		Rhizophora sp.	11.0	5	1	1	53
28		Rhizophora sp.	10.5	2.5	1	2.6.7	58
29		Rhizophora sp.	7.5	5	1	1	113
30		Rhizophora sp.	10.5	5	1	6	58
31		Rhizophora sp.	10.0	4	1	1.6	64
32		Rhizophora sp.	12.5	5	1	1	41
33		Rhizophora sp.	4.3	3.5	1	1.6	344
34		Rhizophora sp.	3.3	4	1	1	585
35		Ceriops sp.	2.8	2.5	1	1.6	812
36		Rhizophora sp.	7.0	4	1	1.6	130

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

Baseline Environmental Survey – Doug Point – October 2005

Table 8.6.15 Mangrove structure and composition at site F2-3

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F2-11	Rhizophora sp.	4.8	3	1	2.3.6	138
2	F2-12	Rhizophora sp.	14.0	4	1	4.3.6	16
3	F2-13	Rhizophora sp.	3.8	2.5	1	1.6	220
4	F2-14	Rhizophora sp.	6.7	3	1	1.6	71
5	F2-15	Rhizophora sp.	6.3	4	1	1.3	80
6		Rhizophora sp.	7.5	4	1	1.6	57
7		Rhizophora sp.	10.5	4	1	1	29
8		Rhizophora sp.	6.0	3	1	2.7	88
9		Rhizophora sp.	13.0	5	1	1	19
10		Rhizophora sp.	10.0	3	1	1.6	32
11		Rhizophora sp.	9.5	5	1	1	35
12		Rhizophora sp.	8.5	4	1	1	44
13		Rhizophora sp.	5.1	4	1	1	122
14		Rhizophora sp.	9.5	3	0		35
15		Rhizophora sp.	2.0	3.5	1	1	796
16		Rhizophora sp.	9.0	4.5	1	1	39
17		Rhizophora sp.	4.3	4	1	1.7	172
18		Rhizophora sp.	8.0	4.5	1	1	50
19		Rhizophora sp.	10.0	4	1	2.6	32
20		Rhizophora sp.	6.3	3	1	1.3	80
21		Rhizophora sp.	6.5	3	1	1.3.6	75
22		Rhizophora sp.	7.0	3	1	1.3.6	65
23		Rhizophora sp.	7.5	4	1	1.6	57
24		Rhizophora sp.	6.4	3.5	1	1.6	78
25		Rhizophora sp.	10.0	3.5	1	1.6	32
26		Rhizophora sp.	8.5	3.5	1	1.6	44
27		Rhizophora sp.	9.5	4	1	1.6	35
28		Rhizophora sp.	8.0	4	1	1	50
29		Rhizophora sp.	7.5	4	1	2.6	57
30		Rhizophora sp.	8.0	3	1	1.6	50
31		Rhizophora sp.	8.0	3	1	3.6	50
32		Rhizophora sp.	5.1	4	1	1	122
33		Rhizophora sp.	4.5	3	1	1.7	157
34		Rhizophora sp.	5.5	4	1	1.6	105
35		Rhizophora sp.	9.0	5	1	6	39
36		Rhizophora sp.	4.6	2.5	1	3.6	150
37		Rhizophora sp.	5.2	3	1	1.6	118
38		Rhizophora sp.	7.1	4	1	1	63
39		Rhizophora sp.	8.9	4	1	1	40
40		Rhizophora sp.	5.9	4	1	1	91
41		Rhizophora sp.	7.5	4	1	1.6	57
42		Rhizophora sp.	11.8	5	1	1	23

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.16 Mangrove structure and composition at site F2-4

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F2-16	Ceriops sp.	3.4	3	1	1	551
2	F2-17	Avacennia marina	10.2	4	1	1.6	61
3	F2-18	Rhizophora sp.	6.3	4	1	1.6	160
4	F2-19	Rhizophora sp.	5.6	3.5	1	1.6	203
5	F2-20	Rhizophora sp.	3.7	3.5	1	1.6	465
6		Rhizophora sp.	4.6	3	1	1	301
7		Rhizophora sp.	4.4	3.5	1	1.7	329
8		Rhizophora sp.	6.8	3.5	1	1	138
9		Rhizophora sp.	6.6	4	1	1	146
10		Rhizophora sp.	8.5	4	1	1	88
11		Rhizophora sp.	5.8	4	1	1	189
12		Rhizophora sp.	4.9	3	1	1	265
13		Rhizophora sp.	3.0	2.5	1	1	707
14		Rhizophora sp.	1.2	2	1	1.7	4421
15		Rhizophora sp.	2.8	2.5	1	2.7	812
16		Rhizophora sp.	4.2	3.5	1	3.6	361
17		Rhizophora sp.	3.2	3.5	1	1	622
18		Rhizophora sp.	5.3	4	1	1.6	227
19		Rhizophora sp.	5.5	4	1	1	210
20		Rhizophora sp.	6.7	4	1	1.6	142
21		Rhizophora sp.	5.0	3.5	1	1.6	255
22		Rhizophora sp.	4.6	2	0		301
23		Rhizophora sp.	3.3	2	1	1.7	585
24		Rhizophora sp.	5.2	3.5	1	2	235
25		Ceriops sp.	1.9	2	1	1.6	1763
26		Rhizophora sp.	5.3	3	1	3	227
27		Rhizophora sp.	5.4	4	1	1	218
28		Rhizophora sp.	3.0	3	1	1	707
29		Avacennia marina	5.6	2	0		203
30		Rhizophora sp.	6.9	4	1	1	134
31		Rhizophora sp.	4.7	3	1	1.6.3	288
32		Rhizophora sp.	4.7	4	1	3	288
33		Avacennia marina	4.0	3.5	1	1.7	398
34		Rhizophora sp.	4.6	4	1	1.6	301
35		Rhizophora sp.	2.9	4	1	1.7	757
36		Ceriops sp.	2.5	3	1	1	1019
37		Rhizophora sp.	5.7	4.5	1	1	196
38		Rhizophora sp.	5.3	3	0		227
39		Rhizophora sp.	3.6	3	1	1	491
40		Rhizophora sp.	7.0	3	1	1.6	130
41		Rhizophora sp.	3.6	2.5	1	1.6	491

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

Baseline Environmental Survey – Doug Point – October 2005

Table 8.6.17 Mangrove structure and composition at site F3-1

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F3-1	Rhizophora sp.	11.6	10	1	1	71
2	F3-2	Rhizophora sp.	4.3	6	1	1	516
3	F3-3	Bruguiera exaristata	3.0	5	1	1	1061
4	F3-4	Avacennia marina	8.2	9	1	1	142
5	F3-5	Bruguiera exaristata	4.1	6	1	1	568
6		Rhizophora sp.	14.0	10	1	1	49
7		Rhizophora sp.	11.0	10	1	1.6	79
8		Rhizophora sp.	16.9	10	1	5.6	33
9		Rhizophora sp.	18.5	11	1	1.6	28
10		Rhizophora sp.	15.5	10	1	1.7	40
11		Rhizophora sp.	16.0	11	1	1.6	37
12		Rhizophora sp.	12.0	10	1	1	66
13		Rhizophora sp.	10.0	9	1	1.6.7	95
14		Rhizophora sp.	20.0	12	1	1.6	24
15		Rhizophora sp.	8.1	8	1	1.6	146
16		Rhizophora sp.	12.0	11	1	1	66
17		Rhizophora sp.	8.0	8	1	1	149
18		Rhizophora sp.	10.0	7	1	1.7	95
19		Rhizophora sp.	7.2	7	1	1.7	184
20		Rhizophora sp.	8.0	10	1	1.6	149
21		Rhizophora sp.	17.0	12	1	1	33
22		Avacennia marina	12.5	10	1	1	61
23		Avacennia marina	18.0	12	1	1	29
24		Rhizophora sp.	11.8	11	1	1	69
25		Rhizophora sp.	20.0	12	1	1	24
26		Rhizophora sp.	17.0	10	1	1.7	33
27		Avacennia marina	19.8	10	1	1.6.7	24
28		Avacennia marina	21.6	12	1	1.7	20
29		Rhizophora sp.	7.7	8	1	1	161
30		Bruguiera exaristata	2.5	4	1	1	1528
31		Bruguiera exaristata	3.2	7	1	1	933
32		Avacennia marina	22.0	10	1	1.6	20
33		Avacennia marina	18.7	12	1	1.6	27
34		Rhizophora sp.	16.2	10	1	1.6	36
35		Rhizophora sp.	5.4	7	1	1.7	327
36		Rhizophora sp.	9.5	8	1	1	106
37		Rhizophora sp.	14.0	11	1	1.6	49
38		Rhizophora sp.	16.6	11	1	1.6	35
39		Rhizophora sp.	2.2	5	1	1	1973
40		Rhizophora sp.	12.0	8	1	1	66
41		Avacennia marina	23.8	14	1	1.6	17
42		Rhizophora sp.	11.5	10	1	1	72

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

Baseline Environmental Survey – Doug Point – October 2005

Table 8.6.18 Mangrove structure and composition at site F3-2

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F3-6	Ceriops sp.	7.2	8	1	1	123
2	F3-7	Bruguiera parviflora	5.8	6	1	1.6	189
3	F3-8	Ceriops sp.	3.1	5	1	1	662
4	F3-9	Ceriops sp.	3.2	5	1	1	622
5	F3-10	Ceriops sp.	7.5	7	1	1	113
6		Ceriops sp.	5.7	7	1	1.7	196
7		Ceriops sp.	8.0	8	1	1	99
8		Rhizophora sp.	10.0	8	1	1	64
9		Rhizophora sp.	9.0	8	1	3	79
10		Ceriops sp.	4.5	8	1	1	314
11		Ceriops sp.	4.5	6	1	1	314
12		Bruguiera parviflora	2.8	4	1	1	812
13		Ceriops sp.	4.4	6	1	1	329
14		Ceriops sp.	7.0	7	1	1	130
15		Bruguiera parviflora	10.0	6	0	3	64
16		Ceriops sp.	1.8	4	1	1	1965
17		Ceriops sp.	3.3	5	1	1	585
18		Avacennia marina	21.5	12	1	1	14
19		Rhizophora sp.	17.0	14	1	1.6	22
20		Rhizophora sp.	14.5	10	1	1.6	30
21		Rhizophora sp.	13.0	9	1	1.7	38
22		Rhizophora sp.	15.0	12	1	1.6	28
23		Bruguiera parviflora	3.4	4	1	1.6	551
24		Ceriops sp.	3.1	5	1	1	662
25		Ceriops sp.	5.0	7	1	1	255
26		Ceriops sp.	5.5	7	1	1	210
27		Ceriops sp.	6.0	7	1	1	177
28		Bruguiera parviflora	7.5	7	1	1	113
29		Rhizophora sp.	15.0	10	1	1	28
30		Ceriops sp.	5.2	6	1	1	235
31		Ceriops sp.	4.3	6	1	1	344
32		Ceriops sp.	7.5	7	1	1.7	113
33		Ceriops sp.	5.1	7	1	1.7	245
34		Ceriops sp.	6.0	7	1	1	177
35		Ceriops sp.	6.0	7	1	1	177
36		Ceriops sp.	2.0	3	1	1.6	1592
37		Ceriops sp.	2.3	4	1	1	1203
38		Ceriops sp.	2.3	4	1	1.6	1203

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning



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Table 8.6.19 Mangrove structure and composition at site F3-3

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F3-11	Bruguiera parviflora	9.0	7	1	1	79
2	F3-12	Ceriops sp.	7.0	6	1	1.7	130
3	F3-13	Ceriops sp.	3.1	3	1	1	662
4	F3-14	Ceriops sp.	8.0	7	1	1.7	99
5	F3-15	Rhizophora sp.	12.6	10	1	1.7	40
6		Ceriops sp.	6.0	7	1	1	177
7		Rhizophora sp.	9.0	9	1	1	79
8		Rhizophora sp.	13.0	11	1	1	38
9		Rhizophora sp.	9.0	6	1	1.3	79
10		Ceriops sp.	5.0		1	1	255
11		Bruguiera parviflora	8.0	6	1	1.6	99
12		Ceriops sp.	5.0	7	1	1	255
13		Ceriops sp.	6.0	7	1	1	177
14		Ceriops sp.	4.0	6	1	1	398
15		Ceriops sp.	6.0	6	1	1	177
16		Bruguiera parviflora	5.0	5	1	1.7	255
17		Ceriops sp.	3.6	6	1	1	491
18		Ceriops sp.	1.0	3	1	1	6366
19		Ceriops sp.	5.1	7	1	1	245
20		Ceriops sp.	6.2	7	1	1	166
21		Ceriops sp.	6.3	6	1	1	160
22		Ceriops sp.	5.2	6	1	2.7	235
23		Rhizophora sp.	15.0	10	1	1.7.6	28
24		Rhizophora sp.	8.0	6	1	7	99
25		Rhizophora sp.	14.0	12	1	1	32
26		Avacennia marina	17.0	12	1	1.7	22
27		Rhizophora sp.	10.3	10	1	1.7	60
28		Rhizophora sp.	18.0	13	1	1	20
29		Bruguiera exaristata	12.2	10	0		43
30		Rhizophora sp.	31.5	14	1	4.6	6
31		Bruguiera exaristata	12.5	12	1	1	41
32		Bruguiera exaristata	18.0	9	0		20
33		Rhizophora sp.	14.0	10	1	1.7	32
34		Avacennia marina	16.5	14	1	1	23
35		Rhizophora sp.	12.4	12	1	1	41
36		Avacennia marina	19.0	12	1	1	18
37		Rhizophora sp.	21.0	10	1	1.7	14
38		Rhizophora sp.	16.1	12	1	1	25
39		Rhizophora sp.	38.0	12	1	4	4
40		Rhizophora sp.	27.2	14	1	1	9
41		Ceriops sp.	4.9	6	1	1	265
42		Ceriops sp.	1.9	4	1	1	1763
43		Ceriops sp.	2.6	5	1	1	942
44		Ceriops sp.	4.5	7	1	1	314
45		Ceriops sp.	3.4	6	1	1	551

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

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Table 8.6.20 Mangrove structure and composition at site F3-4

No.	Tag No.	Species	Diam at Breast Height (cm)	Height (m)	Status	Condition	Stem Density
1	F3-16	Ceriops sp.	4.3	5	1	1	516
2	F3-17	Ceriops sp.	2.5	4	1	1	1528
3	F3-18	Bruguiera parviflora	8.5	6	1	1	132
4	F3-19	Ceriops sp.	2.4	3	1	1	1658
5	F3-20	Ceriops sp.	4.0	5	1	1	597
6		Ceriops sp.	3.2	5	1	1	933
7		Ceriops sp.	3.5	4	1	1	780
8		Ceriops sp.	5.1	5	1	7.3	367
9		Ceriops sp.	2.9	5	1	1	1135
10		Ceriops sp.	3.0	5	1	1	1061
11		Ceriops sp.	3.4	5	1	1	826
12		Ceriops sp.	1.1	2	0		7892
13		Ceriops sp.	3.5	5	1	1	780
14		Ceriops sp.	3.4	5	1	1	826
15		Ceriops sp.	3.2	5	1	1	933
16		Ceriops sp.	6.7	5	1	1.6	213
17		Ceriops sp.	4.4	5	1	1	493
18		Ceriops sp.	1.8	4	1	1	2947
19		Ceriops sp.	2.2	4	1	1	1973
20		Ceriops sp.	1.5	3	1	1	4244
21		Ceriops sp.	1.3	2.5	1	1	5650
22		Ceriops sp.	1.7	3	1	1	3304
23		Ceriops sp.	2.5	5	1	1	1528
24		Ceriops sp.	3.5	5	1	1	780
25		Ceriops sp.	5.2	5	1	1.6	353
26		Ceriops sp.	2.3	5	1	1	1805
27		Ceriops sp.	1.9	4	1	1	2645
28		Ceriops sp.	3.1	5	1	1	994
29		Ceriops sp.	3.6	5	1	1	737
30		Ceriops sp.	2.6	5	1	1	1413
31		Ceriops sp.	2.4	5	1	1	1658
32		Ceriops sp.	2.6	5	1	1	1413
33		Ceriops sp.	1.8	3	0		2947
34		Ceriops sp.	1.0	2.5	1	1	9549
35		Ceriops sp.	2.0	5	1	1	2387
36		Ceriops sp.	3.0	5	1	1	1061
37		Ceriops sp.	2.8	5	1	1	1218
38		Ceriops sp.	2.0	5	1	1	2387
39		Ceriops sp.	3.8	4	1	2.7	661
40		Ceriops sp.	2.0	4	1	1	2387

Status: 0 = dead, 1 = alive

Condition: 1 = healthy, 2 = trunk rot, 3 = crown damage, 4 = overmature, 5 = senescent, 6 = dead branches, 7 = leaning

## 8.7 Benthic faunal analysis

Table 8.7.1 Number of macrofaunal taxa collected in replicate samples at farm sites.

Species	F1 1	F1 2	F1 3	F2 1	F2 2	F2 3	F3 1	F3 2	F3 3	F4 1	F4 2	F4 3	F5 1	F5 2	F5 3	F6 1	F6 2	F6 3	Total
<i>Ampelisca</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
<i>Byblis</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	4
<i>Corophium</i> sp.	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
Isaeid sp.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Isaeid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3
Melitid sp.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Phoxocephalid sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3
Aorid sp.	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
<i>Leucothoe</i> sp.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Grapsid sp.1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Grapsid sp.2	5	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7
Hymenosomatid sp.1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Hymenosomatid sp.2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
<i>Macrophthalmus</i> sp.1	1	0	5	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	9
<i>Macrophthalmus</i> sp.2	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2
Ocypodid sp.	1	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
<i>Pilumnus</i> sp.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Alpheid sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
<i>Clordina</i> sp.	0	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4
Pandalid sp.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<i>Axius</i> sp.	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
<i>Caridea</i> sp.	0	0	0	0	3	0	0	2	0	0	1	0	0	0	0	0	0	0	6
<i>Processa</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
Thalassinid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	4
<i>Cirolana</i> sp.	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	4
Cirolanid sp.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Anthurid sp.1	0	0	0	0	0	0	1	0	0	2	0	0	2	2	2	1	1	1	12
Anthurid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Isopoda sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
Ostracod sp.1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Ostracod sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Ostracod sp.3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	1	0	0	5
Pagurid sp.	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
<i>Apseudes</i> sp.1	0	0	0	0	0	0	0	0	0	1	0	0	2	2	9	0	0	0	14
<i>Apseudes</i> sp.2	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	4
<i>Kalliapseudes</i> sp.	0	0	11	0	3	0	0	3	2	2	1	0	1	1	0	1	0	2	27
<i>Leptochelia</i> sp.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
<i>Leptocuma</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Holothurian sp.	0	0	0	1	0	1	3	1	1	0	0	0	0	0	0	0	0	0	7
<i>Ophiactis</i> sp.	0	0	1	2	3	0	0	0	1	0	0	0	0	0	1	1	0	2	11
Chitonid sp.	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Retusid sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Columbellid sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Vitrinellid sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Nuculana</i> sp.	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
<i>Leionucula</i> sp.	0	0	1	2	0	2	0	0	0	0	0	0	1	1	0	0	0	0	7
Ostreid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
<i>Gari</i> sp.1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
<i>Gari</i> sp.2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
<i>Tellina</i> sp.1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<i>Tellina</i> sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
<i>Bassina</i> sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Linga</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2

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Species	F1 1	F1 2	F1 3	F2 1	F2 2	F2 3	F3 1	F3 2	F3 3	F4 1	F4 2	F4 3	F5 1	F5 2	F5 3	F6 1	F6 2	F6 3	Total
Venerid sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Maetra</i> sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lucinid sp.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Galeommatid sp.	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	4
<i>Barbatia</i> sp.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Laternulid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
<i>Anadara</i> sp.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Cultellus attenuatus</i>	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Carditid sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
<i>Corbula</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	2	8
Ungulinid sp.	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	6
Phoronid sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sipunculan sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Edwardsia</i> sp.	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Anthozoan sp.	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Osteichthyes sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Nemertean sp.1	3	0	1	0	0	0	3	0	0	0	0	0	1	0	0	0	0	1	9
Nemertean sp.2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Nematode sp.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Armandia</i> sp.	0	0	0	0	0	1	0	0	0	1	0	0	1	0	2	0	0	0	5
<i>Phyllodoce</i> sp.	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
Capitellid sp.	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
<i>Scyphoproctus</i> sp.	0	50	9	0	0	2	0	1	1	2	1	1	8	1	1	3	0	1	81
Dorvilleid sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
<i>Nephtys</i> sp.1	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	4
<i>Nephtys</i> sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Flabelligerid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Goniadid sp.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
<i>Glycera cinnamomea</i>	0	2	2	0	3	2	0	0	0	0	0	0	0	0	2	0	0	0	11
Hesionid sp.1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	4
Hesionid sp.2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sabellid sp.	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
<i>Eunice</i> sp.	0	0	0	0	0	1	0	0	0	0	2	0	4	0	0	0	0	0	7
<i>Diopatra</i> sp.	0	0	0	0	0	0	1	0	1	0	0	0	1	1	3	5	2	8	22
<i>Lumbrinereis</i> sp.1	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	5
<i>Lumbrinereis</i> sp.2	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Maldanid sp.1	0	3	0	1	4	2	1	0	0	0	0	0	2	0	0	0	0	1	14
Maldanid sp.2	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	0	0	0	5
<i>Maldane</i> sp.	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Nereid sp.1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	4
Nereid sp.2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Orbiniid sp.1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	3
Orbiniid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
<i>Prionospio</i> sp.	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
<i>Allia</i> sp.	0	0	0	1	2	3	1	1	0	0	0	0	0	0	0	0	0	0	8
Cirratulid sp.	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	4
<i>Timarete</i> sp.	0	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
<i>Cirratulus</i> sp.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Syllid sp.	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
<i>Typosyllis</i> sp.	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
<i>Exogone</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5
<i>Lysilla</i> sp.	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
<i>Artacamella</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1

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Species	F1 1	F1 2	F1 3	F2 1	F2 2	F2 3	F3 1	F3 2	F3 3	F4 1	F4 2	F4 3	F5 1	F5 2	F5 3	F6 1	F6 2	F6 3	Total
<i>Terebellides</i> sp.	0	2	5	0	3	1	0	1	0	0	0	0	0	6	0	2	0	1	21
<i>Isolda</i> sp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Sosanides</i> sp.	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	2	0	6
Ampharetid sp.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2
<i>Disconatis</i> sp.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Polynoid sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Loandalia</i> sp.	0	1	3	1	0	2	0	0	0	0	0	0	1	0	1	0	0	0	9
<i>Paleaequor</i> sp.	0	2	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	8
<i>Pectinaria</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
Chaetopterid sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
<i>Horstleanira</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	1	5
<i>Ancistrosyllis</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
<i>Linopherus</i> sp.	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	4
Total species	21	18	22	15	15	26	19	14	8	10	8	3	30	19	19	19	7	24	119
Total individuals	37	90	55	17	32	36	30	19	9	13	9	3	46	37	36	27	11	36	543

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Table 8.7.2 Number of macrofaunal taxa collected in replicate samples at control sites

Species	C1 1	C1 2	C1 3	C2 1	C2 2	C2 3	C3 1	C3 2	C3 3	C4 1	C4 2	C4 3	C5 1	C5 2	C5 3	C6 1	C6 2	C6 3	Total
Asciacea sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
<i>Ampelisca</i> sp.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
<i>Byblis</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	5
<i>Corophium</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Isaeid sp.1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Isaeid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Lysianassid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Melitid sp.	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Phoxocephalid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Aorid sp.	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
<i>Leucothoe</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Eusirid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Grapsid sp.1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Grapsid sp.2	5	5	4	0	0	0	8	4	2	0	0	0	0	0	0	0	0	0	28
Hymenosomatid sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Macrophthalmus</i> sp.	5	1	0	0	0	0	4	6	0	0	0	0	0	0	0	0	0	0	16
Ocypodid sp.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Porcellanid sp.	0	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
<i>Paraproto</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Alpheid sp.	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	1	0	0	4
<i>Clordina</i> sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Axius</i> sp.	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5
Thalassinid sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
<i>Cirolana</i> sp.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Anthurid sp.1	0	0	0	0	0	0	0	1	0	1	3	1	3	2	5	2	8	2	28
Anthurid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Serolis</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Isopoda sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Mysid sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Ostracod sp.1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	0	0	0	5
Ostracod sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
<i>Apseudes</i> sp.1	0	0	0	0	0	0	1	1	2	0	1	2	2	0	1	0	0	0	10
<i>Apseudes</i> sp.2	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
<i>Apseudes</i> sp.3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
<i>Kalliapseudes</i> sp.	0	1	3	0	0	0	1	5	0	8	6	8	3	2	3	3	5	2	50
Holothurian sp.	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
<i>Ophiactis</i> sp.	0	0	0	5	5	1	0	3	1	0	1	1	2	1	1	0	0	0	21
<i>Haloginella</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
<i>Nuculana</i> sp.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Leionucula</i> sp.	0	0	0	0	1	0	0	0	0	0	0	0	4	1	0	2	1	0	9
<i>Gari</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
<i>Tellina</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
<i>Linga</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
<i>Mactra</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Galeommatid sp.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<i>Laternula valenciennesii</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Myadora</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
<i>Corbula</i> sp.	0	2	0	0	0	0	0	0	0	0	2	1	0	0	1	3	1	0	10
Ungulinid sp.	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Platyhelminth sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Sipunculan sp.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Edwardsia</i> sp.	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
Gobid sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1

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Species	C1 1	C1 2	C1 3	C2 1	C2 2	C2 3	C3 1	C3 2	C3 3	C4 1	C4 2	C4 3	C5 1	C5 2	C5 3	C6 1	C6 2	C6 3	Total
Nemertean sp.1	1	0	0	0	2	2	1	1	1	0	1	0	0	0	0	0	0	0	9
Nemertean sp.2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Nemertean sp.3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nematode sp.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
<i>Arandia</i> sp.	0	0	0	0	1	0	0	2	0	1	0	0	0	0	0	2	0	2	8
<i>Phyllodoce</i> sp.1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
<i>Phyllodoce</i> sp.2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Phyllodoce</i> sp.3	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	3
Capitellid sp.	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4
<i>Scyphoproctus</i> sp.	1	0	2	0	0	0	28	40	8	0	0	1	1	1	0	0	0	0	82
<i>Nephtys</i> sp.	1	1	0	0	3	1	1	0	4	0	0	0	0	1	3	0	0	0	15
Flabelligerid sp.	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	4
Goniadid sp.	0	0	0	1	2	3	0	1	1	0	1	0	0	1	1	0	0	0	11
<i>Glycera cinnamomea</i>	1	1	0	1	0	4	3	4	2	4	1	0	1	3	1	0	0	0	26
<i>Leocrates</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Hesionid sp.	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
Sabellid sp.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
<i>Eunice</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	5
<i>Diopatra</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	7	1	12
<i>Lumbrineris</i> sp.1	0	0	0	0	0	2	0	5	0	0	0	0	0	0	2	0	1	0	10
<i>Lumbrineris</i> sp.2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Maldanid sp.1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	1	5
Maldanid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Maldanid sp.3	0	0	0	0	0	1	0	3	0	0	0	0	0	1	2	4	1	0	12
<i>Maldane</i> sp.	0	0	1	1	0	0	0	2	1	0	0	0	0	0	1	0	0	0	6
Nereid sp.	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4
<i>Neanthes</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Orbiniid sp.1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	2	1	8
Orbiniid sp.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
<i>Prionospio fallax</i>	0	0	0	0	1	1	0	1	0	0	0	0	0	1	2	0	0	0	6
Spionid sp.	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
<i>Timarete</i> sp.	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4	0	0	0	10
<i>Cirratulus</i> sp.	0	0	0	2	3	0	0	2	0	0	0	0	0	2	0	0	1	0	10
<i>Typosyllis</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4
<i>Lysilla</i> sp.	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	4
<i>Nicolea</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
<i>Artacamella</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
<i>Terebellides</i> sp.	0	0	0	0	0	1	3	1	0	0	0	0	0	2	0	0	0	0	7
<i>Isolda</i> sp.	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
<i>Sosanides</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	2	2	2	11
Ampharetid sp.	1	0	0	0	1	0	0	0	0	0	0	0	0	2	8	1	1	0	14
<i>Disconatis</i> sp.	0	0	2	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	4
<i>Loandalia</i> sp.	0	0	0	0	0	0	1	1	1	0	0	1	2	1	0	0	0	0	7
<i>Chloeia</i> sp.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
<i>Magelona</i> sp.1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Magelona</i> sp.2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	3
<i>Paleaequor</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
<i>Poecilochaetus</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
<i>Pectinaria</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
<i>Horstileanira</i> sp.	0	0	0	0	0	0	0	0	0	0	1	0	1	3	2	0	0	0	7
<i>Sternaspis</i> sp.	0	1	1	0	0	1	0	0	0	0	0	0	1	4	2	0	0	0	10
<i>Ancistrosyllis</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total species	10	11	11	7	13	15	17	34	17	6	13	10	18	38	28	16	19	15	105
Total individuals	18	18	27	12	23	24	61	109	33	16	21	18	29	63	54	29	38	23	616