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Port Everglades Deepening Project—Additional Reconnaissance Survey

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TETRA TECH

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1.0 INTRODUCTION

The purpose of the additional Reconnaissance survey at 41 sites (Figure 1-1) is to obtain information beyond 150 meters (m) of the existing Port Everglades entrance channel, particularly in areas anticipated to be indirectly affected by the deepening project as a result of sedimentation (fine and coarse-grained material spillage analysis conducted by Engineering team). In addition, a small subset of the proposed sites is also included in these surveys to characterize areas considered "overdredged" and mislabeled as "inlet channel" in previous habitat maps. The specific objective of the RECON survey is to gather the necessary information required for the NMFS to complete an updated Biological Opinion (BO) for the Port Everglades Deepening project (PEDP). The same 41 sites that were surveyed with the Reconnaissance protocol effort were also surveyed with the ESA protocol.

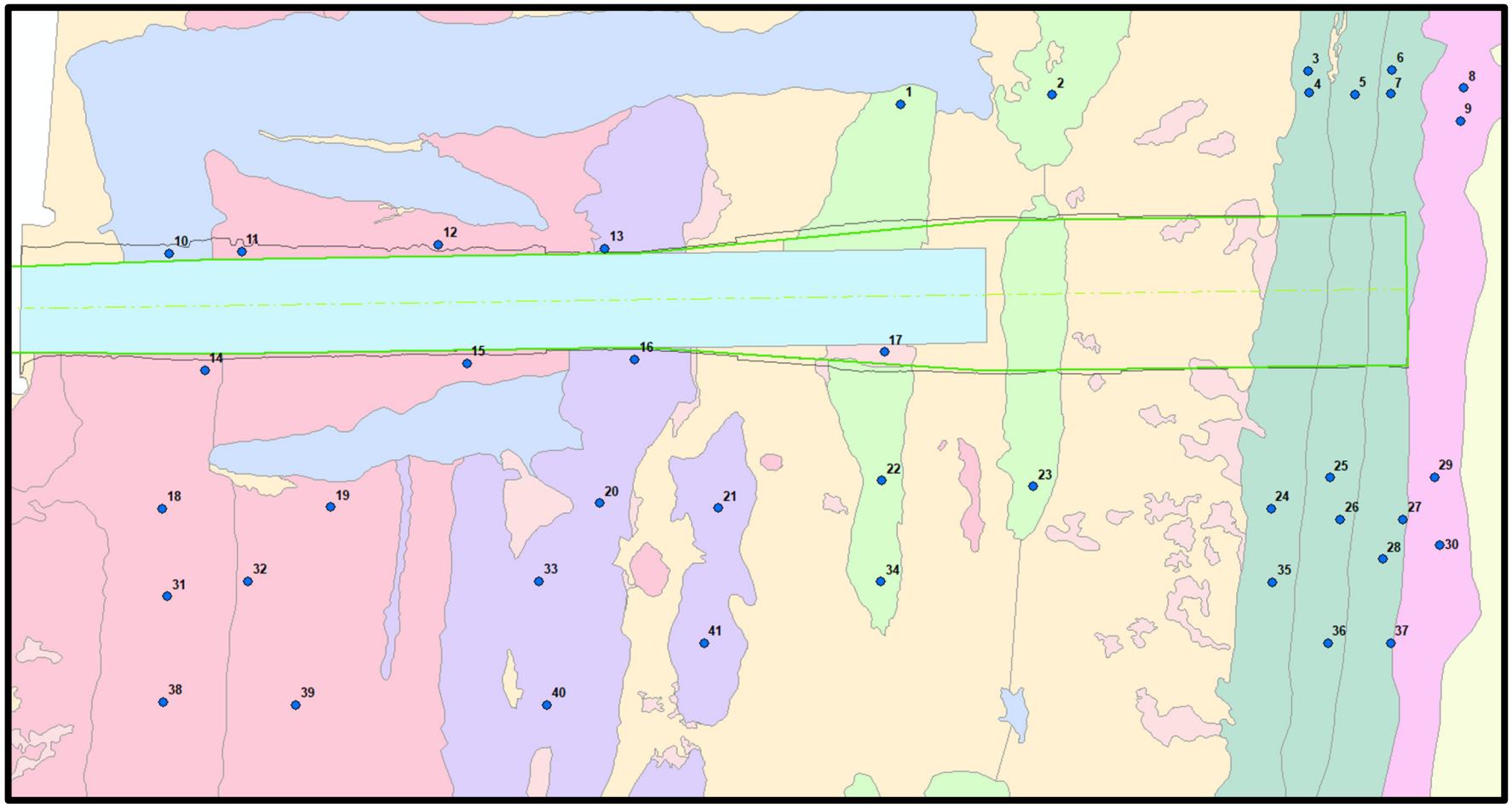

Figure 1-1. Location of Proposed ESA/RECON Sites.

2.0 SURVEY METHODOLOGY

2.1 RECONAISSANCE SURVEYS

All methods were implemented as described in the Diving Operations Plan, in accordance with EM 385-1-1 Section 30.A.16 (the U.S. Army Corps of Engineers Safety and Health Requirements Manual 2014 version). Dive surveys were performed from August 19, 2021 to September 2, 2021.

Each transect was 30 m long (Figure 2-1). Along each transect a 1 meter wide belt survey (30 m^2) was conducted on the right side of the transect tape. On the left side of the transect tape quadrat data was collected within seven (7) 0.5 m^2 quadrats (located at the transect ends and every 5 m in between), for a total area of 3.5 m^2 quadrat data per transect.

Transect Data Collection:

The following data was collected along each transect line:

1. Digital video was collected 50 cm above the bottom. No analysis of the video was required under the reconnaissance survey. It should be noted that small organisms (<3 cm) from this height may not be identifiable to species. Video was acquired at a rate of 5 m per minute to provide video that may be analyzed using Point Count, but this analysis was not completed under this plan. A camera without distortion (i.e., without a fish-eye lens) was used to collect video. Any videos collected with a GoPro or other camera not suitable for quantitative analysis were recorded in the field notes and provided in the final report. Video also included a panoramic video of the landscape at the beginning and end of each transect. Representative photographs including landscape views and substrate types were collected for all sites.
2. Physical features, including sand patches and substrate type along the transect, were noted. Soft substrate categories included coarse sand, fine sand (mud-like), and mixed (coarse and fine) sand. Soft substrates were characterized visually and tactilely. Additional categories, after consultation with the IWG, were added when encountered.
3. The centerline of each transect was used to document sediment cover by the line intercept method. The minimum mapping unit was 0.5 x 0.5 meters and >1 cm sediment depth with a smooth surface (i.e., sediment in a turf algae matrix was excluded). Sediment cover categories were sand channel (SC) and sand patch (SP), as specified in the PWS. Mobile rubble in a sand matrix was pooled with SC and SP during field measurements. A post hoc desktop effort created a separate category for mobile rubble in a sand matrix (RB) and was applied when the majority of a single SC or SP line-intercept segment was characterized by RB and not by clean smooth sand.

The following data were collected from within the belt transect:

1. Coral identification to species, maximum dimension measured, and counted.
2. Xestospongia muta counts by size classes (to 0 - 10 cm, 10.1 – 25 cm, 25.1 – 50 cm, >50 cm.

The following data were collected from within each quadrat:

1. Percent cover by functional groups (simplified Benthic Ecological Assessment for Marginal Reefs) [BEAMR]) (Makowski et al. 2009).
2. Octocorals were identified to genus, maximum dimension measured, and counted.
3. Sponges were identified by morphotype (i.e., encrusting, erect branching, tube / vase, massive/amorphous, and spherical) and counted by size class to 0 - 10 cm, 10.1 – 25 cm, 25.1 – 50 cm, >50 cm).

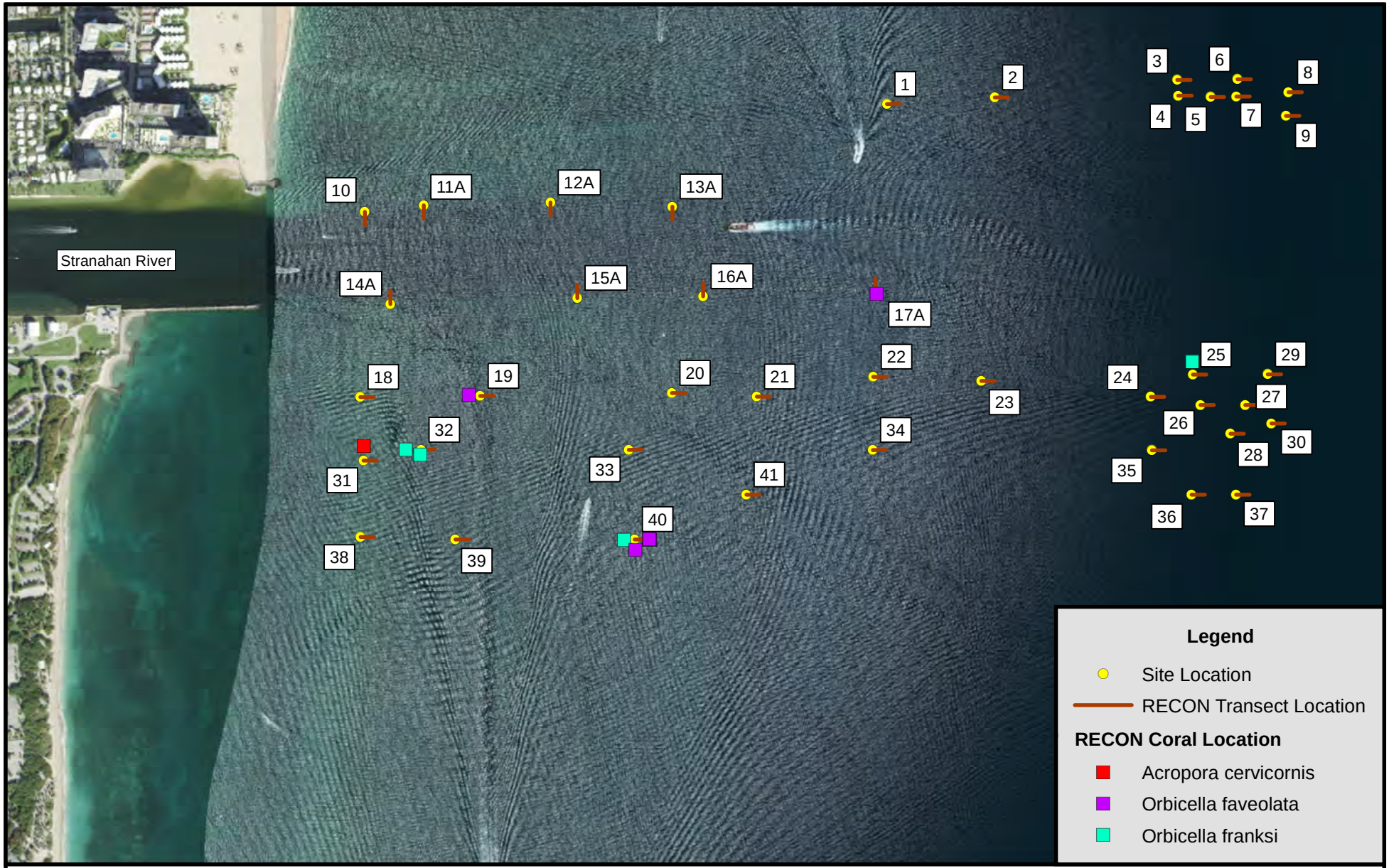

Figure 2-1.
Site Locations
Port Everglades RECON Survey
Port Everglades Area, Broward County, Florida

Source: ESRI, DigitalGlobe Imagery, 2020; Tetra Tech, Inc., 2021; Water & Air Research, Inc., 2021.

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J:\5805 - ACOE\EN\21-5805-04 Port Everglades Recon Survey\Figures\21-5805-04 Figure 2-1.mxd, 12/16/2021 2:06:40 PM

The suggestions below have been provided by NMFS in addition to the survey methods described above to clarify the information collected by the Contractor for the RECON survey protocols:

RECON survey:
Transects and observations were located on reef habitat.

- If the transect location was moved by divers to align with reef habitat or the transect direction was deviated to avoid sand patches and channels, the deviation (with direction and meter mark) was noted on the field data sheets and the survey vessel collected the GPS coordinates at the new buoy location after the survey was completed.
- The meter marks, to the nearest hundredth of meter (centimeter), of the beginning and end of sand patches or sand channels crossed by the transect was recorded on the field datasheets for the survey location. The sand feature was described on the field datasheet as a sand patch (SP-amorphous, oval or round sand-filled depression within reef habitat but generally, not linear, often with gently sloping reef hardbottom rising from the sand, but can have steeply sloped reef hardbottom on one or more sides) or sand channel, as observed in relict spur and groove habitat (SC-generally linear, sand filled depression within reef habitat, usually with reef hardbottom sloping steeply above the sand on both sides of the sand channel). If the transect was parallel to the sand channel, the transect was moved onto the reef spur and the move noted on the field datasheet. Sand patches and sand channels can be observed on the same transect.
- A video recorded along the transect tape was required at each survey location. These videos were reviewed to confirm the presence or locations of sand patches and sand channels recorded on the data sheets and to assess anomalous data points (e.g. sediment depth greater than 1 centimeter on reef hardbottom) during data QAQC.

Functional groups:

- A total of 14 functional groups relevant to the evaluation of effects of port dredging were included in the protocol. Functional groups were not added or eliminated from these designated function groups without approval from the IWG.
- The categories of the sediment functional group, described in the protocol are: Sand, Mixed, and Fine. These three categories of sediment are too vague and were revised to follow the sediment texture observations described in the Port Everglades Adaptive Management Plan [see Appendix H of the draft Supplemental Environmental Impact Statement (EIS) released in December 2020]. Specifically, categories of sediment were assessed visually and tactilely and described as Sand (includes less than five percent fine sediment) recorded as S; Sand with fines (a majority of sand (greater than 50 percent) that includes more than five and less than 50 percent fine sediments and was recorded as SF; Fines with sand is a majority of fine sediments (greater than 50 percent), with more than 5 percent sand

sediments recorded as FS; and Fine is sediments of the Silt/Clay/Colloidal fractions (less than 0.063 millimeters) with less than five percent sand observed, and was recorded as F.

- Presence of Scleractinia disease and percent of the colony with visually apparent signs of disease were recorded. In addition, the disease margin (the white, exposed skeleton at the edge of the disease lesion) was examined and recorded as fast (greater than one centimeter in width) or slow (one centimeter in width or less). This was assessed visually (no touching) to prevent spreading of disease to other colonies during the survey. A photograph was taken of each diseased colony for documentation. In addition, appropriate decontamination protocols were followed after completion of each site as described in https://www.agrra.org/wp-content/uploads/2019/03/Florida-coral-disease-decontamination-protocol.pdf The dive teams were staffed following EM 385-1-1 30.B, and OSHA 29 CFR 1910 Subpart T requirements for scuba operations.

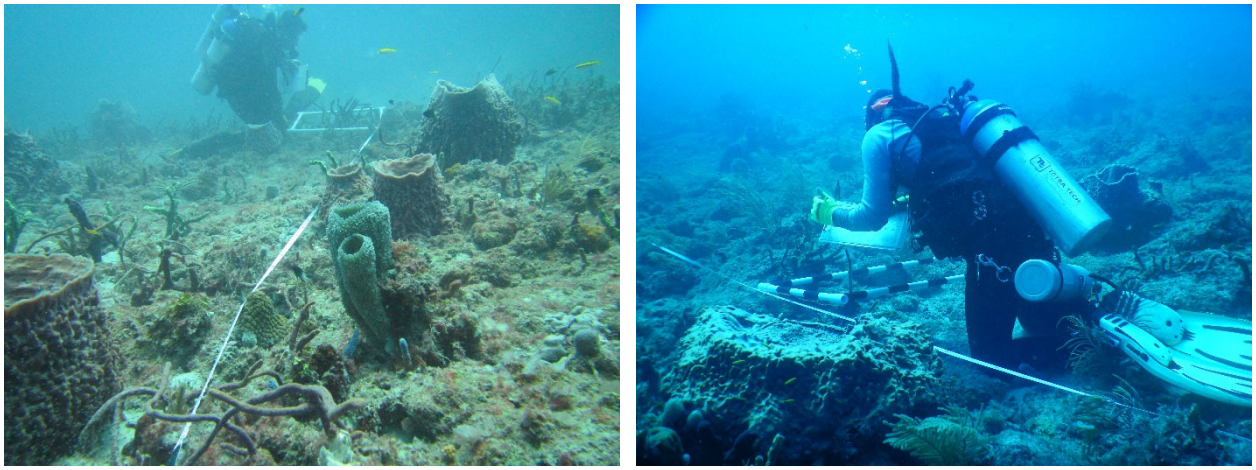

Figure 2-2. (left quadrat method, (right) 1x30 belt transect method.

2.2 SITE CONDITIONS

The project area included sites north and south of the Port Everglades Channel in Broward County, where traffic and current conditions can contribute to reduced efficiency or aborted dives. The primary working depths were 10 to 86 feet (3.1 to 26.2 meters).

2.3 QA AND QC

Qualifications: R. Baron and M. Lybolt are original co-authors on the BEAMR method and have deployed the method on hundreds of sites in Broward County since 2005.

All data collection staff were trained for their assigned tasks. QC checks occurred on the boat after each dive and occurred underwater during two conditions. Underwater QC checks occurred during the first implementation of each method in each new habitat type, and as-needed during data

collection. Underwater QC also occurred haphazardly, targeting 10 - 20% overlap of data collection with subsequent review for inter-observer variation targeting >90% agreement.

A master checklist was maintained after each dive to ensure each of the seven data steams were collected. All data sheets were photographed immediately after each dive, and again collected into daily PDFs after the sheets were rinsed and dried. All imagery was backed up daily.

Data entry was scanned for calculation errors (e.g., totals not equal to 100% cover), all species names were corrected, and several QC queries were run on the datasets to check for empty fields and duplications.

One haphazardly selected site (site 31) was selected for complete duplicate data collection by separate observers. This independently replicated data collection was used to verify that training and inter-observer variation did not introduce biases to the data. Inter-observer agreement was >90% across all data streams.

3.0 RESULTS

3.1 RECON CORAL SPECIES

3.1.1 OVERALL

The RECON method is entirely contained within the ESA belt transect survey area. Data from the RECON method are not an independent sample but serve as a very high-resolution sub-sample of the ESA survey area to examine the possibility that a small or cryptic ESA colony could have been overlooked by the ESA belt transect method. There is no evidence from this sub-sample that a small or cryptic ESA colony was overlooked by the ESA belt transect method. Zero ESA corals (n=0) were recorded within any of 30x1 meter belt transects (n=8, total 240 m^2). Zero ESA corals (n=0) were recorded within any of the 7 x 0.5 m^2 quadrats (n=56, total 28 m^2).

3.2 LINE-INTERCEPT FOR SEDIMENT

ESA and Reconnaissance data collection occurred independently but simultaneously. In all cases, the single 30 meter Recon transect line-intercept sediment data were a 100 percent sub-set of the 50 meter ESA transect line-intercept sediment data. These two separate data streams are reported separately in the electronic data deliverable.

There were no deviations from the method, and no interobserver variation exceeded the QAQC criteria.

3.2.1 CHANNEL-SIDE SITES

Tables 1 and 2 graphically represent the approximate locations of sand cover at the channel-side sites. Nearly all sand was categorized as medium sand or sand with small rubble. One shoal within site 15 south transect was distinctly fine sand. No mud or “fines” were observed.

Table 1. Representation sand and rubble cover at channel side sites (N side, RECON transect is to the south)

	10	11	12	13	14	15	16	17
	S	S	S	S	N	N	N	N
0	X	X			X	X		
1	X	X			X	X		
2	X	X			X	X	X	
3	X	X			X	X	X	
4	X	X	X		X	X	X	
5	X	X	X		X	X	X	
6	X	X	X		X	X	X	
7	X	X	X		X	X	X	
8	X	X	X		X	X	X	
9	X	X	X		X	X		
10	X	X	X		X	X	X	
11	X	X	X		X	X	X	
12	X	X	X		X	X	X	
13	X	X	X		X	X	X	
14	X	X	X		X	X	X	
15	X	X	X		X	X	X	
16	X	X	X		X	X	X	
17	X	X	X	X	X	X	X	
18	X	X	X	X	X	X	X	
19	X	X	X	X	X	X	X	
20	X	X	X	X	X	X	X	
21	X	X	X	X	X	X	X	X
22	X	X	X	X	X	X	X	X
23	X	X	X	X	X	X	X	X
24	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X
26	X	X	X	X	X	X		X
27	X	X	X	X	X	X	X	X
28	X	X	X	X	X	X	X	X
29	X	X	X	X	X	X	X	X
30	X	X	X	X	X	X	X	X

Notes: 0 = origin at 0 meters. 30 = end of RECON transect at 30 meters. N = transect running north from origin. X = approximate sand cover rounded to 1-meter resolution (raw data are to the nearest 0.5 meter, see Appendix 4 for precise locations and sand characteristics).

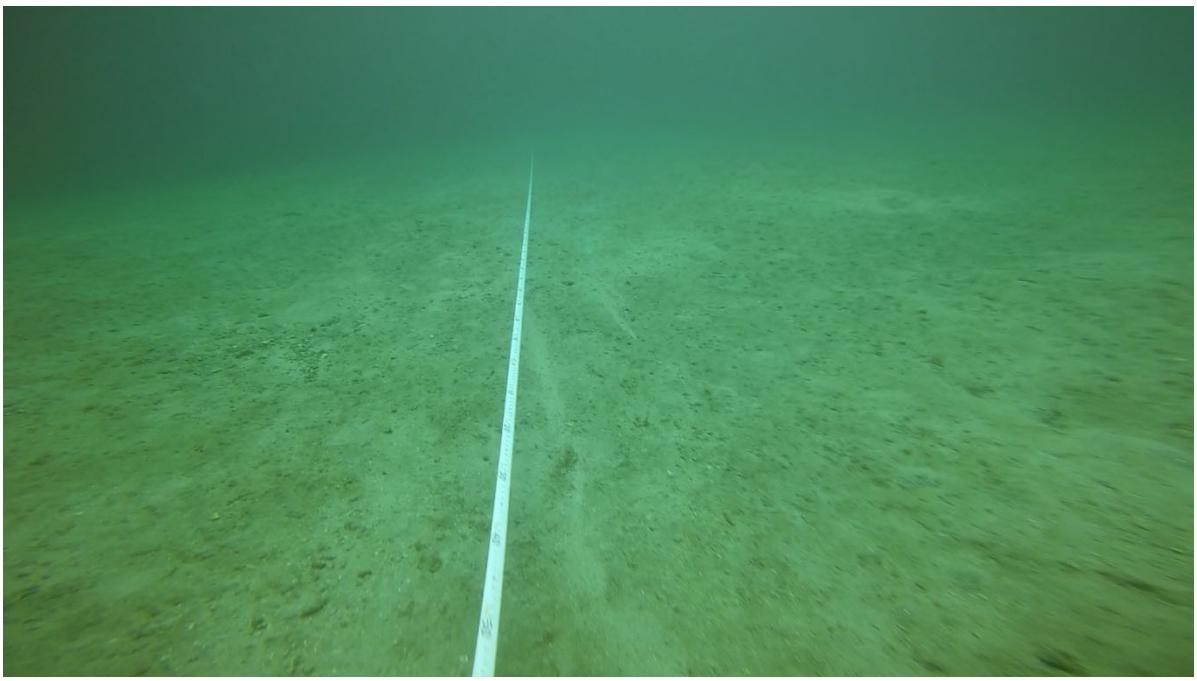

Figure 3-1. Typical channel-side site high sand cover within and adjacent to the channel cut. Shown is site 11 east transect.

3.2.2 OVERALL

Nearly all sand was categorized as medium sand or sand with small rubble. No mud or "fines" were observed on any sites. In addition to relatively high sand cover at the channel-side sites (discussed above), sites 2 and 9 also have relatively high sand cover because the RECON transect crossed into an inter-reef sand channel. The post hoc analysis found relatively high rubble cover at sites 7, 8, 28, and 29, and sites 4, 28 and 37 are mostly rubble in the sand matrix.

Table 2. Summary of unconsolidated sediment from 30-meter line-intercept transects.

Site[a]	Meters of SC&SP[a]	% cover SC&SP[a]	Meters of RB[b]	% cover RB[b]
1	4	13%	0	0%
2	14.3	48%	0	0%
3	2.1	7%	0	0%
4	1.1	4%	28.8	96%
5	0	0%	0	0%
6	1.6	5%	0	0%
7	0	0%	12	40%
8	6	20%	8	27%
9	23.5	78%	0	0%
10	30	100%	0	0%
11	30	100%	0	0%
12	26.1	87%	0	0%

13	12.9	43%	0	0%
14	30	100%	0	0%
15	30	100%	0	0%
16	24.7	82%	0	0%
17	8.4	28%	0	0%
18	0	0%	0	0%
19	0.9	3%	0	0%
20	0	0%	0	0%
21	2.5	8%	0	0%
22	0	0%	0	0%
23	0	0%	0	0%
24	0	0%	1.3	4%
25	0	0%	0	0%
26	0	0%	0	0%
27	0	0%	0	0%
28	0	0%	24	80%
29	12.6	42%	6.9	23%
30	0	0%	0	0%
31	0	0%	0	0%
32	0	0%	0	0%
33	2.4	8%	0	0%
34	0	0%	0	0%
35	0	0%	0	0%
36	0	0%	0	0%
37	0	0%	29.4	98%
38	0	0%	0	0%
39	0	0%	0	0%
40	0	0%	0	0%
41	0	0%	0	0%
Average	**6.4**	**21%**	**2.7**	**9%**

Grey shading = channel side sites.

Note (a) Totals in exclude line-intercept segments that are majority rubble in a sand matrix, segments that are minority rubble remain within (a).

Note (b) Totals include only line-intercept segments that are majority rubble in a sand matrix, approximated from a post hoc reanalysis

3.3 DENSITY FROM 1X30 METER RECON BELT TRANSECT

Corals and Xestospongia counts and density are summarized below (see Tables 3, 4, and 5). See Appendix 3 and Appendix 7 for the breakdown by coral species, and for size-frequency summaries. There were no deviations from the method, and no interobserver variation exceeded the QAQC criteria.

The summary tables show both the absolute density (# corals per square meter) and a pro-rated density (# corals per approximate area of exposed hardbottom). This pro-rated calculation relies

on the sediment line-intercept data, assumes that the centerline is representative of the entire 1-meter-wide belt transect. For example if the 30 meter line intercept had 4 linear meters of sand patch, the pro-rated density would divide the # of colonies by 26 square meters instead of 30 square meters.

3.3.1 CHANNEL-SIDE SITES

Sites 10, 11, 12, 13 are along the north side of the channel, and sites 14, 15, 16, 17 are along the south side. The zero-point of all sites was approximately on the "shoulder" of the dredged channel. Four of the channel-side sites had zero corals in the Recon belt transect. These transects were 100 percent sand or sand with rubble. front

In general, the channel-side Recon belt transect were species-poor and had significantly lower coral density than all sites. Only Siderastrea and Stephanocoenia were relatively common. Sites 13 and 17 were rubble substrate with relatively many corals.

Table 3. Raw counts of coral and Xestospongia colonies from 1x30 meter belt transects, channel-side only.

Site	10	11	12	13	14	15	16	17	Total
Agaricia fragilis								3	3
Dichocoenia stokesii				1					1
Eusmilia fastigiata				1					1
Montastraea cavernosa				3				6	9
Madracis decactis								3	3
Porites astreoides				1				1	2
Porites porites				1					1
Stephanocoenia intersepta			1	2			1	9	13
Siderastrea radians				7				3	10
Siderastrea siderea				11			1	9	21
Xestospongia				4				6	10
Total Count	0	0	1	31	0	0	2	40	78

Table 4. Total coral and Xestospongia density from 1x30 meter belt transects, channel-side only

Site	Count of coral species	Total of coral colonies	Coral density	Pro-rated coral density	Count of Xestospongia	Xestospongia density	Pro-rated Xestospongia density
10	0	0	0.00	0	0	0.00	0
11	0	0	0.00	0	0	0.00	0
12	1	1	0.03	0.26	0	0.00	0
13	8	27	0.90	1.58	4	0.13	0.23
14	0	0	0.00	0	0	0.00	0

15	0	0	0.00	0	0	0.00	0
16	2	2	0.07	0.38	0	0.00	0
17	7	34	1.13	1.57	6	0.20	0.28
Total	**4**	**64**	**0.27 average**	**0.47 average**	**10**	**0.04 average**	**0.06 average**

3.3.2 OVERALL

In total, 27 species were observed throughout all sites, plus 1 unidentifiable single-polyp juvenile.

Table 5. Total coral and Xestospongia density from 1x30 meter belt transects

Site	Count of coral species	Total of coral colonies	Coral density	Pro-rated coral density[(a)]	Count of Xestospongia	Xestospongia density	Pro-rated Xestospongia density[(a)]
1	8	41	1.37	1.58	9	0.30	0.35
2	4	10	0.33	0.64	12	0.40	0.76
3	10	89	2.97	3.19	9	0.30	0.32
4	8	44	1.47	1.52	6	0.20	0.21
5	8	49	1.63	1.63	13	0.43	0.43
6	10	66	2.20	2.32	13	0.43	0.46
7	11	175	5.83	5.83	8	0.27	0.27
8	7	42	1.40	1.75	9	0.30	0.38
9	6	26	0.87	4.00	12	0.40	1.85
10	0	0	0.00	0	0	0.00	0
11	0	0	0.00	0	0	0.00	0
12	1	1	0.03	0.26	0	0.00	0
13	8	27	0.90	1.58	4	0.13	0.23
14	0	0	0.00	0	0	0.00	0
15	0	0	0.00	0	0	0.00	0
16	2	2	0.07	0.38	0	0.00	0
17	7	34	1.13	1.57	6	0.20	0.28
18	5	44	1.47	1.47	1	0.03	0.03
19	7	49	1.63	1.68	3	0.10	0.10
20	9	45	1.50	1.50	9	0.30	0.30
21	7	31	1.03	1.13	2	0.07	0.07
				1.77			0.10
23	14	62	2.07	2.07	13	0.43	0.43
24	8	66	2.20	2.20	0	0.00	0
25	11	153	5.10	5.10	9	0.30	0.30
26	10	117	3.90	3.90	12	0.40	0.40
27	9	59	1.97	1.97	11	0.37	0.37
28	8	92	3.07	3.07	9	0.30	0.30
29	5	22	0.73	1.26	6	0.20	0.34
30	6	39	1.30	1.30	14	0.47	0.47

Site	Count of coral species	Total of coral colonies	Coral density	Pro-rated coral density[(a)]	Count of Xestospongia	Xestospongia density	Pro-rated Xestospongia density[(a)]
31	7	83	2.77	5.47	0	0.00	0
32	8	52	1.73	1.73	3	0.10	0.10
33	7	39	1.30	1.41	9	0.30	0.33
34	11	35	1.17	1.17	7	0.23	0.23
35	12	92	3.07	3.07	6	0.20	0.20
36	10	60	2.00	2.00	1	0.03	0.03
37	12	73	2.43	2.43	4	0.13	0.13
38	7	74	2.47	2.47	2	0.07	0.07
39	6	66	2.20	2.20	2	0.07	0.07
40	9	91	3.03	3.03	8	0.27	0.27
41	7	41	1.37	1.37	10	0.33	0.33
Total	**28**	**2095**	**1.74 average**	**1.74 average**	**242**	**2.30 average**	**0.25 average**

Note (a): Pro-rated density is calculated by dividing the total number of colonies by the approximate area of exposed hard substrate along the transect. For example if the 30 meter line intercept had 4 linear meters of sand patch, the pro-rated density would divide the # of colonies by 26 square meters instead of 30 square meters.

3.4 QUADRAT DATA FROM RECON TRANSECTS

The quadrat data include eight separate data streams:

a) Counts by coral species (Appendix 1)
b) Density by coral species (Appendix 2)
c) Coral density and size frequencies (Appendix 3)
d) Average rugosity and sediment depth (Appendix 4)
e) Percent cover of major functional groups (Appendix 5)
f) Percent cover of macroalgae by genus (Appendix 6)
g) Density and size of all corals (by species) and octocorals (by genus) (Appendix 7)
h) Density and size-class of all sponges (by morphotype) (Appendix 8)

There were no deviations from the method, and no interobserver variation exceeded the QAQC criteria.

3.4.1 CHANNEL SIDE SITES

The channel side Recon transects were designed to cross habitat types, originating (generally) on the shoulder of the dredge cut and terminating within the main cut. Consequently, the statistical power of quadrat data is weaker than at the main set of sites which were designed to sample only one discrete habitat type.

Channel side sites had approximately 78 percent sand cover, compared with 33 percent sand overall. This divergence was driven entirely by the transect orientation going into the channel, rather than biased to remain on hardbottom at all other sites.

3.4.2 OVERALL

Overall percent cover data by site is summarized in (Table 6). Rugosity and sediment depth by site is summarized in Appendix 4. Percent cover data by quadrat is presented in Appendix 5. Macroalgae cover by genus is summarized in Appendix 6. Coral/Octo size frequency data by species/genera is summarized by site in Appendix 7. Sponge overall density and percent cover by morphotype is summarized by site in Appendix 8.

Table 6. Average percent cover by site (n=7 quadrats per site). Note: "0" indicates a positive number much less than 1% cover. No value indicates a search but none found.

Site % Cover	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BARE HARD SUBSTRATE					0.1	0.1	0.2						0.1				0.1			
SEDIMENT	12.0	48.3	12.6	17.9	2.3	22.3	19.2	55.0	76.7	99.6	100.0	87.9	42.9	100.0	93.6	70.3	32.1	2.4	9.9	7.6
MACROALGAE	3.3	4.6	14.4	3.3	5.0	20.1	3.3	8.3	0.3			0.3	15.4		0.4	0.6	18.9	19.7	21.7	8.4
TURF	67.5	28.4	39.0	62.9	77.0	41.6	53.2	25.1	10.0			9.7	31.1		4.1	8.7	27.7	63.0	53.3	60.8
CYANO	4.5	6.9	7.1	5.3	1.6	1.4	1.5	1.0					1.3		0.7	13.9	7.0	0.7	4.4	13.9
ENC RED ALGAE	1.2	1.0	3.4	1.0	1.4	2.0	6.0	1.6	0.7			0.3	1.3		0.1	0.4	1.4	1.9	4.6	2.1
SPONGE	9.0	9.3	13.0	6.1	6.0	8.6	10.5	7.4	10.4			1.6	5.7		0.6	5.6	10.3	2.9	2.6	4.8
OCTOCORAL	0.3	0.6	6.0	1.1	3.1	1.6	0.5	0.6	0.6				0.4		0.1		0.6	1.6	1.0	1.1
STONY CORAL	1.0	0.1	1.1	0.1	0.9	0.7	2.0	0.3	0.4				0.6				1.0	0.9	1.9	0.6
ANEMONE							0.2									0.1				
BIVALVE			0.1				0.2													
BRYOZOAN					0.3		0.5		0.1									0.1		0.3
HYDROID			1.3	0.4	0.4	0.3	0.8	0.1	0.3			0.1	0.6		0.3	0.1				0.1
MILLEPORA	0.2		0.1	0.3	0.6	0.1	0.3													
TUNICATE	0.2	0.4	1.0	0.7	0.9	0.9	1.3	0.4	0.3				0.4				0.1			0.1
WORM-SESSILE	0.8	0.4	0.7	0.7	0.4		0.3	0.1	0.1			0.1	0.1			0.1	0.7		0.1	0.3
ZOANTHID				0.1		0.3												6.9	0.6	

Table 6. Average percent cover by site (n=7 quadrats per site). Note: "0" indicates a positive number much less than 1% cover. No value indicates a search but none found. (Continued)

Site % Cover	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	Overall Average % Cover
BARE HARD SUBSTRATE											0.6	0.1								0.4		0.1
SEDIMENT	23.1	12.7	21.6	37.9	50.0	14.8	18.6	16.7	30.6	19.0	6.6	7.4	18.3	9.9	22.9	20.0	22.9	7.3	8.1	12.9	10.0	32.7
MACROALGAE	6.0	2.4	3.4	2.7	2.7	7.6	4.4	3.0	2.4	6.4	22.6	29.3	11.0	4.6	3.0	4.1	2.9	21.4	18.0	20.0	5.3	8.2
TURF	57.0	68.7	54.5	42.4	35.1	43.3	60.3	60.7	54.7	56.3	55.7	48.3	53.3	70.1	60.1	53.9	56.0	58.4	62.3	50.1	70.4	43.9
CYANO	6.6	1.7	0.4	6.4	1.4	3.9	2.4	4.9	0.7	1.1	1.1	4.3	4.6	2.9	3.0	1.0	1.9	1.1	2.6	3.0	3.9	3.1
ENC RED ALGAE	1.1	1.1	4.4	2.1	1.7	7.5	2.7	4.4	2.4	3.9	7.2	3.0	2.6	1.7	2.0	7.4	6.4	6.1	3.1	3.3	1.0	2.6
SPONGE	3.7	9.7	12.3	6.6	6.4	17.4	9.4	6.6	7.7	11.0	3.1	5.3	7.0	8.3	5.9	9.9	7.4	3.1	2.6	4.4	7.0	6.4
OCTOCORAL	0.7	0.9	1.6	0.7	0.4	1.3	0.1			0.1	1.6	1.0	1.6	1.0	1.0	0.9	0.4	1.0	1.9	2.6	1.3	1.0
STONY CORAL	0.3	0.6	1.4	0.7	0.9	1.9	1.6	1.7	0.6	1.9	0.8	1.0	1.0	0.9	1.1	1.0	1.3	1.1	0.6	0.9	0.4	0.8
ANEMONE								0.1														0.0
BIVALVE																	0.1			0.1		0.0
BRYOZOAN	0.3		0.1		0.3	0.3	0.1	0.1	0.3	0.1	0.1	0.1				0.1	0.3					0.1
HYDROID	0.1	0.1		0.1	0.7	2.0	0.1	0.4							0.9	1.0	0.1		0.1	0.4		0.3
MILLEPORA		0.7			0.1			1.1	0.1					0.4	0.1	0.1	0.1	0.1	0.1	0.6	0.4	0.1
TUNICATE	0.6	1.0	0.3						0.1	0.1						0.1	0.1					0.2
WORM-SESSILE	0.4	0.3	0.1	0.3	0.1	0.4	0.1	0.1	0.3		0.1		0.7	0.3		0.4			0.3	0.4	0.3	0.2
ZOANTHID											0.3	0.1						0.1	0.3	0.9		0.2

4.0 REFERENCES

American Academy of Underwater Sciences - AAUS. (2013). The American Academy of Underwater Sciences Standards for Scientific Diving. (pp. 85).

Tetra Tech Inc. (2012). Tetra Tech Scientific Diving Standards And Safety Manual (pp. 56).

U.S. Army Corps of Engineers (2014). EM-385-1-1 Manual for Safety and Health Requirements (pp. 930): U.S. Army Corps of Engineers.

Appendix 1

RECON BELT TRANSECT COUNTS BY CORAL SPECIES

Site Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	Species Total
Zero Corals										1	1			1	1																												4
Agaricia agaricites			2	1			9													1			1			2								2							18
Agaricia fragilis																	3						1				3	1			1					1					10
Agaricia lamarcki						1			2																				1													4
Colpophyllia natans																													1							1	1					3
Dichocoenia stokesii						1							1						1		1	1	1		2					3		2		3	1		2		2	1	22
Diploria labyrinthiformis			1																							1							1								3
Eusmilia fastigiata			1				1						1										2	1									1								7
Favia fragum																							1																			1
juvenile-unidentifiable																							1																			1
Madracis decactis		1	4	3	1	5	5	3	4								3								1	6	7	4	1							1	4					53
Madracis pharensis						1		2																	1										1	1						6
Meandrina meandrites			1		1	2	1	1	4											1			2		2	1			1					1			1					19
Millepora alcicornis																																1										1
Montastraea cavernosa	6	3	14	5	6	8	23	6	4				3				6	1	2	5	2	10	8	8	18	11	8	11	1	7	3	3	4	6	6	5	2	3	3	11	4	226
Mussa angulosa																																			1							1
Mycetophyllia aliciae					1		1																				1										2					5
Mycetophyllia lamarckiana	1																						1														1					3
Oculina robusta													1									1																				1
Phyllangia americana																															1											1
Porites astreoides	3	3	24	6	19	15	25	3					1				1			4	1	5	3	12	40	33	10	14		2	8	6	3	5	11	17	6	14	7	8		309
Porites porites	1		2	1									1					7	1	1				3	1	3					8		1	1	2	3	3	9	5	5	1	59
Pseudodiploria clivosa																		1																				1		1		3
Pseudodiploria strigosa	1																				1	1	1											1	1					1		7
Scolymia cubensis							1																					1									2					4
Scolymia lacera							1																				1															2
Siderastrea radians	5			5	1	1							7				3	32	23	9	17	9		6	24	4	6	4			127	18	9	1	14	6		44	42	17	6	440
Siderastrea siderea	16		26	17	15	17	83	15	6				11			1	9		16	17	3	21	21	25	49	42	11	37	11	12	14	16	10	12	37	21	23		2	32	17	665
Solenastrea bournoni																			1	1			1	1	2						1		1		6			1			1	16
Stephanocoenia intersepta	8	3	14	6	5	15	25	12	6			1	2			1	9	3	5	6	6	5	18	10	13	14	12	20	8	16		6	10	5	8	4	27		7	14	11	335
Xestospongia muta									12				4				6	1	3	9	2	3	13		9	12	11	9	6	14		3	9	7	6	1	4	2	2	8	10	245
Site Total	**38**	**1**	**1**	**1**	**31**	**1**	**1**	**2**	**40**	**45**	**52**	**54**	**33**	**56**	**75**	**66**	**162**	**129**	**70**	**101**	**28**	**53**	**164**	**55**	**48**	**42**	**98**	**61**	**77**	**76**	**68**	**99**	**51**	**2474**

Grey = channel side sites

Appendix 2

RECON BELT TRANSECT DENSITY BY CORAL SPECIES

Table continued

Site Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Zero Corals										0.03	0.03			0.03	0.03					
Agaricia agaricites			0.07	0.03			0.30													0.03
Agaricia fragilis																	0.10			
Agaricia lamarcki						0.03			0.07											
Colpophyllia natans																				
Dichocoenia stokesii						0.03							0.03						0.03	
Diploria labyrinthiformis			0.03																	
Eusmilia fastigiata			0.03				0.03						0.03							
Favia fragum																				
juvenile-unidentifiable																				
Madracis decactis		0.03	0.13	0.10	0.03	0.17	0.17	0.10	0.13								0.10			
Madracis pharensis						0.03		0.07												
Meandrina meandrites			0.03		0.03	0.07	0.03	0.03	0.13											0.03
Millepora alcicornis																				
Montastraea cavernosa	0.20	0.10	0.47	0.17	0.20	0.27	0.77	0.20	0.13				0.10				0.20	0.03	0.07	0.17
Mussa angulosa																				
Mycetophyllia aliciae					0.03		0.03													
Mycetophyllia lamarckiana	0.03																			
Oculina robusta																				
Phyllangia americana																				
Porites astreoides	0.10	0.10	0.80	0.20	0.63	0.50	0.83	0.10					0.03				0.03			0.13
Porites porites	0.03		0.07	0.03									0.03					0.23	0.03	0.03
Pseudodiploria clivosa																		0.03		
Pseudodiploria strigosa	0.03																			
Scolymia cubensis							0.03													
Scolymia lacera							0.03													
Siderastrea radians	0.17			0.17	0.03	0.03							0.23				0.10	1.07	0.77	0.30
Siderastrea siderea	0.53		0.87	0.57	0.50	0.57	2.77	0.50	0.20				0.37			0.03	0.30		0.53	0.57
Solenastrea bournoni																			0.03	0.03
Stephanocoenia intersepta	0.27	0.10	0.47	0.20	0.17	0.50	0.83	0.40	0.20			0.03	0.07			0.03	0.30	0.10	0.17	0.20
Xestospongia muta	0.30	0.40	0.30	0.20	0.43	0.43	0.27	0.30	0.40				0.13				0.20	0.03	0.10	0.30
Site Total	1.67	0.73	3.27	1.67	2.07	2.63	6.10	1.70	1.27	0.03	0.03	0.03	1.03	0.03	0.03	0.07	1.33	1.50	1.73	1.80

Site Species	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	Species Total
Zero Corals																						0.00
Agaricia agaricites			0.03			0.07									0.07							0.01
Agaricia fragilis			0.03				0.10	0.03				0.03					0.03					0.01
Agaricia lamarcki										0.03												0.00
Colpophyllia natans										0.03						0.03	0.03					0.00
Dichocoenia stokesii	0.03	0.03	0.03		0.07						0.10		0.07		0.10	0.03		0.07		0.07	0.03	0.02
Diploria labyrinthiformis						0.03								0.03								0.00
Eusmilia fastigiata			0.07	0.03										0.03								0.01
Favia fragum			0.03																			0.00
juvenile-unidentifiable			0.03																			0.00
Madracis decactis					0.03	0.20	0.23	0.13	0.03							0.03	0.13					0.04
Madracis pharensis					0.03										0.03	0.03						0.00
Meandrina meandrites			0.07		0.07	0.03			0.03					0.03			0.03					0.02
Millepora alcicornis												0.03										0.00
Montastraea cavernosa	0.07	0.33	0.27	0.27	0.60	0.37	0.27	0.37	0.03	0.23	0.10	0.10	0.13	0.20	0.20	0.17	0.07	0.10	0.10	0.37	0.13	0.18
Mussa angulosa															0.03							0.00
Mycetophyllia aliciae							0.03										0.07					0.00
Mycetophyllia lamarckiana			0.03														0.03					0.00
Oculina robusta		0.03																				0.00
Phyllangia americana											0.03											0.00
Porites astreoides	0.03	0.17	0.10	0.40	1.33	1.10	0.33	0.47		0.07	0.27	0.20	0.10	0.17	0.37	0.57	0.20	0.47	0.23	0.27		0.25
Porites porites				0.10	0.03	0.10					0.27		0.03	0.03	0.07	0.10	0.10	0.30	0.17	0.17	0.03	0.05
Pseudodiploria clivosa																		0.03		0.03		0.00
Pseudodiploria strigosa	0.03	0.03	0.03											0.03	0.03					0.03		0.01
Scolymia cubensis								0.03									0.07					0.00
Scolymia lacera							0.03															0.00
Siderastrea radians	0.57	0.30		0.20	0.80	0.13	0.20	0.13			4.23	0.60	0.30	0.03	0.47	0.20		1.47	1.40	0.57	0.20	0.36
Siderastrea siderea	0.10	0.70	0.70	0.83	1.63	1.40	0.37	1.23	0.37	0.40	0.47	0.53	0.33	0.40	1.23	0.70	0.77		0.07	1.07	0.57	0.54
Solenastrea bournoni			0.03	0.03	0.07							0.03		0.03	0.20			0.03			0.03	0.01
Stephanocoenia intersepta	0.20	0.17	0.60	0.33	0.43	0.47	0.40	0.67	0.27	0.53		0.20	0.33	0.17	0.27	0.13	0.90		0.23	0.47	0.37	0.27
Xestospongia muta	0.07	0.10	0.43		0.30	0.40	0.37	0.30	0.20	0.47		0.10	0.30	0.23	0.20	0.03	0.13	0.07	0.07	0.27	0.33	0.20
Site Total	1.10	1.87	2.50	2.20	5.40	4.30	2.33	3.37	0.93	1.77	5.47	1.83	1.60	1.40	3.27	2.03	2.57	2.53	2.27	3.30	1.70	2.01

Appendix 3

RECON BELT TRANSECT CORAL DENSITY AND SIZE FREQUENCIES

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
1	Hardbottom	*Montastraea cavernosa*	6	0.20	3.83	0.98	5.33	0.82	2.33	1.21
		Mycetophyllia lamarckiana	1	0.03	3.00		3.00		1.00	
		Porites astreoides	3	0.10	5.33	4.16	6.67	5.03	2.33	1.53
		Porites porites	1	0.03	5.00		5.00		5.00	
		Pseudodiploria strigosa	1	0.03	2.00		3.00		1.00	
		Siderastrea radians	5	0.17	2.20	0.45	2.20	0.45	0.60	0.55
		Siderastrea siderea	16	0.53	3.25	3.51	4.00	4.58	1.69	1.66
		Stephanocoenia intersepta	8	0.27	5.13	2.75	6.25	2.96	2.75	1.67
		Xestospongia muta	9	0.30	8.11	7.82	9.22	9.16	6.56	5.55
2	Hardbottom	*Madracis decactis*	1	0.03	4.00		4.00		4.00	
		Montastraea cavernosa	3	0.10	14.33	4.93	15.67	5.51	14.33	9.29
		Porites astreoides	3	0.10	7.33	2.31	9.00	3.61	3.00	2.00
		Stephanocoenia intersepta	3	0.10	4.67	3.06	7.00	2.65	3.00	3.46
		Xestospongia muta	12	0.40	15.83	11.16	17.17	10.50	16.00	11.96
3	Hardbottom	*Agaricia agaricites*	2	0.07	26.50	4.95	30.00	9.90	14.00	4.24
		Diploria labyrinthiformis	1	0.03	31.00		38.00		10.00	
		Eusmilia fastigiata	1	0.03	4.00		6.00		4.00	
		Madracis decactis	4	0.13	9.25	2.50	18.00	9.20	5.25	1.50
		Meandrina meandrites	1	0.03	3.00		4.00		1.00	
		Montastraea cavernosa	14	0.47	5.14	4.47	7.57	7.36	4.07	5.64
		Porites astreoides	24	0.80	6.42	3.49	9.08	4.14	2.42	1.56
		Porites porites	2	0.07	7.00	1.41	8.50	0.71	6.50	0.71
		Siderastrea siderea	26	0.87	3.19	2.23	3.88	2.69	1.58	1.50

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Stephanocoenia intersepta	14	0.47	4.29	2.49	5.57	3.44	1.71	1.59
		Xestospongia muta	9	0.30	22.44	18.39	23.56	19.60	16.89	10.01
4	Hardbottom	*Agaricia agaricites*	1	0.03	4.00		5.00		1.00	
		Madracis decactis	3	0.10	8.33	3.51	16.00	14.93	6.67	4.62
		Montastraea cavernosa	5	0.17	3.00	1.58	4.20	2.28	1.80	0.84
		Porites astreoides	6	0.20	4.83	3.13	5.67	4.27	1.67	2.16
		Porites porites	1	0.03	2.00		7.00		2.00	
		Siderastrea radians	5	0.17	1.60	0.55	2.20	1.10	0.60	0.55
		Siderastrea siderea	17	0.57	2.24	2.51	2.82	3.11	1.18	1.51
		Stephanocoenia intersepta	6	0.20	4.17	1.17	5.50	1.22	1.83	0.75
		Xestospongia muta	6	0.20	16.50	17.44	17.00	17.77	17.83	20.46
5	Hardbottom	*Madracis decactis*	1	0.03	3.00		10.00		2.00	
		Meandrina meandrites	1	0.03	7.00		8.00		3.00	
		Montastraea cavernosa	6	0.20	1.83	0.75	2.83	0.75	1.00	0.00
		Mycetophyllia aliciae	1	0.03	13.00		14.00		3.00	
		Porites astreoides	19	0.63	7.53	2.99	10.26	3.54	3.42	1.84
		Siderastrea radians	1	0.03	2.00		3.00		1.00	
		Siderastrea siderea	15	0.50	2.13	1.30	3.27	3.08	1.33	0.82
		Stephanocoenia intersepta	5	0.17	5.40	3.78	7.00	4.85	2.40	0.89
		Xestospongia muta	13	0.43	11.38	17.71	12.69	17.45	12.23	17.65
6	Hardbottom	*Agaricia lamarcki*	1	0.03	16.00		18.00		4.00	
		Dichocoenia stokesii	1	0.03	6.00		6.00		2.00	
		Madracis decactis	5	0.17	7.80	5.36	12.80	9.15	4.60	1.34
		Madracis pharensis	1	0.03	6.00		11.00		3.00	

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Meandrina meandrites	2	0.07	5.00	4.24	6.00	4.24	2.00	1.41
		Montastraea cavernosa	8	0.27	3.38	3.70	4.25	4.23	2.25	3.20
		Porites astreoides	15	0.50	7.13	4.76	8.93	5.62	3.40	2.23
		Siderastrea radians	1	0.03	1.00		1.00		0.00	
		Siderastrea siderea	17	0.57	2.41	1.84	3.00	1.94	1.12	0.49
		Stephanocoenia intersepta	15	0.50	3.13	2.13	4.13	3.40	1.27	0.59
		Xestospongia muta	13	0.43	13.00	8.03	14.46	8.55	15.38	11.57
7	Hardbottom	*Agaricia agaricites*	9	0.30	7.33	8.70	10.56	13.07	1.67	1.32
		Eusmilia fastigiata	1	0.03	5.00		5.00		3.00	
		Madracis decactis	5	0.17	10.00	5.83	13.20	7.56	3.20	2.17
		Meandrina meandrites	1	0.03	3.00		5.00		3.00	
		Montastraea cavernosa	23	0.77	3.09	2.04	3.87	2.60	1.48	0.85
		Mycetophyllia aliciae	1	0.03	4.00		6.00		2.00	
		Porites astreoides	25	0.83	5.56	3.62	8.16	6.72	2.08	1.35
		Scolymia cubensis	1	0.03	1.00		2.00		1.00	
		Scolymia lacera	1	0.03	1.00		1.00		1.00	
		Siderastrea siderea	83	2.77	1.72	1.28	2.07	1.57	0.71	0.71
		Stephanocoenia intersepta	25	0.83	4.24	2.77	5.56	3.61	1.60	1.19
		Xestospongia muta	8	0.27	10.38	8.65	11.38	9.81	10.63	11.03
8	Hardbottom	*Madracis decactis*	3	0.10	6.67	1.15	7.33	1.15	6.33	4.93
		Madracis pharensis	2	0.07	12.00	0.00	20.00	2.83	6.00	5.66
		Meandrina meandrites	1	0.03	4.00		4.00		2.00	
		Montastraea cavernosa	6	0.20	6.00	6.10	7.83	8.70	4.00	3.41
		Porites astreoides	3	0.10	12.67	9.02	16.00	5.57	3.33	1.53

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Siderastrea siderea	15	0.50	2.67	2.53	3.60	2.75	1.47	1.06
		Stephanocoenia intersepta	12	0.40	5.08	3.50	6.50	4.56	1.42	0.51
		Xestospongia muta	9	0.30	18.00	11.65	21.33	12.06	16.78	14.48
9	Hardbottom	*Agaricia lamarcki*	2	0.07	50.00	0.00	55.00	0.00	10.00	0.00
		Madracis decactis	4	0.13	9.50	1.73	13.50	0.58	4.50	0.58
		Meandrina meandrites	4	0.13	11.00	2.31	13.00	1.15	3.50	0.58
		Montastraea cavernosa	4	0.13	5.50	5.20	7.75	8.06	1.50	0.58
		Siderastrea siderea	6	0.20	4.33	1.86	5.00	2.68	1.67	0.52
		Stephanocoenia intersepta	6	0.20	12.33	2.88	13.33	3.61	5.00	3.22
		Xestospongia muta	12	0.40	11.33	5.52	14.17	5.27	11.42	7.84
10	Channel			0.00	0.00		0.00		0.00	
11	Channel			0.00	0.00		0.00		0.00	
12	Channel	*Stephanocoenia intersepta*	1	0.03	3.00		7.00		2.00	
13	Channel	*Dichocoenia stokesii*	1	0.03	6.00		8.00		3.00	
		Eusmilia fastigiata	1	0.03	6.00		6.00		4.00	
		Montastraea cavernosa	3	0.10	6.67	3.79	8.00	4.36	2.33	1.53
		Porites astreoides	1	0.03	3.00		3.00		1.00	
		Porites porites	1	0.03	4.00		6.00		4.00	
		Siderastrea radians	7	0.23	1.14	0.38	1.29	0.76	0.86	0.38
		Siderastrea siderea	11	0.37	4.64	2.54	6.36	4.13	2.45	1.29
		Stephanocoenia intersepta	2	0.07	4.00	1.41	7.50	4.95	3.00	2.83
		Xestospongia muta	4	0.13	5.25	2.22	5.25	2.22	5.50	4.36
14	Channel			0.00	0.00		0.00		0.00	

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
15	Channel			0.00	0.00		0.00		0.00	
16	Channel	*Siderastrea siderea*	1	0.03	3.00		4.00		1.00	
		Stephanocoenia intersepta	1	0.03	3.00		4.00		2.00	
17	Channel	*Agaricia fragilis*	3	0.10	7.00	5.29	10.67	5.77	2.33	1.53
		Madracis decactis	3	0.10	6.33	3.51	14.33	14.74	4.67	3.06
		Montastraea cavernosa	6	0.20	5.33	2.34	6.17	3.13	3.83	3.06
		Porites astreoides	1	0.03	9.00		15.00		4.00	
		Siderastrea radians	3	0.10	3.00	2.65	3.67	3.06	1.00	0.00
		Siderastrea siderea	9	0.30	3.44	2.46	4.33	3.00	1.22	1.20
		Stephanocoenia intersepta	9	0.30	4.78	2.99	6.44	3.36	1.78	0.83
		Xestospongia muta	6	0.20	17.50	14.05	26.67	16.44	21.50	13.92
18	Hardbottom	*Montastraea cavernosa*	1	0.03	6.00		8.00		4.00	
		Porites porites	7	0.23	2.43	1.13	3.71	2.56	1.71	0.95
		Pseudodiploria clivosa	1	0.03	1.00		2.00		1.00	
		Siderastrea radians	32	1.07	2.31	1.49	3.06	2.18	0.41	0.50
		Stephanocoenia intersepta	3	0.10	5.00	1.00	7.00	1.00	3.00	1.73
		Xestospongia muta	1	0.03	10.00		11.00		10.00	
19	Hardbottom	*Dichocoenia stokesii*	1	0.03	4.00		6.00		2.00	
		Montastraea cavernosa	2	0.07	13.00	9.90	15.50	10.61	10.00	7.07
		Porites porites	1	0.03	3.00		5.00		4.00	
		Siderastrea radians	23	0.77	1.74	0.75	1.91	0.85	0.17	0.39
		Siderastrea siderea	16	0.53	1.44	1.31	1.44	1.31	0.81	0.75
		Solenastrea bournoni	1	0.03	18.00		26.00		15.00	

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Stephanocoenia intersepta	5	0.17	8.20	5.72	9.80	5.93	3.20	2.49
		Xestospongia muta	3	0.10	22.00	15.62	24.33	13.58	20.67	12.50
20	Hardbottom	*Agaricia agaricites*	1	0.03	5.00		5.00		3.00	
		Meandrina meandrites	1	0.03	5.00		5.00		2.00	
		Montastraea cavernosa	5	0.17	1.00	0.00	1.40	0.55	0.80	0.45
		Porites astreoides	4	0.13	4.75	1.26	10.25	5.68	2.75	1.71
		Porites porites	1	0.03	3.00		3.00		1.00	
		Siderastrea radians	9	0.30	1.56	0.73	2.11	0.78	0.44	0.53
		Siderastrea siderea	17	0.57	2.65	4.60	3.06	5.09	0.71	1.31
		Solenastrea bournoni	1	0.03	4.00		4.00		3.00	
		Stephanocoenia intersepta	6	0.20	3.17	1.47	4.33	2.50	1.17	1.17
		Xestospongia muta	9	0.30	7.22	4.82	8.00	4.85	6.33	3.84
21	Hardbottom	*Dichocoenia stokesii*	1	0.03	8.00		9.00		6.00	
		Montastraea cavernosa	2	0.07	2.00	1.41	2.50	2.12	1.50	0.71
		Porites astreoides	1	0.03	8.00		14.00		6.00	
		Pseudodiploria strigosa	1	0.03	2.00		2.00		0.00	
		Siderastrea radians	17	0.57	1.76	0.90	1.94	1.03	0.41	0.62
		Siderastrea siderea	3	0.10	1.00	0.00	1.00	0.00	0.00	0.00
		Stephanocoenia intersepta	6	0.20	4.67	2.94	6.00	4.05	1.83	1.72
		Xestospongia muta	2	0.07	6.50	2.12	7.00	2.83	4.50	2.12
22	Hardbottom	*Dichocoenia stokesii*	1	0.03	2.00		3.00		2.00	
		Montastraea cavernosa	10	0.33	1.70	1.06	2.50	1.35	1.10	0.57
		Oculina robusta	1	0.03	2.00		5.00		2.00	
		Porites astreoides	5	0.17	5.80	4.27	8.00	5.43	4.00	3.08

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Pseudodiploria strigosa	1	0.03	4.00		4.00		1.00	
		Siderastrea radians	9	0.30	1.56	0.88	1.67	0.87	1.00	0.50
		Siderastrea siderea	21	0.70	2.14	2.33	2.67	2.71	0.86	1.28
		Stephanocoenia intersepta	5	0.17	1.80	0.84	2.60	1.34	1.00	0.71
		Xestospongia muta	3	0.10	5.67	2.08	5.67	2.08	4.00	1.00
23	Hardbottom	*Agaricia agaricites*	1	0.03	11.00		12.00		2.00	
		Agaricia fragilis	1	0.03	1.00		1.00		0.00	
		Dichocoenia stokesii	1	0.03	4.00		5.00		2.00	
		Eusmilia fastigiata	2	0.07	3.00	1.41	3.50	0.71	2.00	0.00
		Favia fragum	1	0.03	3.00		3.00		2.00	
		juvenile-unidentifiable	1	0.03	1.00		1.00		1.00	
		Meandrina meandrites	2	0.07	3.00	1.41	3.00	2.83	1.00	0.00
		Montastraea cavernosa	8	0.27	2.63	1.77	3.50	1.93	1.63	0.74
		Mycetophyllia lamarckiana	1	0.03	1.00		1.00		1.00	
		Porites astreoides	3	0.10	7.33	7.09	8.33	7.02	2.00	2.00
		Pseudodiploria strigosa	1	0.03	3.00		3.00		1.00	
		Siderastrea siderea	21	0.70	3.10	2.57	3.57	3.17	1.24	0.54
		Solenastrea bournoni	1	0.03	3.00		3.00		1.00	
		Stephanocoenia intersepta	18	0.60	4.67	3.58	5.39	3.85	1.78	1.35
		Xestospongia muta	13	0.43	16.23	11.58	20.46	15.45	19.31	13.17
24	Hardbottom	*Eusmilia fastigiata*	1	0.03	1.00		2.00		1.00	
		Montastraea cavernosa	8	0.27	2.88	0.99	4.13	1.64	1.63	1.06
		Porites astreoides	12	0.40	4.25	4.22	5.92	5.00	1.67	1.07
		Porites porites	3	0.10	2.33	0.58	3.33	1.53	1.67	0.58

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Siderastrea radians	6	0.20	2.50	0.84	3.67	1.21	0.83	0.41
		Siderastrea siderea	25	0.83	2.28	1.34	2.68	1.55	0.84	0.80
		Solenastrea bournoni	1	0.03	1.00		2.00		1.00	
		Stephanocoenia intersepta	10	0.33	4.60	2.99	5.80	3.26	2.20	1.32
25	Hardbottom	*Dichocoenia stokesii*	2	0.07	4.00	1.41	5.00	1.41	2.50	0.71
		Madracis decactis	1	0.03	3.00		3.00		1.00	
		Madracis pharensis	1	0.03	4.00		7.00		3.00	
		Meandrina meandrites	2	0.07	2.50	0.71	4.00	0.00	1.00	0.00
		Montastraea cavernosa	18	0.60	2.22	1.63	3.22	2.44	1.28	0.89
		Porites astreoides	40	1.33	4.00	3.31	5.98	4.47	1.55	1.34
		Porites porites	1	0.03	2.00		3.00		1.00	
		Siderastrea radians	24	0.80	1.38	0.58	1.79	0.93	0.38	0.49
		Siderastrea siderea	49	1.63	1.88	1.32	2.43	1.76	0.71	1.14
		Solenastrea bournoni	2	0.07	1.00	0.00	1.50	0.71	1.00	0.00
		Stephanocoenia intersepta	13	0.43	3.46	1.94	4.31	2.69	1.38	1.39
		Xestospongia muta	9	0.30	13.78	13.04	18.33	11.57	16.11	14.98
26	Hardbottom	*Agaricia agaricites*	2	0.07	5.50	6.36	6.50	7.78	1.50	0.71
		Diploria labyrinthiformis	1	0.03	14.00		15.00		2.00	
		Madracis decactis	6	0.20	9.50	7.94	11.67	9.35	2.67	1.63
		Meandrina meandrites	1	0.03	6.00		7.00		2.00	
		Montastraea cavernosa	11	0.37	3.00	2.10	3.73	2.80	1.64	1.12
		Porites astreoides	33	1.10	3.55	2.98	5.12	4.10	1.42	1.09
		Porites porites	3	0.10	4.33	3.21	6.33	5.13	3.67	3.79
		Siderastrea radians	4	0.13	3.25	2.22	4.25	2.63	1.25	0.50
		Siderastrea siderea	42	1.40	2.43	2.61	3.17	3.32	0.98	1.26

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Stephanocoenia intersepta	14	0.47	2.43	1.91	3.07	1.54	1.07	0.73
		Xestospongia muta	12	0.40	18.08	16.81	20.08	14.98	16.58	9.94
27	Hardbottom	*Agaricia fragilis*	3	0.10	4.00	1.73	6.00	5.20	2.67	2.89
		Madracis decactis	7	0.23	4.57	3.46	8.29	5.71	3.00	1.29
		Montastraea cavernosa	8	0.27	4.75	5.75	7.00	9.10	2.13	1.89
		Mycetophyllia aliciae	1	0.03	12.00		15.00		5.00	
		Porites astreoides	10	0.33	8.50	6.47	10.60	6.92	3.30	2.67
		Scolymia lacera	1	0.03	2.00		2.00		1.00	
		Siderastrea radians	6	0.20	1.67	1.63	2.67	1.63	1.17	0.41
		Siderastrea siderea	11	0.37	3.64	3.14	5.09	4.74	1.45	1.21
		Stephanocoenia intersepta	12	0.40	4.75	2.49	6.58	3.99	2.83	2.08
		Xestospongia muta	11	0.37	13.91	13.95	13.73	13.18	12.18	10.10
28	Hardbottom	*Agaricia fragilis*	1	0.03	4.00		10.00		2.00	
		Madracis decactis	4	0.13	9.25	7.80	21.75	12.61	3.25	0.96
		Montastraea cavernosa	11	0.37	2.55	2.07	2.91	2.26	1.82	2.14
		Porites astreoides	14	0.47	4.86	3.66	6.43	4.31	1.50	1.09
		Scolymia cubensis	1	0.03	3.00		3.00		1.00	
		Siderastrea radians	4	0.13	2.25	0.96	2.25	0.96	1.00	0.00
		Siderastrea siderea	37	1.23	1.78	1.53	2.16	1.92	0.92	0.43
		Stephanocoenia intersepta	20	0.67	3.40	2.82	4.35	3.28	1.35	1.18
		Xestospongia muta	9	0.30	13.33	9.49	13.78	9.22	16.89	14.15
29	Hardbottom	*Madracis decactis*	1	0.03	10.00		13.00		10.00	
		Meandrina meandrites	1	0.03	2.00		3.00		1.00	
		Montastraea cavernosa	1	0.03	2.00		2.00		1.00	

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Siderastrea siderea	11	0.37	2.27	2.37	3.00	3.07	0.91	1.14
		Stephanocoenia intersepta	8	0.27	4.75	2.31	6.25	2.31	1.63	0.74
		Xestospongia muta	6	0.20	17.50	11.93	19.00	11.73	15.33	15.69
30	Hardbottom	*Agaricia lamarcki*	1	0.03	30.00		35.00		8.00	
		Colpophyllia natans	1	0.03	2.00		2.00		1.00	
		Montastraea cavernosa	7	0.23	6.00	5.07	6.71	5.65	2.71	2.36
		Porites astreoides	2	0.07	12.00	5.66	15.50	10.61	3.50	0.71
		Siderastrea siderea	12	0.40	3.58	2.47	4.50	3.83	1.67	0.98
		Stephanocoenia intersepta	16	0.53	6.50	6.09	7.75	7.52	2.88	2.50
		Xestospongia muta	14	0.47	15.57	15.10	16.29	15.04	16.64	14.45
31	Hardbottom	*Dichocoenia stokesii*	3	0.10	2.33	0.58	3.33	0.58	1.33	0.58
		Montastraea cavernosa	3	0.10	6.67	4.04	8.67	4.93	1.67	1.15
		Phyllangia americana	1	0.03	1.00		1.00		1.00	
		Porites astreoides	8	0.27	3.63	1.85	4.88	2.10	0.88	0.64
		Porites porites	8	0.27	3.13	1.36	4.13	1.13	1.50	0.76
		Siderastrea radians	127	4.23	1.76	0.88	2.23	1.35	0.37	0.60
		Siderastrea siderea	14	0.47	1.79	0.97	2.43	1.60	0.29	0.47
32	Hardbottom	*Agaricia fragilis*	1	0.03	10.00		12.00		2.00	
		Millepora alcicornis	1	0.03	3.00		3.00		3.00	
		Montastraea cavernosa	3	0.10	6.33	6.66	7.00	6.93	2.33	2.31
		Porites astreoides	6	0.20	2.17	1.47	3.33	3.01	1.33	1.37
		Siderastrea radians	18	0.60	2.11	0.96	2.17	1.20	0.94	0.24
		Siderastrea siderea	16	0.53	3.31	3.05	4.00	4.26	1.19	1.17
		Solenastrea bournoni	1	0.03	5.00		5.00		4.00	

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Stephanocoenia intersepta	6	0.20	4.67	2.80	8.67	6.86	2.50	2.07
		Xestospongia muta	3	0.10	10.00	5.00	10.00	5.00	15.00	8.66
33	Hardbottom	*Dichocoenia stokesii*	2	0.07	3.50	0.71	4.50	2.12	1.50	0.71
		Montastraea cavernosa	4	0.13	3.00	1.41	3.50	1.00	1.25	0.50
		Porites astreoides	3	0.10	5.33	4.16	7.00	4.36	1.33	0.58
		Porites porites	1	0.03	3.00		4.00		0.00	
		Siderastrea radians	9	0.30	1.78	0.97	1.89	1.17	0.22	0.44
		Siderastrea siderea	10	0.33	3.70	3.86	4.30	4.14	1.50	2.12
		Stephanocoenia intersepta	10	0.33	5.10	2.69	6.70	3.43	2.10	1.60
		Xestospongia muta	9	0.30	7.78	10.28	9.00	10.11	9.56	13.46
34	Hardbottom	*Diploria labyrinthiformis*	1	0.03	6.00		6.00		3.00	
		Eusmilia fastigiata	1	0.03	5.00		7.00		5.00	
		Meandrina meandrites	1	0.03	5.00		5.00		2.00	
		Montastraea cavernosa	6	0.20	5.17	4.58	6.33	4.50	2.83	2.99
		Porites astreoides	5	0.17	7.00	4.36	10.80	5.45	4.20	2.49
		Porites porites	1	0.03	4.00		4.00		2.00	
		Pseudodiploria strigosa	1	0.03	5.00		6.00		1.00	
		Siderastrea radians	1	0.03	4.00		5.00		1.00	
		Siderastrea siderea	12	0.40	4.17	3.41	5.00	3.44	2.00	1.60
		Solenastrea bournoni	1	0.03	22.00		23.00		14.00	
		Stephanocoenia intersepta	5	0.17	3.20	1.92	4.60	2.70	2.20	2.17
		Xestospongia muta	7	0.23	11.43	8.08	12.29	8.75	12.43	9.52
35	Hardbottom	*Agaricia agaricites*	2	0.07	5.00	0.00	5.00	0.00	1.50	0.71
		Dichocoenia stokesii	3	0.10	5.00	1.00	6.33	2.08	2.67	0.58

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Madracis pharensis	1	0.03	8.00		8.00		2.00	
		Montastraea cavernosa	6	0.20	4.17	1.94	5.50	3.02	1.67	1.37
		Mussa angulosa	1	0.03	2.00		2.00		1.00	
		Porites astreoides	11	0.37	3.27	2.45	4.82	4.05	1.73	1.79
		Porites porites	2	0.07	1.50	0.71	2.00	1.41	0.50	0.71
		Pseudodiploria strigosa	1	0.03	2.00		2.00		1.00	
		Siderastrea radians	14	0.47	2.00	1.30	2.79	1.42	0.43	0.51
		Siderastrea siderea	37	1.23	1.62	1.01	1.92	1.21	0.68	0.53
		Solenastrea bournoni	6	0.20	1.83	0.75	2.17	0.98	1.00	0.63
		Stephanocoenia intersepta	8	0.27	3.38	2.13	4.50	3.70	1.75	1.49
		Xestospongia muta	6	0.20	10.50	14.77	9.67	12.79	11.33	19.01
36	Hardbottom	*Colpophyllia natans*	1	0.03	1.00		1.00		0.00	
		Dichocoenia stokesii	1	0.03	5.00		7.00		5.00	
		Madracis decactis	1	0.03	8.00		12.00		4.00	
		Madracis pharensis	1	0.03	12.00		15.00		2.00	
		Montastraea cavernosa	5	0.17	2.60	3.05	3.80	3.63	1.40	0.89
		Porites astreoides	17	0.57	3.47	3.06	4.53	3.92	1.18	1.19
		Porites porites	3	0.10	1.67	0.58	3.33	1.15	1.33	0.58
		Siderastrea radians	6	0.20	1.67	1.21	2.50	1.87	0.33	0.82
		Siderastrea siderea	21	0.70	1.48	0.68	1.52	0.68	0.81	0.40
		Stephanocoenia intersepta	4	0.13	4.25	2.63	5.25	3.40	1.00	0.00
		Xestospongia muta	1	0.03	6.00		10.00		10.00	
37	Hardbottom	*Agaricia fragilis*	1	0.03	3.00		5.00		1.00	
		Colpophyllia natans	1	0.03	1.00		1.00		1.00	

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Madracis decactis	4	0.13	5.25	3.77	8.75	5.62	3.50	3.11
		Meandrina meandrites	1	0.03	3.00		3.00		1.00	
		Montastraea cavernosa	2	0.07	6.00	4.24	6.00	4.24	3.50	2.12
		Mycetophyllia aliciae	2	0.07	4.00	1.41	5.50	2.12	1.50	0.71
		Mycetophyllia lamarckiana	1	0.03	10.00		10.00		2.00	
		Porites astreoides	6	0.20	6.67	4.97	8.67	6.22	3.00	2.83
		Porites porites	3	0.10	2.00	0.00	2.67	1.15	1.33	0.58
		Scolymia cubensis	2	0.07	1.50	0.71	1.50	0.71	1.00	0.00
		Siderastrea siderea	23	0.77	1.96	1.80	2.30	1.99	0.57	0.84
		Stephanocoenia intersepta	27	0.90	4.22	2.99	5.52	3.43	1.81	1.42
		Xestospongia muta	4	0.13	12.25	8.96	14.25	6.40	12.50	11.93
38	Hardbottom	*Dichocoenia stokesii*	2	0.07	4.00	0.00	5.00	1.41	2.00	0.00
		Montastraea cavernosa	3	0.10	3.33	1.15	3.67	1.53	2.00	1.00
		Porites astreoides	14	0.47	7.21	4.17	9.57	3.57	3.00	1.71
		Porites porites	9	0.30	2.89	1.54	4.33	1.58	1.11	0.78
		Pseudodiploria clivosa	1	0.03	4.00		8.00		1.00	
		Siderastrea radians	44	1.47	2.05	1.24	2.80	1.69	0.80	0.63
		Solenastrea bournoni	1	0.03	15.00		19.00		12.00	
		Xestospongia muta	2	0.07	2.50	0.71	5.50	2.12	3.00	0.00
39	Hardbottom	*Montastraea cavernosa*	3	0.10	2.00	0.00	3.33	0.58	1.00	0.00
		Porites astreoides	7	0.23	6.57	5.91	8.71	7.09	2.00	1.29
		Porites porites	5	0.17	4.20	0.84	6.20	2.28	2.60	2.41
		Siderastrea radians	42	1.40	2.14	1.28	2.79	1.70	0.93	0.56
		Siderastrea siderea	2	0.07	3.00	2.83	3.50	3.54	1.50	2.12

Transect number	Habitat	Coral Species	Number	Density (#/m^2)	Average Width (cm)	StdDev of Width	Average Length (cm)	StdDev of Length	Average of Height (cm)	StdDev of Height
		Stephanocoenia intersepta	7	0.23	6.71	3.90	9.00	5.16	3.00	2.00
		Xestospongia muta	2	0.07	3.50	2.12	5.00	2.83	3.50	2.12
40	Hardbottom	*Dichocoenia stokesii*	2	0.07	3.50	0.71	4.50	0.71	2.00	0.00
		Montastraea cavernosa	11	0.37	3.55	4.23	4.73	4.82	2.55	4.20
		Porites astreoides	8	0.27	7.25	5.68	9.88	7.00	2.25	2.25
		Porites porites	5	0.17	3.20	1.92	4.00	2.00	1.60	2.07
		Pseudodiploria clivosa	1	0.03	2.00		3.00		1.00	
		Pseudodiploria strigosa	1	0.03	5.00		5.00		2.00	
		Siderastrea radians	17	0.57	1.53	0.62	1.88	0.86	0.18	0.39
		Siderastrea siderea	32	1.07	3.53	2.78	4.41	3.46	1.47	1.48
		Stephanocoenia intersepta	14	0.47	5.86	3.68	8.21	4.95	3.00	2.45
		Xestospongia muta	8	0.27	11.88	10.37	12.63	10.64	9.75	7.25
41	Hardbottom	*Dichocoenia stokesii*	1	0.03	8.00		11.00		2.00	
		Montastraea cavernosa	4	0.13	5.00	2.45	6.00	3.37	2.75	1.89
		Porites porites	1	0.03	1.00		2.00		1.00	
		Siderastrea radians	6	0.20	1.17	0.41	1.50	0.84	0.67	0.52
		Siderastrea siderea	17	0.57	3.71	2.93	4.88	3.92	1.82	1.47
		Solenastrea bournoni	1	0.03	13.00		15.00		8.00	
		Stephanocoenia intersepta	11	0.37	5.45	4.13	7.45	5.56	2.45	1.81
		Xestospongia muta	10	0.33	19.50	11.48	20.40	11.17	19.00	11.38

Appendix 4

RECON TRANSECT QUADRAT RUGOSITY AND SEDIMENT DEPTH

Transect Number	Average of Maximum Relief (cm)	StdDev of Maximum Relief	Average of Maximum Sediment Depth (cm)	StdDev of Maximum Sediment Depth	Average of Sediment % Aerial Cover
1E	13.67	4.55	3.33	2.07	12.00
2E	12.43	9.29	7.43	6.16	48.29
3E	29.29	19.46	4.00	2.45	12.57
4E	12.14	3.93	6.29	4.57	17.86
5E	9.43	4.20	1.00	0.82	2.29
6E	23.57	8.52	5.29	5.91	22.29
7E	31.83	29.69	3.50	0.55	19.17
8E	15.86	12.40	5.43	1.90	55.00
9E	7.71	10.08	7.29	4.35	76.71
10S	0.00	0.00	14.57	8.04	99.57
11S	0.00	0.00	30.00	0.00	100.00
12S	2.00	3.83	24.71	10.27	87.86
13S	14.00	21.30	7.86	11.50	42.86
14N	0.00	0.00	30.00	0.00	100.00
15N	2.14	2.91	18.14	11.89	93.57
16N	4.71	6.24	13.00	7.62	70.29
17N	25.00	15.81	5.14	4.34	32.14
18E	16.57	4.39	1.86	1.57	2.43
19E	16.71	8.79	2.43	0.98	9.86
20E	14.75	4.17	3.00	1.69	7.63
21E	9.29	4.27	3.86	1.57	23.14
22E	17.86	5.67	4.43	1.99	12.71
23E	15.38	8.25	3.50	1.93	21.63
24E	14.86	14.92	5.00	2.31	37.86
25E	19.57	9.47	4.43	1.51	50.00

Transect Number	Average of Maximum Relief (cm)	StdDev of Maximum Relief	Average of Maximum Sediment Depth (cm)	StdDev of Maximum Sediment Depth	Average of Sediment % Aerial Cover
26E	31.75	12.57	4.38	1.77	14.75
27E	19.14	9.10	3.00	1.41	18.57
28E	16.71	11.13	3.86	1.57	16.71
29E	12.14	5.21	5.71	3.99	30.57
30E	20.86	12.52	3.71	1.38	19.00
31E	12.21	3.40	2.14	1.23	6.64
32E	22.86	9.06	1.43	0.98	7.43
33E	16.00	5.80	4.71	2.14	18.29
34E	15.29	9.43	3.14	2.27	9.86
35E	12.00	2.24	4.00	1.29	22.86
36E	26.29	22.04	3.57	1.13	20.00
37E	13.00	8.06	5.71	2.75	22.86
38E	18.57	6.27	3.14	3.18	7.29
39E	16.43	5.53	1.57	2.15	8.14
40E	28.86	9.96	6.71	4.75	12.86
41E	13.14	4.10	3.86	1.35	10.00

Appendix 5

RECON TRANSECT QUADRAT MAJOR FUNCTIONAL GROUPS

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
1E	25		0	0	40	0	0	0	1	56	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1E	20		0	0	2	0	0	0	2	75	1	1	12	1	4	0	0	0	0	0	0	1	0	1	0	0
1E	15		0	0	20	0	0	0	4	61	2	2	10	0	0	0	0	0	0	0	0	0	0	1	0	0
1E	5		0	0	2	0	0	0	4	76	10	1	6	0	0	0	0	0	0	0	0	0	0	1	0	0
1E	0		0	0	3	0	0	0	5	75	1	1	12	0	2	0	0	0	0	0	0	0	0	1	0	0
1E	10		0	0	5	0	0	0	4	62	12	2	12	1	0	0	0	0	0	0	0	0	1	1	0	0
2E	30		0	0	84	0	0	0	0	5	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2E	25		0	0	15	0	0	0	1	56	15	1	10	0	1	0	0	0	0	0	0	0	0	1	0	0
2E	20		0	0	77	0	0	0	5	5	8	1	3	0	0	0	0	0	0	0	0	0	1	0	0	0
2E	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2E	10		0	0	55	0	0	0	5	19	8	0	12	0	0	0	0	0	0	0	0	0	1	0	0	0
2E	5		0	0	2	0	0	0	11	63	5	1	15	1	0	0	0	0	0	0	0	0	1	1	0	0
2E	0		0	0	5	0	0	0	10	51	2	3	25	3	0	0	0	0	0	0	0	0	0	1	0	0
3E	30		0	0	35	0	0	0	5	38	15	1	3	0	0	0	0	0	0	0	2	0	1	0	0	0
3E	25		0	0	8	0	0	0	2	60	10	1	15	2	0	0	0	0	0	0	1	0	1	0	0	0
3E	20		0	0	5	0	0	0	25	47	8	1	8	1	2	0	0	1	0	0	0	0	1	1	0	0
3E	15		0	0	20	0	0	0	4	48	2	8	10	3	2	0	0	0	0	0	1	0	1	1	0	0
3E	10		0	0	5	0	0	0	36	7	10	10	25	0	2	0	0	0	0	0	2	1	1	1	0	0
3E	5		0	0	0	0	0	0	19	22	2	2	15	35	1	0	0	0	0	0	2	0	1	1	0	0
3E	0		0	0	15	0	0	0	10	51	3	1	15	1	1	0	0	0	0	0	1	0	1	1	0	0
4E	30		0	0	0	0	0	0	1	71	1	1	15	5	0	0	0	0	0	0	2	1	1	1	0	1
4E	25		0	0	12	0	0	0	1	74	10	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4E	20		0	0	3	0	0	0	6	65	5	2	15	1	0	0	0	0	0	0	1	0	1	1	0	0
4E	15		0	0	65	0	0	0	6	25	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4E	10		0	0	25	0	0	0	3	56	8	1	3	1	1	0	0	0	0	0	0	0	1	1	0	0
4E	5		0	0	15	0	0	0	4	68	8	0	3	0	0	0	0	0	0	0	0	0	1	1	0	0
4E	0		0	0	5	0	0	0	2	81	2	1	5	1	0	0	0	0	0	0	0	1	1	1	0	0
5E	30		0	0	1	0	0	0	16	62	1	2	10	3	1	0	0	0	0	0	1	1	1	1	0	0
5E	25		0	0	1	0	0	0	2	85	1	1	4	2	0	0	0	0	0	0	1	1	1	1	0	0
5E	20		0	1	3	0	0	0	1	85	1	1	4	1	1	0	0	0	1	0	0	0	1	0	0	0
5E	15		0	0	1	0	0	0	5	72	1	1	10	5	3	0	0	0	0	0	0	1	1	0	0	0
5E	10		0	0	0	0	0	0	6	87	2	1	2	1	0	0	0	0	0	0	0	0	1	0	0	0
5E	5		0	0	10	0	0	0	1	83	2	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0
5E	0		0	0	0	0	0	0	4	65	3	2	12	10	1	0	0	0	1	0	1	0	1	0	0	0
6E	30		0	0	75	0	0	0	9	9	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0
6E	25		0	0	3	0	0	0	47	20	3	5	15	4	0	0	0	0	0	0	0	0	1	0	0	2
6E	20		0	1	30	0	0	0	3	58	1	1	3	1	1	0	0	0	0	0	0	0	1	0	0	0
6E	15		0	0	10	0	0	0	8	67	3	5	4	1	1	0	0	0	0	0	0	0	1	0	0	0
6E	10		0	0	30	0	0	0	28	29	0	1	8	1	1	0	0	0	0	0	1	0	1	0	0	0
6E	5		0	0	0	0	0	0	34	49	1	1	10	2	1	0	0	0	0	0	1	0	1	0	0	0
6E	0		0	0	8	0	0	0	12	59	1	1	15	1	1	0	0	0	0	0	0	1	1	0	0	0
7E	30		0	0	25	0	0	0	2	64	3	1	2	1	0	0	0	0	1	0	0	0	1	0	0	0
7E	25		0	0	25	0	0	0	1	60	1	1	8	0	0	0	0	0	1	0	1	0	2	0	0	0
7E	15		0	0	25	0	0	0	1	55	2	4	8	1	3	0	0	0	0	0	0	0	1	0	0	0
7E	10		0	0	20	0	0	0	3	59	1	5	8	0	2	0	0	0	0	0	0	0	1	1	0	0
7E	5		0	0	10	0	0	0	4	39	2	10	25	1	2	1	0	0	0	0	2	2	2	0	0	0

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
7E	0		0	1	10	0	0	0	9	42	0	15	12	0	5	0	0	1	1	0	2	0	1	1	0	0
8E	30		0	0	80	0	0	0	0	13	0	2	2	0	1	0	0	0	0	0	0	0	1	1	0	0
8E	25		0	0	5	0	0	0	1	64	0	2	25	1	1	0	0	0	0	0	0	0	1	0	0	0
8E	20		0	0	35	0	0	0	0	48	0	5	10	1	0	0	0	0	0	0	0	0	1	0	0	0
8E	15		0	0	90	0	0	0	1	4	0	2	2	0	0	0	0	0	0	0	1	0	0	0	0	0
8E	10		0	0	95	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8E	5		0	0	50	0	0	0	0	42	2	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0
8E	0		0	0	30	0	0	0	56	0	5	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0
9E	30		0	0	0	0	0	0	1	32	0	5	55	2	2	0	0	0	0	0	1	0	2	0	0	0
9E	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9E	20		0	0	98	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
9E	15		0	0	90	0	0	0	0	6	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0
9E	10		0	0	95	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
9E	5		0	0	75	0	0	0	0	8	0	0	15	1	0	0	0	0	1	0	0	0	0	0	0	0
9E	0		0	0	79	0	0	0	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	30	50	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	10		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	5		0	0	97	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	0	33	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	30	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	10		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	5		0	0	97	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10S	0	40	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	30		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	10		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	5		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11S	0	30	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	30		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	10		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	5		0	0	95	0	0	0	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12S	0		0	0	20	0	0	0	1	66	0	1	10	0	0	0	0	0	0	0	1	0	0	1	0	0
13S	30	50	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13S	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13S	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
13S	15		0	1	0	0	0	0	28	57	1	1	10	0	0	0	0	0	0	0	2	0	0	0	0	0
13S	10		0	0	0	0	0	0	27	52	1	5	12	0	2	0	0	0	0	0	0	0	1	0	0	0
13S	5		0	0	0	0	0	0	33	49	2	1	10	1	1	0	0	0	0	0	1	0	1	1	0	0
13S	0	25	0	0	0	0	0	0	20	60	5	2	8	2	1	0	0	0	0	0	1	0	1	0	0	0
14N	30	50	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14N	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14N	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14N	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14N	10		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14N	5		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14N	0	39	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15N	30	53	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15N	25		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15N	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15N	15		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15N	10		0	0	85	0	0	0	0	6	5	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0
15N	5		0	0	85	0	0	0	2	11	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
15N	0	45	0	0	85	0	0	0	1	12	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
16N	30	52	0	0	79	0	0	1	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16N	25		0	0	20	0	0	0	4	34	5	0	35	0	0	1	0	0	0	0	0	0	0	1	0	0
16N	20		0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16N	15		0	0	75	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16N	10		0	0	48	0	0	0	0	15	30	2	4	0	0	0	0	0	0	0	1	0	0	0	0	0
16N	5		0	0	85	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16N	0	49	0	0	85	0	0	0	0	12	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17N	30	51	0	1	10	0	0	0	3	50	25	3	5	1	0	0	0	0	0	0	0	0	1	1	0	0
17N	25		0	0	90	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17N	20		0	0	55	0	0	0	3	28	5	2	5	0	1	0	0	0	0	0	0	0	0	1	0	0
17N	15		0	0	5	0	0	0	51	27	1	2	12	0	2	0	0	0	0	0	0	0	0	0	0	0
17N	10		0	0	35	0	0	0	26	17	2	1	15	2	1	0	0	0	0	0	0	0	0	1	0	0
17N	5		0	0	25	0	0	0	16	38	3	0	15	1	1	0	0	0	0	0	0	0	0	1	0	0
17N	0	48	0	0	5	0	0	0	33	34	3	2	20	0	2	0	0	0	0	0	0	0	0	1	0	0
18E	30		0	0	0	0	0	0	21	61	1	1	5	2	1	0	0	0	0	0	0	0	0	0	0	8
18E	25		0	0	2	0	0	0	13	78	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	3
18E	20		0	0	5	0	0	0	21	66	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0
18E	15		0	0	3	0	0	0	15	65	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	10
18E	10		0	0	5	0	0	0	19	63	0	3	2	3	0	0	0	0	0	0	0	0	0	0	0	5
18E	5		0	0	2	0	0	0	23	64	0	2	4	2	1	0	0	0	0	0	0	0	0	0	0	2
18E	0		0	0	0	0	0	0	26	44	2	2	3	1	1	0	0	0	1	0	0	0	0	0	0	20
19E	30		0	0	10	0	0	0	23	42	10	10	2	1	1	0	0	0	0	0	0	0	0	0	0	1
19E	25		0	0	30	0	0	0	11	38	5	3	2	0	10	0	0	0	0	0	0	0	0	1	0	0
19E	20		0	0	8	0	0	0	20	60	2	1	5	1	1	0	0	0	0	0	0	0	0	0	0	2
19E	15		0	0	5	0	0	0	35	42	6	8	3	1	0	0	0	0	0	0	0	0	0	0	0	0
19E	10		0	0	5	0	0	0	24	63	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	1
19E	5		0	0	3	0	0	0	12	72	5	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0
19E	0		0	0	8	0	0	0	27	56	1	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
20E	30		0	0	12	0	0	0	18	51	5	1	8	2	0	0	0	0	2	0	1	0	0	0	0	0
20E	25		0	0	15	0	0	0	6	56	15	1	5	1	1	0	0	0	0	0	0	0	0	0	0	0
20E	20		0	0	2	0	0	0	7	60	25	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0
20E	15		0	0	5	0	0	0	4	55	30	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0
20E	10		0	0	2	0	0	0	5	75	10	2	5	1	0	0	0	0	0	0	0	0	0	0	0	0
20E	5		0	0	0	0	0	0	18	62	5	2	10	2	1	0	0	0	0	0	0	0	0	0	0	0
20E	0		0	0	15	0	0	0	8	50	20	1	3	1	1	0	0	0	0	0	0	0	0	1	0	0
20E	20		0	0	10	0	0	0	1	77	1	6	2	0	1	0	0	0	0	0	0	0	1	1	0	0
21E	30		0	0	15	0	0	0	10	67	2	1	2	1	0	0	0	0	0	0	0	0	1	1	0	0
21E	25		0	0	12	0	0	0	13	67	1	1	3	1	1	0	0	0	0	0	0	0	0	1	0	0
21E	20		0	0	5	0	0	0	7	70	10	1	3	1	0	0	0	0	0	0	1	0	1	1	0	0
21E	15		0	0	35	0	0	0	4	45	10	2	2	0	1	0	0	0	1	0	0	0	0	0	0	0
21E	10		0	0	5	0	0	0	3	74	10	1	5	1	0	0	0	0	1	0	0	0	0	0	0	0
21E	5		0	0	70	0	0	0	3	16	8	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0
21E	0		0	0	20	0	0	0	2	60	5	1	10	1	0	0	0	0	0	0	0	0	1	0	0	0
22E	30		0	0	5	0	0	0	1	80	2	1	8	1	1	0	0	0	0	0	0	0	1	0	0	0
22E	25		0	0	10	0	0	0	3	75	2	1	5	1	0	0	0	0	0	0	0	1	2	0	0	0
22E	20		0	0	20	0	0	0	5	55	2	0	15	1	1	0	0	0	0	0	0	0	1	0	0	0
22E	15		0	0	2	0	0	0	2	69	1	3	15	2	0	0	0	0	0	0	0	4	1	1	0	0
22E	10		0	0	15	0	0	0	2	65	1	2	12	0	1	0	0	0	0	0	0	0	1	1	0	0
22E	5		0	0	12	0	0	0	1	78	3	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0
22E	0		0	0	25	0	0	0	3	59	1	0	8	1	1	0	0	0	0	0	1	0	1	0	0	0
23E	30		B	0	80	0	0	0	0	17	2	0	1	0	0	0	0	0	0		0	0	0	0	0	0
23E	30		0	0	10	0	0	0	0	75	0	1	12	0	1	0	0	0	0	0	0	0	0	1	0	0
23E	25		0	0	35	0	0	0	3	40	1	5	10	3	2	0	0	0	0	0	0	0	1	0	0	0
23E	20		0	0	5	0	0	0	5	49	0	5	30	2	3	0	0	0	1	0	0	0	0	0	0	0
23E	15		0	0	5	0	0	0	12	53	0	4	20	3	3	0	0	0	0	0	0	0	0	0	0	0
23E	10		0	0	30	0	0	0	4	49	0	8	6	3	0	0	0	0	0	0	0	0	0	0	0	0
23E	5		0	0	3	0	0	0	3	80	0	8	4	1	0	0	0	0	0	0	0	0	1	0	0	0
23E	0		0	0	5	0	0	0	0	73	0	4	15	1	2	0	0	0	0	0	0	0	0	0	0	0
24E	30		0	0	30	0	0	0	3	60	2	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0
24E	25		0	0	50	0	0	0	2	27	5	1	10	1	2	0	0	0	0	0	1	0	0	1	0	0
24E	20		0	0	25	0	0	0	0	54	15	1	3	1	0	0	0	0	0	0	0	0	0	1	0	0
24E	15		0	0	40	0	0	0	1	42	10	3	3	0	1	0	0	0	0	0	0	0	0	0	0	0
24E	10		0	0	60	0	0	0	1	30	3	2	3	0	1	0	0	0	0	0	0	0	0	0	0	0
24E	5		0	0	40	0	0	0	4	43	0	2	10	1	0	0	0	0	0	0	0	0	0	0	0	0
24E	0		0	0	20	0	0	0	8	41	10	5	15	1	0	0	0	0	0	0	0	0	0	0	0	0
25E	30		0	0	60	0	0	0	3	33	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0
25E	25		0	0	55	0	0	0	2	37	0	1	4	0	1	0	0	0	0	0	0	0	0	0	0	0
25E	20		0	0	70	0	0	0	0	19	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
25E	15		0	0	30	0	0	0	3	51	0	2	10	1	2	0	0	0	0	0	1	0	0	0	0	0
25E	10		0	0	35	0	0	0	3	42	0	3	15	1	0	0	0	0	0	0	1	0	0	0	0	0
25E	5		0	0	65	0	0	0	4	14	0	1	12	0	1	0	0	0	1	0	2	0	0	0	0	0
25E	0		0	0	35	0	0	0	4	50	0	5	2	1	2	0	0	0	0	0	0	1	0	0	0	0
26E	30	47.9	0	0	10	0	0	0	14	28	2	8	30	3	1	0	0	0	1	0	3	0	0	1	0	0
26E	30		0	0	10	0	0	0	14	27	2	8	30	3	1	0	0	0	1	0	3	0	0	1	0	0

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
26E	25		0	0	15	0	0	0	3	57	6	10	5	1	1	0	0	0	0	0	2	0	0	0	0	0
26E	20		0	0	5	0	0	0	13	34	5	3	30	1	6	0	0	0	0	0	3	0	0	0	0	0
26E	15		0	0	30	0	0	0	3	39	2	2	20	1	2	0	0	0	0	0	1	0	0	0	0	0
26E	10		0	0	3	0	0	0	3	77	1	2	10	1	1	0	0	0	0	0	2	0	0	0	0	0
26E	5		0	0	20	0	0	0	9	42	3	12	10	0	2	0	0	0	0	0	1	0	0	1	0	0
26E	0		0	0	25	0	0	0	2	42	10	15	4	0	1	0	0	0	0	0	1	0	0	0	0	0
27E	30		0	0	10	0	0	0	4	75	2	1	5	0	3	0	0	0	0	0	0	0	0	0	0	0
27E	25		0	0	15	0	0	0	7	69	1	2	5	0	1	0	0	0	0	0	0	0	0	0	0	0
27E	20		0	0	60	0	0	0	2	24	1	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0
27E	15		0	0	10	0	0	0	5	63	5	2	10	0	3	0	0	0	1	0	0	0	0	1	0	0
27E	10		0	0	15	0	0	0	6	45	5	5	18	1	4	0	0	0	0	0	1	0	0	0	0	0
27E	5		0	0	15	0	0	0	3	68	1	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0
27E	0		0	0	5	0	0	0	4	78	2	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0
28E	30		0	0	2	0	0	0	3	56	15	2	15	0	5	0	0	0	0	0	1	0	0	1	0	0
28E	25		0	0	10	0	0	0	7	53	10	1	15	0	2	1	0	0	0	0	1	0	0	0	0	0
28E	20		0	0	20	0	0	0	3	59	3	1	10	0	4	0	0	0	0	0	0	0	0	0	0	0
28E	15		0	0	25	0	0	0	2	54	1	15	1	0	1	0	0	0	1	0	0	0	0	0	0	0
28E	10		0	0	15	0	0	0	0	78	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0
28E	5		0	0	25	0	0	0	3	63	2	5	1	0	0	0	0	0	0	0	1	0	0	0	0	0
28E	0		0	0	20	0	0	0	3	62	3	2	2	0	0	0	0	0	0	0	0	8	0	0	0	0
29E	30		0	0	20	0	0	0	3	69	1	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0
29E	25		0	0	35	0	0	0	3	49	1	5	5	0	1	0	0	0	0	0	0	0	1	0	0	0
29E	20		0	0	5	0	0	0	1	69	0	2	20	0	0	0	0	0	1	0	0	1	0	1	0	0
29E	15		0	0	84	0	0	0	1	10	0	2	2	0	0	0	0	0	1	0	0	0	0	0	0	0
29E	10		0	0	30	0	0	0	2	63	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
29E	5		0	0	20	0	0	0	2	65	1	1	10	0	1	0	0	0	0	0	0	0	0	0	0	0
29E	0		0	0	20	0	0	0	5	58	1	3	10	0	2	0	0	0	0	0	0	0	0	1	0	0
30E	30		0	0	15	0	0	0	7	58	0	2	15	0	1	0	0	0	1	0	0	0	1	0	0	0
30E	25		0	0	15	0	0	0	7	56	0	2	18	0	2	0	0	0	0	0	0	0	0	0	0	0
30E	20		0	0	15	0	0	0	13	51	0	10	10	0	1	0	0	0	0	0	0	0	0	0	0	0
30E	15		0	0	15	0	0	0	5	65	2	2	8	1	2	0	0	0	0	0	0	0	0	0	0	0
30E	10		0	0	25	0	0	0	3	52	5	4	8	0	3	0	0	0	0	0	0	0	0	0	0	0
30E	5		0	0	3	0	0	0	6	69	1	2	15	0	4	0	0	0	0	0	0	0	0	0	0	0
30E	0		0	0	45	0	0	0	4	43	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0
31E	30		0	0	0	0	0	0	21	70	1	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0
31E	25		0	0	5	0	0	0	31	56	0	3	2	2	0	0	0	0	0	0	0	0	0	0	0	1
31E	20		0	0	3	0	0	0	29	49	1	10	3	2	1	0	0	0	1	0	0	0	0	0	0	1
31E	15		0	0	10	0	0	0	16	55	0	12	4	2	1	0	0	0	0	0	0	0	0	0	0	0
31E	10		0	0	3	0	0	0	26	57	1	8	3	1	1	0	0	0	0	0	0	0	0	0	0	0
31E	5		0	0	2	0	0	0	15	69	1	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0
31E	0		0	0	5	0	0	0	27	58	1	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0
31E	0		0	0	5	0	0	0	15	71	1	2	2	3	1	0	0	0	0	0	0	0	0	0	0	0
31E	5		0	0	10	0	0	0	20	54	1	10	2	2	1	0	0	0	0	0	0	0	0	0	0	0
31E	10		0	0	2	0	0	0	26	60	1	5	3	1	1	0	0	0	0	0	0	0	0	1	0	0
31E	20		0	3	3	0	0	0	25	44	2	15	4	2	1	0	0	0	0	0	0	0	0	0	0	1
31E	15		0	1	15	0	0	0	15	49	2	10	6	1	1	0	0	0	0	0	0	0	0	0	0	0

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
31E	25		0	0	10	0	0	0	25	50	2	5	3	3	0	0	0	0	0	0	0	0	0	1	0	1
31E	30		0	5	20	0	0	0	25	38	2	3	5	1	1	0	0	0	0	0	0	0	0	0	0	0
32E	30		0	0	20	0	0	0	25	46	1	3	3	0	2	0	0	0	0	0	0	0	0	0	0	0
32E	25		0	0	15	0	0	0	30	46	1	2	3	1	1	0	0	0	0	0	0	0	0	0	0	1
32E	20		0	0	3	0	0	0	45	42	1	2	5	1	1	0	0	0	0	0	0	0	0	0	0	0
32E	15		0	0	3	0	0	0	29	37	10	5	15	1	0	0	0	0	0	0	0	0	0	0	0	0
32E	10		0	1	0	0	0	0	46	39	0	5	5	3	1	0	0	0	0	0	0	0	0	0	0	0
32E	5		0	0	3	0	0	0	20	65	2	2	5	1	2	0	0	0	0	0	0	0	0	0	0	0
32E	0		0	0	8	0	0	0	10	63	15	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0
33E	30		0	0	15	0	0	0	12	55	10	3	2	1	2	0	0	0	0	0	0	0	0	0	0	0
33E	25		0	0	35	0	0	0	16	34	3	5	5	1	0	0	0	0	0	0	0	0	0	1	0	0
33E	20		0	0	15	0	0	0	10	62	5	1	2	2	2	0	0	0	0	0	0	0	0	1	0	0
33E	15		0	0	35	0	0	0	6	48	5	2	2	1	0	0	0	0	0	0	0	0	0	1	0	0
33E	10		0	0	10	0	0	0	13	63	3	2	4	2	2	0	0	0	0	0	0	0	0	1	0	0
33E	5		0	0	15	0	0	0	10	48	2	1	22	1	0	0	0	0	0	0	0	0	0	1	0	0
33E	0		0	0	3	0	0	0	10	63	4	4	12	3	1	0	0	0	0	0	0	0	0	0	0	0
34E	30		0	0	20	0	0	0	3	67	3	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0
34E	25		0	0	20	0	0	0	4	59	3	2	10	1	1	0	0	0	0	0	0	0	0	0	0	0
34E	20		0	0	20	0	0	0	0	70	1	2	5	1	1	0	0	0	0	0	0	0	0	0	0	0
34E	15		0	0	0	0	0	0	11	71	3	2	10	1	2	0	0	0	0	0	0	0	0	0	0	0
34E	10		0	0	2	0	0	0	6	71	2	2	12	3	0	0	0	0	0	0	0	2	0	0	0	0
34E	5		0	0	5	0	0	0	4	76	5	1	6	0	1	0	0	0	0	0	0	1	0	1	0	0
34E	0		0	0	2	0	0	0	4	77	3	2	10	1	0	0	0	0	0	0	0	0	0	1	0	0
35E	30		0	0	20	0	0	0	7	54	10	1	4	1	1	0	0	0	0	0	1	1	0	0	0	0
35E	25		0	0	30	0	0	0	3	53	1	1	8	1	1	0	0	0	0	0	2	0	0	0	0	0
35E	20		0	0	30	0	0	0	4	53	3	3	2	1	2	0	0	0	0	0	2	0	0	0	0	0
35E	15		0	0	10	0	0	0	3	72	2	2	8	1	2	0	0	0	0	0	0	0	0	0	0	0
35E	10		0	0	15	0	0	0	1	70	1	2	10	1	0	0	0	0	0	0	0	0	0	0	0	0
35E	5		0	0	40	0	0	0	3	46	2	3	3	1	1	0	0	0	0	0	1	0	0	0	0	0
35E	0		0	0	15	0	0	0	0	73	2	2	6	1	1	0	0	0	0	0	0	0	0	0	0	0
36E	30		0	0	10	0	0	0	2	63	1	2	15	1	2	0	0	0	0	0	2	0	1	1	0	0
36E	25		0	0	25	0	0	0	5	48	0	8	10	1	1	0	0	0	0	0	1	0	0	1	0	0
36E	20		0	0	15	0	0	0	2	69	0	10	1	1	1	0	0	0	0	0	1	0	0	0	0	0
36E	15		0	0	15	0	0	0	9	35	1	2	30	1	2	0	0	0	1	0	2	1	0	1	0	0
36E	10		0	0	20	0	0	0	0	63	3	5	6	1	1	0	0	0	0	0	1	0	0	0	0	0
36E	5		0	0	10	0	0	0	4	70	1	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0
36E	0		0	0	45	0	0	0	7	29	1	15	2	1	0	0	0	0	0	0	0	0	0	0	0	0
37E	30		0	0	5	0	0	0	5	52	1	15	15	1	3	0	0	1	1	0	0	0	1	0	0	0
37E	25		0	0	15	0	0	0	4	66	2	2	10	0	0	0	0	0	0	0	1	0	0	0	0	0
37E	20		0	0	35	0	0	0	2	44	2	10	5	0	1	0	0	0	0	0	0	1	0	0	0	0
37E	15		0	0	15	0	0	0	3	61	3	8	8	1	1	0	0	0	0	0	0	0	0	0	0	0
37E	10		0	0	30	0	0	0	3	56	0	6	3	1	1	0	0	0	0	0	0	0	0	0	0	0
37E	5		0	0	30	0	0	0	1	60	2	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0
37E	0		0	0	30	0	0	0	2	53	3	3	6	0	2	0	0	0	1	0	0	0	0	0	0	0
38E	30		0	0	30	0	0	0	14	43	1	8	1	1	2	0	0	0	0	0	0	0	0	0	0	0
38E	25		0	0	0	0	0	0	19	66	2	10	1	1	1	0	0	0	0	0	0	0	0	0	0	0

SITE-TRANSECT_NAME	QUAD_LABEL	DEPTH_ft	TURF_TYPE	BARE_HARDSUBSTRATE	SEDIMENT	RUBBLE	SILT/MUD	SEAGRASS	MACRO-ALGAE	TURF	CYANO	ENC_RED_ALGAE	SPONGE	OCTOCORAL	STONY_CORAL	ANEMONE	BARNACLE	BIVALVE	BRYOZOAN	CORALLIMORPH	HYDROID	MILLEPORA	TUNICATE	WORM-SESSILE	WORMROCK	ZOANTHID
38E	20	0	0	5	0	0	0	21	61	1	5	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0
38E	15	0	0	10	0	0	0	44	31	0	5	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0
38E	10	0	0	0	0	0	0	36	52	1	5	3	1	1	0	0	0	0	0	0	0	0	0	0	0	1
38E	5	0	0	3	0	0	0	13	72	1	5	3	1	1	0	0	0	0	0	0	0	1	0	0	0	0
38E	0	0	0	3	0	0	0	3	84	2	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
39E	30	0	0	15	0	0	0	18	60	1	1	2	1	1	0	0	0	0	0	0	0	1	0	0	0	0
39E	25	0	0	2	0	0	0	18	70	3	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0
39E	20	0	0	0	0	0	0	26	60	3	3	3	2	0	0	0	0	0	0	0	1	0	0	0	0	2
39E	15	0	0	5	0	0	0	26	54	5	5	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0
39E	10	0	0	0	0	0	0	20	66	2	5	3	2	1	0	0	0	0	0	0	0	0	0	1	0	0
39E	5	0	0	0	0	0	0	9	81	3	4	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0
39E	0	0	0	35	0	0	0	9	45	1	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0
40E	30	0	0	20	0	0	0	21	42	0	1	10	4	0	0	0	0	0	0	0	0	0	0	0	0	2
40E	25	0	1	10	0	0	0	21	52	1	5	5	3	1	0	0	0	0	0	0	0	0	0	1	0	0
40E	20	0	0	0	0	0	0	37	47	1	4	2	2	0	0	0	1	0	0	3	3	0	0	0	0	0
40E	15	0	1	15	0	0	0	12	57	1	5	5	1	2	0	0	0	0	0	0	0	0	0	1	0	0
40E	10	0	0	25	0	0	0	13	40	15	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
40E	5	0	1	15	0	0	0	19	43	2	3	5	5	2	0	0	0	0	0	0	1	0	0	0	0	4
40E	0	0	0	5	0	0	0	17	70	1	2	2	2	0	0	0	0	0	0	0	0	0	0	1	0	0
41E	30	0	0	3	0	0	0	3	85	2	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0
41E	25	0	0	10	0	0	0	0	80	5	0	2	1	0	0	0	0	0	0	0	1	0	1	0	0	0
41E	20	0	0	12	0	0	0	9	69	1	1	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0
41E	15	0	0	5	0	0	0	9	70	5	1	8	1	0	0	0	0	0	0	0	0	0	0	1	0	0
41E	10	0	0	15	0	0	0	5	66	4	1	5	1	2	0	0	0	0	0	0	1	0	0	0	0	0
41E	5	0	0	20	0	0	0	7	52	2	1	15	2	0	0	0	0	0	0	0	1	0	0	0	0	0
41E	0	0	0	5	0	0	0	4	71	8	2	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 6

RECON TRANSECT QUADRAT MACROALGAE

Transect Number	Species	Number of Quads	Average of Algae % Cover
1E	Amphiroa	2	1.00
1E	Dictyota	5	2.40
1E	Gelidium	1	1.00
1E	Wrangelia	1	1.00
2E	Amphiroa	1	1.00
2E	Dictyota	3	1.67
2E	Halimeda	3	3.00
2E	Laurencia	1	1.00
2E	Wrangelia	3	4.33
3E	Dictyota	5	3.80
3E	Galaxaura	2	1.50
3E	Halimeda	5	12.40
3E	Udotea	1	1.00
3E	Wrangelia	6	2.00
4E	Dictyota	2	2.00
4E	Galaxaura	1	1.00
4E	Gelidiella	1	2.00
4E	Laurencia	1	2.00
4E	Wrangelia	2	3.50
5E	Dictyota	2	1.00
5E	Halimeda	5	5.20
5E	Udotea	3	1.00
6E	Dictyota	4	1.50
6E	Galaxaura	1	1.00
6E	Halimeda	7	17.86
6E	Udotea	1	1.00
6E	Wrangelia	2	1.00
7E	Dictyota	3	4.33
7E	Wrangelia	1	1.00
8E	Dictyota	1	1.00
13S	Dictyota	4	25.00
13S	Galaxaura	3	2.33
16N	Caulerpa	1	2.00
16N	Dictyota	1	1.00
17N	Dictyota	6	20.83
17N	Gelidiella	1	2.00
18E	Dictyota	7	9.14
18E	Halimeda	7	9.43
18E	Laurencia	3	1.00
18E	Ventricaria	1	1.00
19E	Amphiroa	1	1.00
19E	Codium	3	7.00
19E	Dictyota	6	2.50

Transect Number	Species	Number of Quads	Average of Algae % Cover
19E	Galaxaura	6	5.17
19E	Halimeda	7	10.29
19E	Jania	1	1.00
19E	Laurencia	3	1.00
20E	Amphiroa	3	1.00
20E	Dictyota	6	2.50
20E	Galaxaura	4	3.25
20E	Halimeda	7	3.86
21E	Amphiroa	1	2.00
21E	Dictyota	3	2.00
21E	Galaxaura	5	3.00
21E	Halimeda	5	2.60
21E	Wrangelia	1	1.00
22E	Dictyota	5	2.80
23E	Dictyota	5	4.60
24E	Dictyota	3	1.67
24E	Galaxaura	2	3.00
24E	Gelidium	1	2.00
24E	Ventricaria	1	1.00
24E	Wrangelia	1	1.00
25E	Dictyota	5	1.80
25E	Galaxaura	1	2.00
25E	Lobophora	2	2.00
26E	Dictyota	7	2.43
26E	Galaxaura	1	1.00
26E	Lobophora	5	6.80
26E	Wrangelia	1	1.00
27E	Dictyota	5	2.60
27E	Gelidiella	1	3.00
27E	Wrangelia	6	1.83
28E	Dictyota	5	2.20
28E	Galaxaura	2	1.50
28E	Wrangelia	1	1.00
29E	Dictyota	4	1.75
29E	Gelidiella	1	1.00
29E	Wrangelia	2	1.50
30E	Dictyota	6	4.33
30E	Gelidiella	2	2.00
30E	Wrangelia	5	1.60
31E	Dictyota	14	11.86
31E	Galaxaura	8	1.75
31E	Halimeda	14	9.64
31E	Hypnea	5	1.20

Transect Number	Species	Number of Quads	Average of Algae % Cover
31E	Laurencia	1	1.00
31E	Ventricaria	1	1.00
32E	Amphiroa	2	2.00
32E	Codium	1	2.00
32E	Dictyota	5	12.80
32E	Galaxaura	6	6.67
32E	Halimeda	7	12.71
33E	Amphiroa	2	1.00
33E	Dictyota	7	4.57
33E	Galaxaura	7	2.86
33E	Halimeda	6	2.83
33E	Ventricaria	1	1.00
34E	Dictyota	5	3.20
34E	Halimeda	5	1.60
34E	Wrangelia	1	2.00
35E	Dictyota	4	1.25
35E	Galaxaura	3	2.00
35E	Lobophora	2	2.50
36E	Dictyota	4	4.00
36E	Galaxaura	2	1.00
36E	Lobophora	3	2.00
37E	Dictyota	6	2.00
37E	Wrangelia	1	1.00
38E	Amansia	1	1.00
38E	Amphiroa	1	1.00
38E	Dictyota	7	14.29
38E	Halimeda	5	5.00
38E	Laurencia	5	3.40
39E	Codium	1	1.00
39E	Dictyota	7	9.71
39E	Galaxaura	2	3.00
39E	Halimeda	7	5.14
39E	Laurencia	5	1.60
40E	Amphiroa	2	1.00
40E	Dictyota	7	16.43
40E	Galaxaura	3	2.33
40E	Halimeda	1	10.00
40E	Laurencia	1	1.00
41E	Dictyota	5	2.20
41E	Galaxaura	6	3.00
1E	Laurencia	3	1.33
41E	Ventricaria	1	1.00

Appendix 7

RECON TRANSECT QUADRAT CORALS AND OCTOCORALS

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
1E	Montastraea cavernosa	3.00	0.86	3.00	2.00				
1E	Plexaura	1.00	0.29	20.00					
1E	Porites porites	2.00	0.57	8.00	0.00				
1E	Pseudoplexaura	1.00	0.29	11.00					
1E	Pseudopterogorgia	1.00	0.29	2.00					
1E	Siderastrea siderea	3.00	0.86	4.33	4.04				
2E	Briareum asbestinum	5.00	1.43	10.60	4.77				
2E	Eunicea	1.00	0.29	22.00					
2E	Montastraea cavernosa	1.00	0.29	2.00					
3E	Agaricia agaricites	2.00	0.57	4.50	3.54				
3E	Briareum asbestinum	1.00	0.29	25.00					
3E	Erythropodium caribaeorum	8.00	2.29	23.00	18.83				
3E	Madracis decactis	1.00	0.29	20.00					
3E	Montastraea cavernosa	1.00	0.29	10.00					
3E	Muricea	5.00	1.43	13.60	6.88				
3E	Plexaura	1.00	0.29	20.00					
3E	Porites astreoides	1.00	0.29	1.00					
3E	Pseudopterogorgia	5.00	1.43	34.20	29.52				
3E	Pterogorgia	2.00	0.57	20.50	0.71				
3E	Siderastrea radians	1.00	0.29	3.00					
3E	Siderastrea siderea	1.00	0.29	8.00					
4E	Briareum asbestinum	1.00	0.29	16.00					

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
4E	Erythropodium caribaeorum	6.00	1.71	11.67	10.50				
4E	Muricea	4.00	1.14	14.25	4.92				
4E	Plexaura	1.00	0.29	6.00					
4E	Pterogorgia	2.00	0.57	10.50	0.71				
4E	Siderastrea siderea	1.00	0.29	2.00					
5E	Briareum asbestinum	4.00	1.14	12.50	20.34				
5E	Erythropodium caribaeorum	17.00	4.86	10.00	7.15				
5E	Eunicea	3.00	0.86	37.33	9.07				
5E	Gorgonia	1.00	0.29	5.00					
5E	Montastraea cavernosa	2.00	0.57	4.00	1.41				
5E	Muricea	4.00	1.14	10.75	7.63				
5E	Plexaura	13.00	3.71	9.46	7.26				
5E	Porites astreoides	3.00	0.86	11.67	9.87				
5E	Pseudoplexaura	3.00	0.86	17.67	4.62				
5E	Pseudopterogorgia	6.00	1.71	16.83	13.14				
5E	Pterogorgia	3.00	0.86	9.33	3.21				
5E	Stephanocoenia intersepta	1.00	0.29	3.00					
6E	Briareum asbestinum	3.00	0.86	8.33	4.93				
6E	Erythropodium caribaeorum	3.00	0.86	4.67	2.52				
6E	Eunicea	3.00	0.86	24.33	15.95				
6E	Montastraea cavernosa	1.00	0.29	5.00					

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
6E	Muricea	7.00	2.00	15.71	5.50				
6E	Plexaura	4.00	1.14	9.00	5.48				
6E	Pterogorgia	6.00	1.71	16.67	12.45				
6E	Siderastrea radians	4.00	1.14	1.00	0.00				
6E	Siderastrea siderea	4.00	1.14	1.00	0.00				
6E	Stephanocoenia intersepta	2.00	0.57	3.50	0.71				
7E	Agaricia agaricites	2.00	0.57	5.50	2.12				
7E	Eunicea	1.00	0.29	8.00					
7E	Meandrina meandrites	1.00	0.29	1.00					
7E	Montastraea cavernosa	1.00	0.29	16.00					
7E	Muricea	4.00	1.14	5.00	3.27				
7E	Porites astreoides	3.00	0.86	15.33	2.08				
7E	Pseudoplexaura	1.00	0.29	35.00					
7E	Siderastrea siderea	15.00	4.29	2.13	1.68				
7E	Stephanocoenia intersepta	3.00	0.86	2.33	0.58				
8E	Plexaura	10.00	2.86	17.90	9.50				
8E	Porites astreoides	1.00	0.29	10.00					
8E	Pseudopterogorgia	1.00	0.29	15.00					
8E	Siderastrea siderea	2.00	0.57	4.00	4.24				
8E	Stephanocoenia intersepta	1.00	0.29	7.00					
9E	Erythropodium caribaeorum	1.00	0.29	8.00					
9E	Iciligorgia	1.00	0.29	12.00					

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
9E	Muricea	2.00	0.57	20.00	21.21				
9E	Plexaura	4.00	1.14	18.75	4.35				
9E	Pseudoplexaura	1.00	0.29	25.00					
9E	Siderastrea radians	1.00	0.29	1.00					
9E	Siderastrea siderea	1.00	0.29	12.00					
13S	Dichocoenia stokesii	1.00	0.29	6.00					
13S	Erythropodium caribaeorum	2.00	0.57	6.00	1.41				
13S	Eunicea	2.00	0.57	1.50	0.71				
13S	Eusmilia fastigiata	1.00	0.29	10.00					
13S	Gorgonia ventalina	2.00	0.57	5.00	1.41				
13S	Muricea	3.00	0.86	7.00	2.00				
13S	Siderastrea siderea	2.00	0.57	2.00	0.00				
13S	Stephanocoenia intersepta	1.00	0.29	1.00					
15N	Pterogorgia	1.00	0.29	4.00					
17N	Dichocoenia stokesii	1.00	0.29	4.00					
17N	Erythropodium caribaeorum	2.00	0.57	9.00	1.41				
17N	Eunicea	4.00	1.14	11.00	7.57				
17N	Montastraea cavernosa	4.00	1.14	5.50	1.73				
17N	Siderastrea siderea	4.00	1.14	1.50	0.58				
17N	Solenastrea bournoni	1.00	0.29	1.00					
18E	Erythropodium caribaeorum	8.00	2.29	6.63	2.92				
18E	Eunicea	4.00	1.14	20.75	10.72				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
18E	Gorgonia	4.00	1.14	25.75	15.44				
18E	Muricea	6.00	1.71	8.83	4.92				
18E	Plexaura	1.00	0.29	44.00					
18E	Plexaurella	2.00	0.57	23.50	3.54				
18E	Pseudoplexaura	2.00	0.57	7.50	7.78				
18E	Pterogorgia	11.00	3.14	8.09	4.95				
18E	Siderastrea radians	7.00	2.00	2.14	1.07				
18E	Siderastrea siderea	1.00	0.29	4.00					
19E	Briareum asbestinum	1.00	0.29	8.00					
19E	Erythropodium caribaeorum	2.00	0.57	4.00	0.00				
19E	Eunicea	1.00	0.29	3.00					
19E	Gorgonia	2.00	0.57	4.00	1.41				
19E	Montastraea cavernosa	1.00	0.29	38.00					
19E	Muricea	4.00	1.14	7.75	3.77				
19E	Plexaura	3.00	0.86	6.33	4.73				
19E	Pseudopterogorgia	6.00	1.71	12.17	7.94				
19E	Siderastrea radians	11.00	3.14	2.09	1.30				
20E	Briareum asbestinum	2.00	0.57	13.00	8.49				
20E	Erythropodium caribaeorum	4.00	1.14	7.50	2.65				
20E	Eunicea	2.00	0.57	13.50	0.71				
20E	Gorgonia	2.00	0.57	5.00	1.41				
20E	Montastraea cavernosa	1.00	0.29	2.00					
20E	Muricea	3.00	0.86	8.33	2.08				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
20E	Plexaura	2.00	0.57	6.50	2.12				
20E	Porites astreoides	1.00	0.29	5.00					
20E	Pseudopterogorgia	5.00	1.43	19.60	9.42				
20E	Pterogorgia	8.00	2.29	11.38	8.48				
20E	Siderastrea radians	1.00	0.29	2.00					
20E	Siderastrea siderea	1.00	0.29	2.00					
20E	Stephanocoenia intersepta	1.00	0.29	4.00					
21E	Eunicea	2.00	0.57	29.00	2.83				
21E	Muricea	3.00	0.86	7.33	4.04				
21E	Phyllangia americana	1.00	0.29	1.00					
21E	Pseudoplexaura	1.00	0.29	34.00					
21E	Pterogorgia	2.00	0.57	17.00	4.24				
21E	Siderastrea radians	2.00	0.57	2.50	0.71				
22E	Briareum asbestinum	2.00	0.57	8.50	2.12				
22E	Dichocoenia stokesii	1.00	0.29	4.00					
22E	Eunicea	1.00	0.29	14.00					
22E	Gorgonia	2.00	0.57	9.50	0.71				
22E	Muricea	3.00	0.86	7.67	2.89				
22E	Plexaura	1.00	0.29	25.00					
22E	Pseudopterogorgia	2.00	0.57	13.50	2.12				
22E	Pterogorgia	1.00	0.29	2.00					
22E	Siderastrea radians	2.00	0.57	3.00	1.41				
22E	Stephanocoenia intersepta	1.00	0.29	1.00					
23E	Briareum asbestinum	6.00	1.71	12.17	7.76				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
23E	Erythropodium caribaeorum	2.00	0.57	14.50	3.54				
23E	Eunicea	1.00	0.29	38.00					
23E	Gorgonia	2.00	0.57	18.00	11.31				
23E	Montastraea cavernosa	1.00	0.29	8.00					
23E	Muricea	3.00	0.86	6.33	3.51				
23E	Plexaura	4.00	1.14	15.25	11.44				
23E	Porites astreoides	1.00	0.29	16.00					
23E	Pseudopterogorgia	3.00	0.86	14.67	7.64				
23E	Siderastrea radians	2.00	0.57	10.50	2.12				
23E	Siderastrea siderea	2.00	0.57	7.00	7.07				
23E	Stephanocoenia intersepta	5.00	1.43	6.60	4.72				
24E	Porites porites	1.00	0.29	2.00					
24E	Pterogorgia	10.00	2.86	15.70	8.55				
24E	Siderastrea radians	1.00	0.29	2.00					
24E	Siderastrea siderea	3.00	0.86	2.00	1.73				
24E	Stephanocoenia intersepta	1.00	0.29	6.00					
25E	Montastraea cavernosa	1.00	0.29	5.00					
25E	Plexaura	1.00	0.29	5.00					
25E	Porites astreoides	2.00	0.57	2.50	0.71				
25E	Pseudopterogorgia	4.00	1.14	28.25	16.09				
25E	Siderastrea radians	3.00	0.86	3.00	1.73				
25E	Siderastrea siderea	3.00	0.86	5.00	2.65				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
26E	Agaricia agaricites	1.00	0.29	6.00					
26E	Erythropodium caribaeorum	4.00	1.14	13.50	4.04				
26E	Gorgonia	3.00	0.86	7.67	5.03				
26E	Madracis decactis	2.00	0.57	11.00	12.73				
26E	Montastraea cavernosa	1.00	0.29	3.00					
26E	Muriceopsis	1.00	0.29	15.00					
26E	Porites astreoides	4.00	1.14	7.25	5.56				
26E	Pseudopterogorgia	6.00	1.71	24.50	13.46				
26E	Siderastrea radians	4.00	1.14	1.25	0.50				
26E	Siderastrea siderea	12.00	3.43	3.33	4.38				
26E	Stephanocoenia intersepta	1.00	0.29	2.00					
27E	Madracis decactis	2.00	0.57	6.00	1.41				
27E	Montastraea cavernosa	1.00	0.29	15.00					
27E	Porites astreoides	2.00	0.57	31.00	32.53				
27E	Pseudopterogorgia	1.00	0.29	35.00					
27E	Siderastrea siderea	1.00	0.29	1.00					
27E	Stephanocoenia intersepta	3.00	0.86	5.67	1.53				
28E	Agaricia lamarcki	3.00	0.86	9.33	3.21				
28E	Madracis decactis	1.00	0.29	3.00					
28E	Montastraea cavernosa	4.00	1.14	5.00	2.00				
28E	Porites astreoides	6.00	1.71	6.17	3.25				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
28E	Siderastrea siderea	6.00	1.71	2.33	1.86				
28E	Stephanocoenia intersepta	4.00	1.14	4.25	3.30				
29E	Agaricia agaricites	1.00	0.29	3.00					
29E	Montastraea cavernosa	1.00	0.29	11.00					
29E	Siderastrea siderea	3.00	0.86	2.00	1.00				
29E	Stephanocoenia intersepta	1.00	0.29	4.00					
30E	Colpophyllia natans	1.00	0.29	17.00					
30E	Ellisella	1.00	0.29	70.00					
30E	Madracis decactis	1.00	0.29	11.00					
30E	Montastraea cavernosa	9.00	2.57	3.44	2.13				
30E	Porites astreoides	1.00	0.29	15.00					
30E	Siderastrea siderea	2.00	0.57	2.00	1.41				
30E	Stephanocoenia intersepta	2.00	0.57	4.00	1.41				
31E	Dichocoenia stokesii	2.00	0.57	2.00	0.00	2.00		1.00	
31E	Erythropodium caribaeorum	5.00	1.43	9.60	0.89				
31E	Eunicea	7.00	2.00	9.86	3.53				
31E	Gorgonia	4.00	1.14	13.00	13.27				
31E	Gorgonia ventalina	4.00	1.14	13.00	12.30				
31E	Plexaura	4.00	1.14	8.00	4.55				
31E	Porites astreoides	1.00	0.29	3.00		2.00		1.00	
31E	Pseudoplexaura	3.00	0.86	24.67	5.86				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
31E	Pseudopterogorgia	8.00	2.29	21.25	15.54				
31E	Siderastrea radians	36.00	10.29	2.08	1.25	1.68	0.67	0.63	0.50
31E	Siderastrea siderea	3.00	0.86	2.33	0.58	2.00	1.41	0.50	0.71
32E	Briareum asbestinum	1.00	0.29	15.00					
32E	Eunicea	2.00	0.57	6.50	3.54				
32E	Montastraea cavernosa	1.00	0.29	3.00					
32E	Porites porites	1.00	0.29	13.00					
32E	Pseudopterogorgia	5.00	1.43	6.80	5.26				
32E	Pterogorgia	2.00	0.57	17.00	21.21				
32E	Siderastrea radians	6.00	1.71	2.50	0.84				
32E	Siderastrea siderea	3.00	0.86	3.00	2.65				
33E	Briareum asbestinum	5.00	1.43	10.20	6.76				
33E	Eunicea	3.00	0.86	16.67	10.60				
33E	Gorgonia	1.00	0.29	8.00					
33E	Madracis decactis	1.00	0.29	4.00					
33E	Montastraea cavernosa	2.00	0.57	3.00	1.41				
33E	Muricea	4.00	1.14	7.75	2.22				
33E	Pseudopterogorgia	8.00	2.29	16.88	12.19				
33E	Pterogorgia	2.00	0.57	4.00	2.83				
33E	Siderastrea radians	3.00	0.86	2.00	1.00				
33E	Siderastrea siderea	2.00	0.57	13.00	4.24				
33E	Stephanocoenia intersepta	2.00	0.57	6.00	2.83				
34E	Briareum asbestinum	2.00	0.57	18.00	16.97				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
34E	Erythropodium caribaeorum	2.00	0.57	4.00	1.41				
34E	Eunicea	1.00	0.29	23.00					
34E	Muricea	4.00	1.14	8.75	5.38				
34E	Plexaura	1.00	0.29	4.00					
34E	Pseudopterogorgia	2.00	0.57	44.00	36.77				
34E	Pterogorgia	1.00	0.29	15.00					
34E	Siderastrea siderea	6.00	1.71	2.83	2.99				
34E	Stephanocoenia intersepta	2.00	0.57	2.50	0.71				
35E	Dichocoenia stokesii	1.00	0.29	7.00					
35E	Madracis decactis	1.00	0.29	1.00					
35E	Meandrina meandrites	1.00	0.29	2.00					
35E	Montastraea cavernosa	1.00	0.29	3.00					
35E	Plexaura	1.00	0.29	2.00					
35E	Porites astreoides	1.00	0.29	1.00					
35E	Pseudopterogorgia	13.00	3.71	17.69	6.63				
35E	Siderastrea radians	2.00	0.57	3.00	1.41				
35E	Siderastrea siderea	3.00	0.86	1.67	0.58				
35E	Stephanocoenia intersepta	1.00	0.29	2.00					
36E	Agaricia agaricites	1.00	0.29	10.00					
36E	Gorgonia	1.00	0.29	6.00					
36E	Madracis pharensis	3.00	0.86	3.67	3.06				
36E	Meandrina meandrites	2.00	0.57	7.00	7.07				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
36E	Montastraea cavernosa	1.00	0.29	18.00					
36E	Plexaura	1.00	0.29	19.00					
36E	Pseudopterogorgia	7.00	2.00	15.86	9.46				
36E	Pterogorgia	4.00	1.14	12.00	7.87				
36E	Siderastrea radians	1.00	0.29	2.00					
36E	Siderastrea siderea	3.00	0.86	1.67	1.15				
37E	Dichocoenia stokesii	1.00	0.29	5.00					
37E	Erythropodium caribaeorum	1.00	0.29	7.00					
37E	Meandrina meandrites	1.00	0.29	12.00					
37E	Montastraea cavernosa	2.00	0.57	4.50	3.54				
37E	Porites astreoides	2.00	0.57	1.50	0.71				
37E	Pseudopterogorgia	3.00	0.86	30.67	7.51				
37E	Scolymia cubensis	1.00	0.29	3.00					
37E	Siderastrea radians	1.00	0.29	4.00					
37E	Siderastrea siderea	2.00	0.57	1.50	0.71				
37E	Stephanocoenia intersepta	1.00	0.29	4.00					
38E	Dichocoenia stokesii	1.00	0.29	2.00					
38E	Erythropodium caribaeorum	1.00	0.29	5.00					
38E	Eunicea	1.00	0.29	20.00					
38E	Gorgonia	7.00	2.00	8.86	6.94				
38E	Muricea	2.00	0.57	7.00	2.83				
38E	Plexaura	1.00	0.29	29.00					

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
38E	Pseudopterogorgia	7.00	2.00	17.00	10.13				
38E	Siderastrea radians	12.00	3.43	3.75	2.14				
39E	Briareum asbestinum	2.00	0.57	16.50	12.02				
39E	Erythropodium caribaeorum	2.00	0.57	6.50	2.12				
39E	Eunicea	4.00	1.14	8.25	7.32				
39E	Muricea	6.00	1.71	8.00	3.58				
39E	Muriceopsis	1.00	0.29	9.00					
39E	Plexaura	2.00	0.57	4.50	0.71				
39E	Porites astreoides	2.00	0.57	4.00	2.83				
39E	Pseudoplexaura	3.00	0.86	11.67	7.57				
39E	Pseudopterogorgia	6.00	1.71	19.67	9.50				
39E	Pterogorgia	4.00	1.14	10.75	5.91				
39E	Siderastrea radians	7.00	2.00	1.57	0.98				
40E	Briareum asbestinum	17.00	4.86	10.41	7.11				
40E	Erythropodium caribaeorum	1.00	0.29	7.00					
40E	Eunicea	2.00	0.57	4.50	4.95				
40E	Gorgonia	3.00	0.86	6.67	3.79				
40E	Madracis decactis	1.00	0.29	8.00					
40E	Montastraea cavernosa	2.00	0.57	2.00	1.41				
40E	Muricea	3.00	0.86	8.00	2.65				
40E	Pseudopterogorgia	2.00	0.57	16.00	19.80				
40E	Pterogorgia	2.00	0.57	13.50	2.12				
40E	Siderastrea radians	3.00	0.86	3.00	1.73				
40E	Siderastrea siderea	3.00	0.86	1.67	0.58				

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	StdDev of Width	Average of Height (cm)	StdDev of Height
40E	Stephanocoenia intersepta	3.00	0.86	6.67	2.08				
41E	Briareum asbestinum	3.00	0.86	8.33	2.89				
41E	Eunicea	6.00	1.71	15.33	9.44				
41E	Gorgonia	2.00	0.57	6.00	4.24				
41E	Meandrina meandrites	2.00	0.57	3.50	2.12				
41E	Muricea	4.00	1.14	5.50	2.38				
41E	Muriceopsis	2.00	0.57	18.00	1.41				
41E	Plexaura	1.00	0.29	52.00					
41E	Pseudopterogorgia	8.00	2.29	24.25	14.52				
41E	Siderastrea siderea	2.00	0.57	6.00	4.24				

Appendix 8

RECON TRANSECT QUADRAT SPONGES

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
1E	Unidentified ball	9	2.57	13.33	6.61		
1E	Unidentified encrusting	12	3.43	11.25	4.33		
1E	Unidentified erect	22	6.29	16.59	10.28		
1E	Unidentified massive	4	1.14	23.75	18.87		
1E	Unidentified vase	11	3.14	18.18	7.83		
2E	Unidentified encrusting	2	0.57	17.50	10.61		
2E	Unidentified erect	41	11.71	26.10	14.38		
2E	Unidentified massive	24	6.86	13.54	9.26		
2E	Unidentified vase	7	2.00	27.86	16.55		
2E	Xestospongia muta	2	0.57	20.50	4.95	20.50	27.00
3E	Unidentified ball	1	0.29	25.00			
3E	Unidentified encrusting	17	4.86	16.76	11.03		
3E	Unidentified erect	43	12.29	24.53	13.18		
3E	Unidentified massive	17	4.86	18.24	13.57		
3E	Unidentified vase	12	3.43	18.33	12.31		
3E	Xestospongia muta	1	0.29	30.00		20.00	15.00
4E	Unidentified ball	3	0.86	10.00	0.00		
4E	Unidentified encrusting	4	1.14	10.00	0.00		
4E	Unidentified erect	13	3.71	19.62	14.93		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
4E	Unidentified massive	22	6.29	12.73	5.92		
4E	Unidentified vase	2	0.57	17.50	10.61		
5E	Unidentified ball	1	0.29	10.00			
5E	Unidentified encrusting	13	3.71	12.31	5.63		
5E	Unidentified erect	36	10.29	21.25	14.66		
5E	Unidentified massive	12	3.43	11.25	4.33		
5E	Unidentified vase	3	0.86	15.00	8.66		
6E	Unidentified ball	1	0.29	25.00			
6E	Unidentified encrusting	5	1.43	10.00	0.00		
6E	Unidentified erect	30	8.57	13.00	6.10		
6E	Unidentified massive	21	6.00	15.95	12.51		
6E	Unidentified vase	11	3.14	20.45	12.34		
6E	Xestospongia muta	2	0.57	17.50	9.19	17.00	15.50
7E	Unidentified ball	2	0.57	10.00	0.00		
7E	Unidentified encrusting	17	4.86	10.88	3.64		
7E	Unidentified erect	22	6.29	22.05	15.09		
7E	Unidentified massive	25	7.14	15.20	9.73		
7E	Unidentified vase	3	0.86	20.00	8.66		
8E	Unidentified ball	2	0.57	10.00	0.00		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
8E	Unidentified encrusting	3	0.86	28.33	20.21		
8E	Unidentified erect	21	6.00	26.43	18.38		
8E	Unidentified massive	4	1.14	10.00	0.00		
8E	Unidentified vase	5	1.43	29.00	20.12		
8E	Xestospongia muta	2	0.57	30.00	0.00	27.50	32.50
9E	Unidentified ball	2	0.57	10.00	0.00		
9E	Unidentified encrusting	2	0.57	10.00	0.00		
9E	Unidentified erect	7	2.00	24.29	13.36		
9E	Unidentified massive	6	1.71	25.83	25.18		
9E	Unidentified vase	6	1.71	25.83	25.18		
9E	Xestospongia muta	1	0.29	55.00		35.00	42.00
10S	Unidentified erect	1	0.29	10.00			
12S	Unidentified encrusting	1	0.29	10.00			
12S	Unidentified erect	6	1.71	17.50	8.22		
12S	Unidentified massive	7	2.00	14.29	7.32		
13S	Unidentified ball	4	1.14	17.50	8.66		
13S	Unidentified encrusting	8	2.29	15.00	14.14		
13S	Unidentified erect	15	4.29	32.00	18.78		
13S	Unidentified massive	9	2.57	13.33	6.61		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
13S	Unidentified vase	6	1.71	15.00	7.75		
15N	Unidentified encrusting	1	0.29	10.00			
15N	Unidentified erect	6	1.71	10.00	0.00		
15N	Unidentified massive	2	0.57	10.00	0.00		
16N	Unidentified encrusting	2	0.57	10.00	0.00		
16N	Unidentified erect	7	2.00	39.29	19.67		
16N	Unidentified massive	9	2.57	10.00	0.00		
16N	Unidentified vase	6	1.71	19.17	16.25		
16N	Xestospongia muta	1	0.29	13.00		12.00	12.00
17N	Unidentified ball	1	0.29	10.00			
17N	Unidentified encrusting	22	6.29	11.36	4.41		
17N	Unidentified erect	53	15.14	25.85	17.97		
17N	Unidentified massive	17	4.86	19.41	10.88		
17N	Unidentified vase	7	2.00	14.29	7.32		
17N	Xestospongia muta	1	0.29	16.00		20.00	12.00
18E	Unidentified encrusting	5	1.43	10.00	0.00		
18E	Unidentified erect	41	11.71	13.41	9.52		
18E	Unidentified massive	11	3.14	10.00	0.00		
19E	Unidentified ball	2	0.57	10.00	0.00		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
19E	Unidentified encrusting	5	1.43	13.00	6.71		
19E	Unidentified erect	6	1.71	15.00	7.75		
19E	Unidentified massive	9	2.57	13.33	6.61		
19E	Unidentified vase	4	1.14	13.75	7.50		
20E	Unidentified ball	2	0.57	10.00	0.00		
20E	Unidentified encrusting	9	2.57	16.11	13.64		
20E	Unidentified erect	16	4.57	22.81	17.22		
20E	Unidentified massive	20	5.71	12.25	5.50		
20E	Unidentified vase	2	0.57	10.00	0.00		
21E	Unidentified ball	4	1.14	10.00	0.00		
21E	Unidentified encrusting	7	2.00	10.00	0.00		
21E	Unidentified erect	8	2.29	21.25	6.94		
21E	Unidentified massive	28	8.00	10.00	0.00		
21E	Unidentified vase	6	1.71	17.50	8.22		
21E	Xestospongia muta	1	0.29	21.00			
22E	Unidentified ball	1	0.29	25.00			
22E	Unidentified encrusting	18	5.14	14.17	6.91		
22E	Unidentified erect	50	14.29	16.60	13.38		
22E	Unidentified massive	22	6.29	15.23	10.06		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
22E	Unidentified vase	8	2.29	15.63	7.76		
23E	Unidentified ball	7	2.00	12.14	5.67		
23E	Unidentified encrusting	22	6.29	14.55	9.87		
23E	Unidentified erect	29	8.29	30.17	14.61		
23E	Unidentified massive	16	4.57	16.25	11.18		
23E	Unidentified vase	5	1.43	13.00	6.71		
23E	Xestospongia muta	1	0.29	54.00		43.00	30.00
24E	Unidentified encrusting	13	3.71	15.38	11.81		
24E	Unidentified erect	7	2.00	18.57	8.02		
24E	Unidentified massive	12	3.43	13.75	6.78		
24E	Unidentified vase	4	1.14	10.00	0.00		
25E	Unidentified encrusting	5	1.43	19.00	8.22		
25E	Unidentified erect	6	1.71	25.83	19.60		
25E	Unidentified massive	18	5.14	13.06	9.87		
25E	Unidentified vase	1	0.29	10.00			
26E	Unidentified ball	1	0.29	10.00			
26E	Unidentified encrusting	37	10.57	17.97	12.99		
26E	Unidentified erect	30	8.57	18.83	15.41		
26E	Unidentified massive	38	10.86	11.97	5.14		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
26E	Unidentified vase	7	2.00	32.86	29.56		
26E	Xestospongia muta	1	0.29	51.00		43.00	30.00
27E	Unidentified ball	1	0.29	10.00			
27E	Unidentified encrusting	12	3.43	10.00	0.00		
27E	Unidentified erect	34	9.71	24.71	15.71		
27E	Unidentified massive	21	6.00	12.62	9.17		
27E	Unidentified vase	3	0.86	25.00	0.00		
28E	Unidentified ball	1	0.29	25.00			
28E	Unidentified encrusting	8	2.29	10.00	0.00		
28E	Unidentified erect	28	8.00	34.82	16.30		
28E	Unidentified massive	7	2.00	12.14	5.67		
28E	Unidentified vase	15	4.29	15.67	11.32		
28E	Xestospongia muta	1	0.29	7.00			
29E	Unidentified encrusting	5	1.43	10.00	0.00		
29E	Unidentified erect	35	10.00	20.14	12.98		
29E	Unidentified massive	16	4.57	10.94	3.75		
29E	Unidentified vase	7	2.00	12.14	5.67		
30E	Unidentified encrusting	6	1.71	12.50	6.12		
30E	Unidentified erect	26	7.43	28.65	17.29		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
30E	Unidentified massive	26	7.43	13.46	6.45		
30E	Unidentified vase	9	2.57	30.56	11.02		
31E	Unidentified ball	10	2.86	10.00	0.00		
31E	Unidentified encrusting	12	3.43	12.50	5.84		
31E	Unidentified erect	19	5.43	13.16	6.28		
31E	Unidentified massive	14	4.00	11.07	4.01		
31E	Unidentified vase	1	0.29	10.00			
32E	Unidentified encrusting	22	6.29	14.09	6.84		
32E	Unidentified erect	7	2.00	25.71	22.99		
33E	Unidentified ball	1	0.29	10.00			
33E	Unidentified encrusting	10	2.86	14.50	7.25		
33E	Unidentified erect	14	4.00	26.43	18.96		
33E	Unidentified massive	12	3.43	12.50	5.84		
33E	Unidentified vase	4	1.14	33.75	19.74		
33E	Xestospongia muta	2	0.57	32.00	2.83	1.50	26.00
34E	Unidentified ball	3	0.86	20.00	8.66		
34E	Unidentified encrusting	11	3.14	12.73	6.07		
34E	Unidentified erect	40	11.43	19.88	13.42		
34E	Unidentified massive	23	6.57	11.30	4.32		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
34E	Unidentified vase	5	1.43	13.00	6.71		
34E	Xestospongia muta	1	0.29	11.00		10.00	14.00
35E	Unidentified encrusting	24	6.86	11.25	4.23		
35E	Unidentified erect	14	4.00	22.14	13.83		
35E	Unidentified massive	23	6.57	12.61	5.81		
35E	Unidentified vase	1	0.29	10.00			
36E	Unidentified ball	2	0.57	17.50	10.61		
36E	Unidentified encrusting	7	2.00	14.29	7.32		
36E	Unidentified erect	26	7.43	20.19	9.54		
36E	Unidentified massive	9	2.57	13.33	6.61		
36E	Unidentified vase	6	1.71	24.17	14.63		
36E	Xestospongia muta	1	0.29	24.00			
37E	Unidentified ball	2	0.57	10.00	0.00		
37E	Unidentified encrusting	13	3.71	12.31	5.63		
37E	Unidentified erect	38	10.86	22.76	15.67		
37E	Unidentified massive	25	7.14	13.00	6.12		
37E	Unidentified vase	2	0.57	10.00	0.00		
38E	Unidentified ball	8	2.29	10.00	0.00		
38E	Unidentified encrusting	4	1.14	10.00	0.00		
38E	Unidentified erect	11	3.14	11.36	4.52		

Transect number	Species	Number in quadrats	Density (#/m^2)	Average of Length (cm)	StdDev of Length	Average of Width (cm)	Average of Height (cm)
38E	Unidentified massive	6	1.71	21.67	15.71		
39E	Unidentified ball	2	0.57	17.50	10.61		
39E	Unidentified encrusting	10	2.86	11.50	4.74		
39E	Unidentified erect	8	2.29	13.75	6.94		
39E	Unidentified massive	16	4.57	11.88	5.12		
40E	Unidentified ball	1	0.29	25.00			
40E	Unidentified encrusting	22	6.29	13.41	6.43		
40E	Unidentified erect	33	9.43	19.85	13.32		
40E	Unidentified massive	17	4.86	10.88	3.64		
40E	Unidentified vase	1	0.29	10.00			
41E	Unidentified ball	2	0.57	17.50	10.61		
41E	Unidentified encrusting	9	2.57	10.00	0.00		
41E	Unidentified erect	22	6.29	28.64	19.22		
41E	Unidentified massive	13	3.71	14.62	7.21		
41E	Unidentified vase	7	2.00	16.43	8.02		
41E	Xestospongia muta	2	0.57	21.50	17.68	17.50	14.50

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