U.S. Army Corps of Engineers
Charleston District

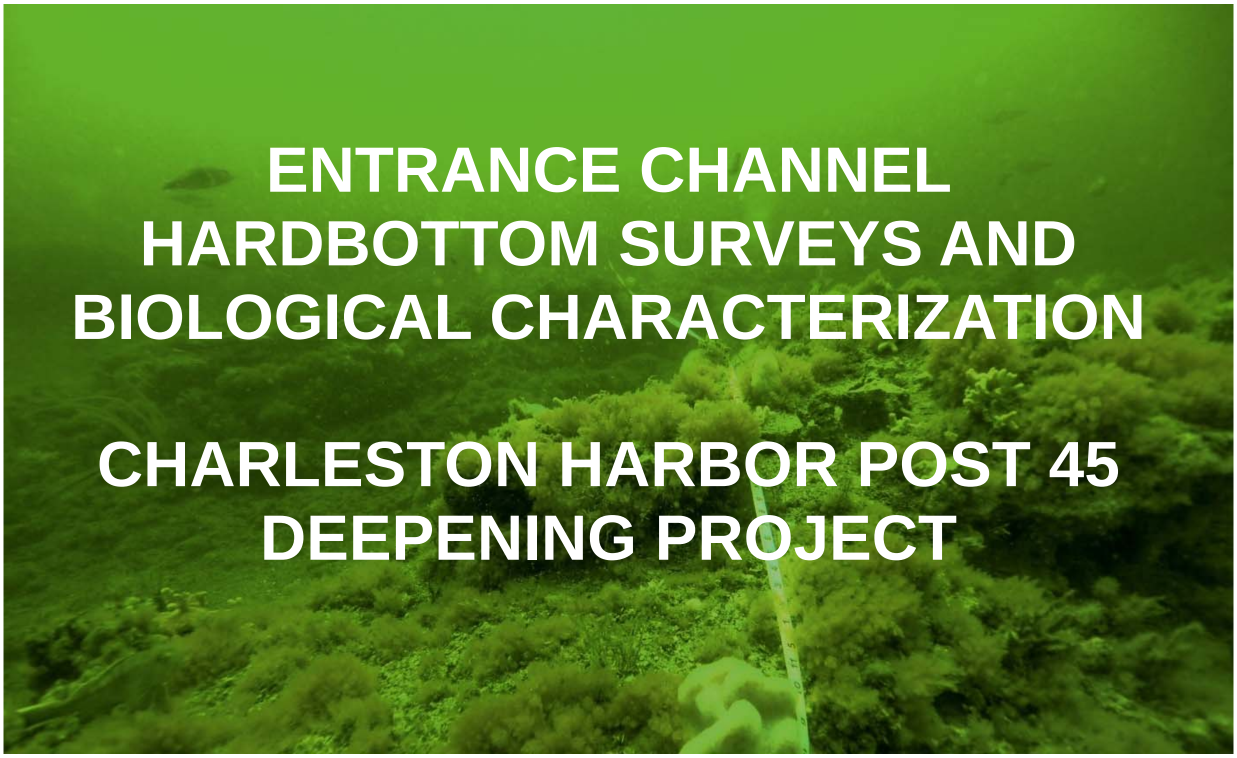
APPENDIX C

CHARLESTON HARBOR POST 45
BENEFICIAL USE OF DREDGED MATERIAL
SUPPLEMENTAL ENVIRIONMENTAL ASSESSMENT
CHARLESTON, SOUTH CAROLINA

Entrance Channel Refinement of Hardbottom Habitat Coverage

30 September 2016

U.S. Army Corps of Engineers
Charleston District



ENTRANCE CHANNEL HARDBOTTOM SURVEYS AND BIOLOGICAL CHARACTERIZATION

CHARLESTON HARBOR POST 45 DEEPENING PROJECT

FINAL REPORT

JULY 2016

PREPARED FOR:
SOUTH CAROLINA STATE PORTS AUTHORITY
AND
U.S. ARMY CORPS OF ENGINEERS
CHARLESTON DISTRICT

PREPARED BY:
DIAL CORDY AND ASSOCIATES INC.

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1.0 INTRODUCTION

Dial Cordy and Associates Inc. (DC&A) was contracted by the South Carolina States Port Authority (SCSPA) to survey, map and characterize benthic biological resources (hardbottom) within anticipated impact areas of the Entrance Channel (Figure 1). As part of the Charleston Harbor (Post 45) Deepening Project Integrated Feasibility Report (IFR)/Environmental Impact Statement (EIS), the United States Army Corps of Engineers (USACE) made the commitment to spatially refine and map potential hardbottom habitats within anticipated impact areas in the Entrance Channel (Figure 1). The EIS indicated that approximately 28.6 acres of hardbottom habitat may be directly impacted by construction in the Entrance Channel. In the EIS, the USACE also made a commitment to further examine the hardbottom habitats within the impact area in order to aid in defining success criteria for related mitigation projects consistent with the adaptive management and monitoring plan for the Post 45 project. Data were also required in order to refine habitat equivalency analyses.

In addition to performing field surveys and studies to fulfill the environmental commitments of the USACE as outlined above, DC&A also performed investigations of candidate mitigation sites near the Entrance Channel. Results of these investigations will be provided under separate cover. However, all field investigation areas are depicted in Figure 1 to show the relative positions of the impact area to candidate mitigation areas.

2.0 METHODS AND RESULTS

2.1 Overview

The progression of above-referenced work for this portion of the pre-construction engineering and design (PED) phase of the federal project (i.e., Post 45) includes: (1) meeting with stakeholders to discuss the technical approach; (2) use of remote sensing equipment to determine the presence or absence of hardbottom resources in impact areas; (3) confirmation of any potential resources via ground-truthing actions (videography, diving, sediment sampling, etc.); and (4) characterization of habitats and species assemblages in the impact area.

2.2 Planning Meeting

DC&A, in conjunction with staff from the USACE Charleston District, held an interagency meeting at the District office on 28 January 2016. The purpose of the meeting was to discuss with the Post 45 Interagency Coordination Team the survey methods for impact site refinement and mitigation reef siting. DC&A, with USACE staff, prepared a PowerPoint presentation describing the survey effort and methodology and sought input from agencies. Participants made no suggestions for modifying the proposed plan (discussed below).

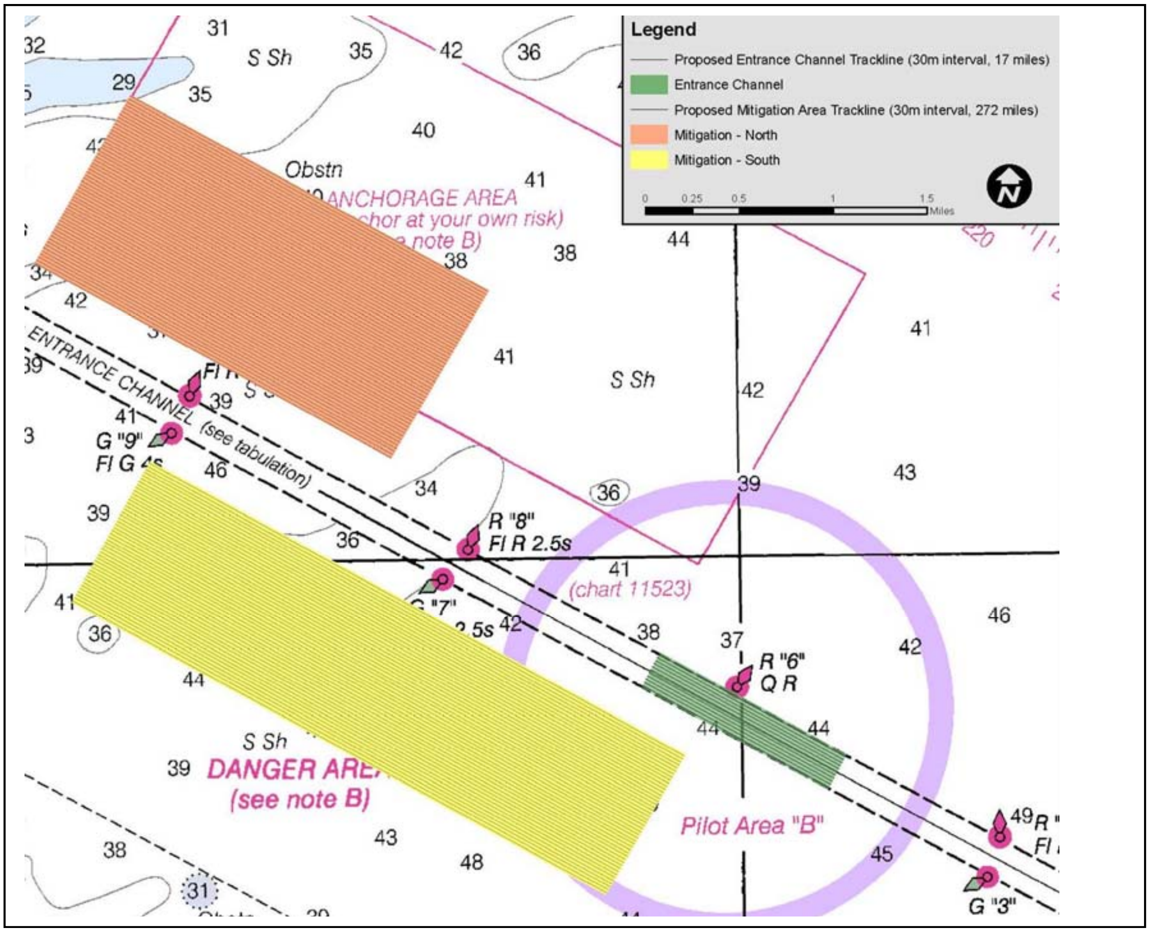


Figure 1. Project Area and Study Zones

2.3 Phase 1: Remote Sensing

Side-scan Sonar. A remote sensing survey was performed of the assumed not-previously-dredged portion of the impact zone, which comprised approximately 155 acres (Figure 2). The survey used a dual-frequency [900-1800 (kilohertz) kHz)] side-scan sonar unit, interfaced with a differential global positioning system (DGPS) with accuracy levels that determine position to within one-meter. HYPACK navigation software was used to locate the survey transects and maintain vessel tracking during data collection. Side-scan sonar data were collected along parallel transects, spaced at appropriate intervals to ensure at least 25 percent (%) overlapping coverage of adjacent survey lines (Figure 2). The sonar towfish was maintained at a height above the bottom that provided for the most accurate data collection (generally 10 to 30 feet). Sonar records were interpreted for presence of any hardbottom resources, and a draft mosaic was prepared using ArcGIS.

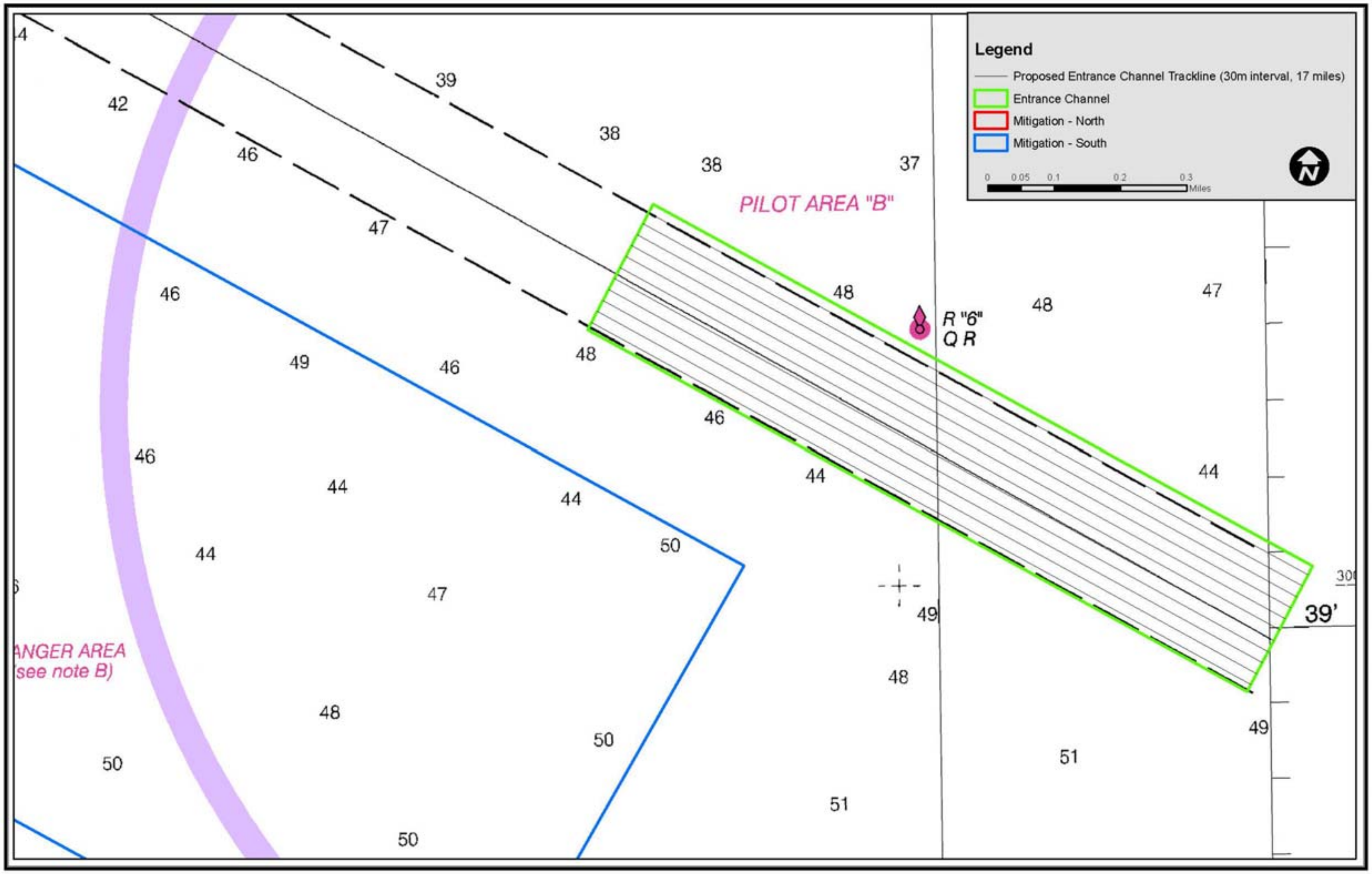


Figure 2. Entrance Channel Impact Area Study Boundaries and Survey Track Lines

Sub-Bottom Profile. The survey team utilized Compressed High Intensity Radar Pulse (CHIRP) dual-frequency sub-bottom profiler and not more than 8-second registration interval to establish the depth and nature of any potential hardbottom located with the side-scan sonar. All acoustic data were backed-up on external hard-drives at the end of each day. Sub-bottom and depth data were used to update the draft hardbottom map.

Bathymetric Data. In 2011, the USACE conducted multi-beam data collection for the entire Charleston Harbor Federal Channel from left to right toe, plus a 200-foot buffer on either side. These data were provided by the USACE to assist with determination of hardbottom substrates and for the calculation of reef rugosity.

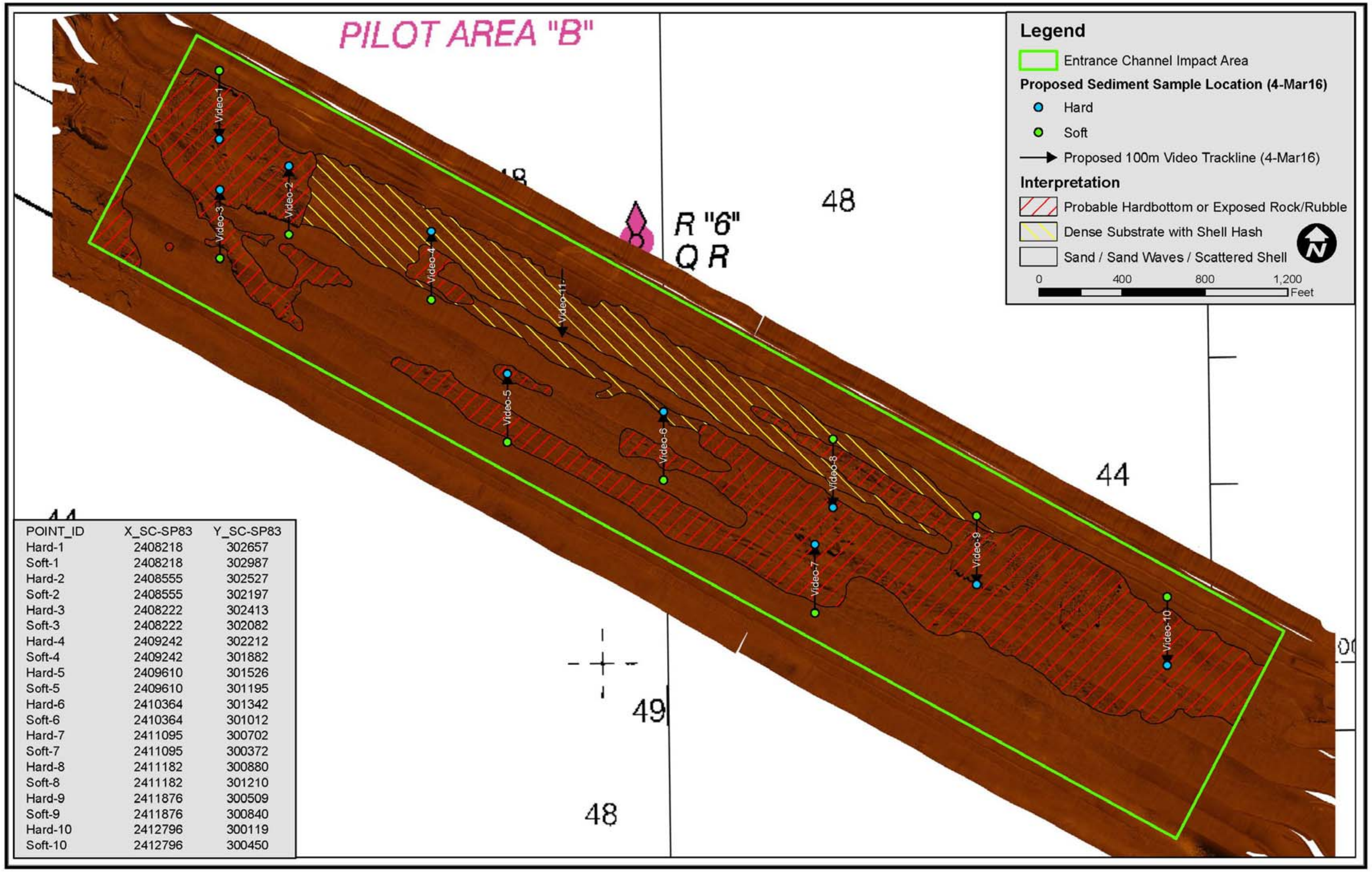
Specifications. Positioning corrections were obtained from coastal navigation beacons, which are known monument locations established and maintained by the NGS (National Geodetic Survey). During surveys, the onboard navigation system locked onto two signals: a GPS satellite signal and a radio signal from a navigational beacon. Satellite signals were differentially corrected via the radio beacon (known location) to yield real-time, sub-meter accuracy. Corrections were acquired at least one time per second. All work positions were recorded relative to *State Plane NAD 1983 (2007) SC-3900 South Carolina International* feet in the horizontal plane and *NAVD 88* feet in the vertical plane.

Habitat Identification. Side-scan sonar records were post-processed and interpreted to identify and map hardbottom habitat. Hardbottom areas were defined as any consolidated substrate areas of any size that demonstrate low, medium, and high relief. Low-relief were defined as areas less than 0.5 meters (m) above the bottom; moderate relief, defined as areas with a preponderance of areas 1 to 2m above the bottom; and high relief, those habitats with a preponderance of areas over 2m above the bottom. A draft hardbottom map and suggested video transects and sediment sampling locations was prepared (Figure 3) for proposed ground-truthing activities (Phase 2). These were submitted to the USACE for their concurrence prior to initiating the survey.

2.4 Phase 2: Ground-truthing of Hardbottom Signatures

Towed Video. To confirm the presence and/or absence of hardbottom within the areas preliminarily identified as hardbottom habitat in Phase 1 (Figure 3), video transects of seafloor habitats using a towed video system were performed. The selection of sites considered factors such as (1) the diversity of bottom type (i.e. differences in backscatter return) and (2) diversity of interpreted relief. The Phase 2 survey plan/transect map (Figure 3) was reviewed with USACE staff, who confirmed that sites should cross through interpreted hardbottom areas to nearby softbottom habitats, so that the areas could be compared and contrasted. Videography with real-time, on-screen, DGPS, position annotation was used at ten potential hardbottom sites to confirm the presence or absence of hardbottom features associated with interpreted side-scan sonar signature returns. Positioning for the towed video survey was performed with an accuracy of within one-meter. The start and end point coordinates of the towed video transects are provided in Table 1.

Sediment Samples. In addition to use of video for ground-truthing, benthic sediments were also examined. Sediment grab samples (n = 2/transect; total n = 20), correlated with the ten



POINT_ID	X_SC-SP83	Y_SC-SP83
Hard-1	2408218	302657
Soft-1	2408218	302987
Hard-2	2408555	302527
Soft-2	2408555	302197
Hard-3	2408222	302413
Soft-3	2408222	302082
Hard-4	2409242	302212
Soft-4	2409242	301882
Hard-5	2409610	301526
Soft-5	2409610	301195
Hard-6	2410364	301342
Soft-6	2410364	301012
Hard-7	2411095	300702
Soft-7	2411095	300372
Hard-8	2411182	300880
Soft-8	2411182	301210
Hard-9	2411876	300509
Soft-9	2411876	300840
Hard-10	2412796	300119
Soft-10	2412796	300450

Note: These maps were used as guides during planning efforts with the USACE.

Figure 3. Draft Hardbottom Habitat Map Showing Proposed Ground-truthing Transects and Sediment Sampling Sites

Table 1. Sediment sampling stations and towed video survey transect coordinates.

Sediment Sample Station Coordinates	X Coordinate	Y Coordinate		
D-1	2408218.55	302699.26		
D-2	2409238.4	302097.9		
D-3	2409626.19	301505.45		
D-4	2411114.93	300679.81		
D-5	2411210.13	300910.43		
D-6	2412835.38	300158.18		
P-7	2412804.15	300389.44		
P-8	2411973.21	300860.3		
P-9	2411194.43	301224.15		
P-10	2411101.95	300381.78		
P-11	2410410.92	301022.86		
P-12	2409564.58	301212.7		
P-13	2409248.77	301874.74		
P-14	2408479.5	301791.93		
P-15	2408223.78	302070.45		
P-16	2408230.59	302975.33		
P-17	2408247.73	302642.08		
P-18	2408657.57	302030.69		
P-19	2410402.14	301313.8		
P-20	2411881.55	300521.14		
Towed Video Transect Coordinates	**Start X coordinate**	**Start Y coordinate**	**End X coordinate**	**End Y coordinate**
1 & 2	2408216.9	303415.9	2408043.7	301920.5
3	2408262.5	301662.8	2408653.3	302006.5
4	2409273.8	302343.8	2409253.6	301905.1
5	2409599.7	301679.2	2409557.7	301160.9
6	2410366.9	300902.1	2410402.1	301440.3
7	2411119.8	300855.4	2411073.2	300410.2
8	2411205.3	301339	2411150.9	300896.9
9	2411915.9	301127.7	2411877.8	300576
10 & 11	2412797.8	300585.4	2412625.5	299885.6
12	2409927.8	301627.1	2409926.6	301629.9

Note: Sediment sampling - D (Diver collected), P (Ponar grab) video transect locations, were obtained to determine if they corresponded with hardbottom or softbottom habitats. Samples were collected using two methods: (1) divers were deployed at each of the six locations to investigate benthic fauna and collect sediment cores if they could be located among hardbottom features, and (2) a ponar grab was used for sampling at 14 other locations. Sediment samples were collected by divers where possible in order to reduce the number of ponar grab deployments due to the problematic natural of collection (e.g. multiple deployments required due to insufficient sample). Coordinates of the sediment sampling locations are listed in Table 1. The sediment samples were described using visual classifications and the Unified Soil Classification System, except where Shell and Shell Hash was observed in samples. Results of sediment sample analyses are shown in Table 2.

Preliminary hardbottom delineation (Figure 3) was initially developed through interpretation of side-scan sonar images (900 kHz) and then further refined with geo-referenced, towed video records interpretation and site-specific diver transect data. This preliminary mapping revealed that much of the Entrance Channel site was characterized by diffuse benthic habitat transitions, due to significant substrate disturbance from previous dredging activities and daily large vessel traffic in the channel (Figure 4).

To achieve greater detail and to develop the final hardbottom delineation (Figure 5), rugosity coefficients (surface-area ratio) were calculated from multibeam data exported to an “xyz” format (across a 1x1 foot grid). The rugosity values proved to be extremely valuable in differentiating the three primary benthic habitats (Probable Hardbottom, Sand with Scattered Hardbottom and Predominantly Sand). In particular, it was useful in helping to identify the transition between Sand with Scattered Hardbottom and areas that are predominantly Sand. However, it is noteworthy that much of the Predominantly Sand habitat type within the central portion of the Entrance Channel (roughly 100m either side of centerline) is populated with an abundance of individual, small (12-18 inch) rocks strewn throughout the Sandy/Shell Hash areas. These are typically small, widely scattered isolated rocks and are likely associated with the various disturbance events within the Entrance Channel. As shown in Figure 5, Probable Hardbottom or Exposed Rock-Rubble comprised 38.11 acres of the study area. Sand/Shell Hash with Scattered Hardbottom and Predominantly Sand and Sand with Shell Hash habitat types comprised 14.88 acres and 101.91 acres, respectively.

Initially, rugosity (surface area ratio) calculations were performed using a 3x3-foot grid of xyz data exported from multibeam data collection performed during February 2016. These 3x3 rugosity coefficients clearly demonstrated the location and geometry of ledges and areas of significant relief, however much of the survey area is characterized by low relief habitat transitions. A 1x1-foot grid was then employed to better define the subtle substrate changes. The rugosity coefficients were calculated by first creating a high resolution substrate surface raster model. From the surface raster model, the coefficients were calculated as a surface area ratio using “DEM Surface Tools” extension in ArcGIS. The output raster generated was then exported as both points (one point for every raster cell value) and polygons (aggregated groups of similar coefficient values). The rugosity values were then used as a reference in developing the final hardbottom delineation with a high level of detail. The resulting data are shown in Figure 6; the vast majority of hardbottom habitats have rugosity coefficients of less than 1.1. In other words, the hardbottom habitats present are fairly low in profile.

Table 2. Visual classification of sediment samples.

Sediment Sample	Date Collected	Time Collected	Method	Fine Sand %	Med Sand %	Coarse Sand %	Shell Hash %	USCS Classification
D-1	3/22/2016	12:03	Diver	15	80	0	5	SW
D-2	3/22/2016	13:27	Diver	0	5	15	80	SP
D-3	3/22/2016	15:05	Diver	0	40	45	15	SW
D-4	3/23/2016	10:46	Diver	0	0	25	75	SP
D-5	3/23/2016	11:50	Diver	0	0	0	100	SP
D-6	3/23/2016	13:07	Diver	15	80	5	0	SW
P-7	3/23/2016	13:26	Ponar	0	50	40	10	SW
P-8	3/23/2016	13:32	Ponar	45	45	10	0	SW
P-9	3/23/2016	13:38	Ponar	0	50	30	20	SW
P-10	3/23/2016	13:42	Ponar	0	0	0	0	N/A
P-11	3/23/2016	13:52	Ponar	0	0	0	0	N/A
P-12	3/23/2016	13:57	Ponar	0	0	0	0	N/A
P-13	3/23/2016	14:01	Ponar	0	0	0	*	N/A
P-14	3/23/2016	14:05	Ponar	0	10	70	20	SP
P-15	3/23/2016	14:08	Ponar	0	0	50	50	SP
P-16	3/23/2016	14:11	Ponar	98	2	0	0	SW
P-17	3/23/2016	14:20	Ponar	0	0	0	0	N/A
P-18	3/23/2016	14:23	Ponar	0	30	70	*	SP
P-19	3/23/2016	14:27	Ponar	0	0	0	0	N/A
P-20	3/23/2016	14:30	Ponar	0	0	0	0	N/A

* = a quantity less than 0.1 L (i.e. a few pieces/grains).

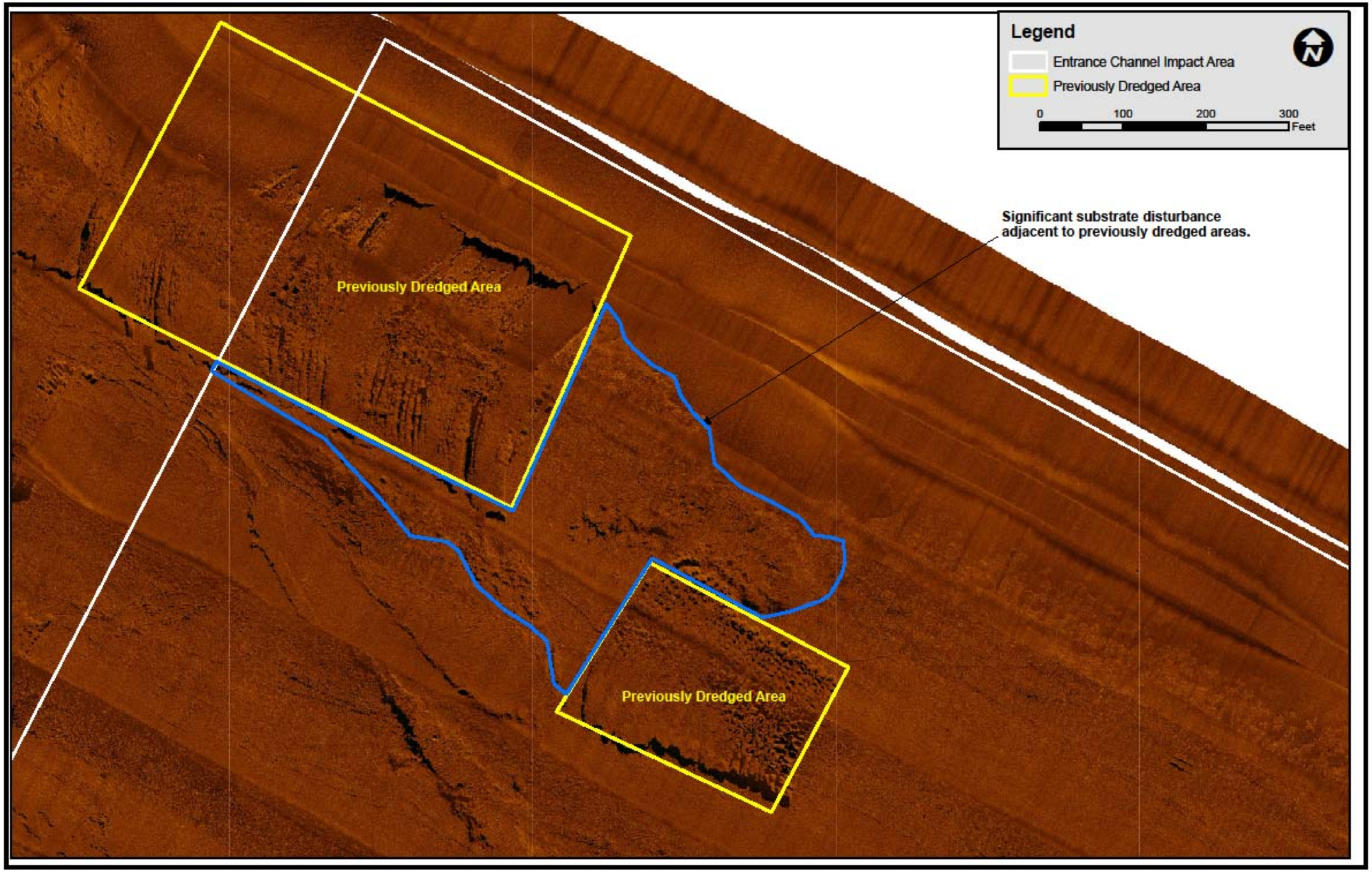


Figure 4. Area of Entrance Channel Site Characterized by Diffuse Benthic Habitat Transitions Due to Significant Substrate Disturbance from Previous Dredging Activities and Daily Large Vessel Traffic

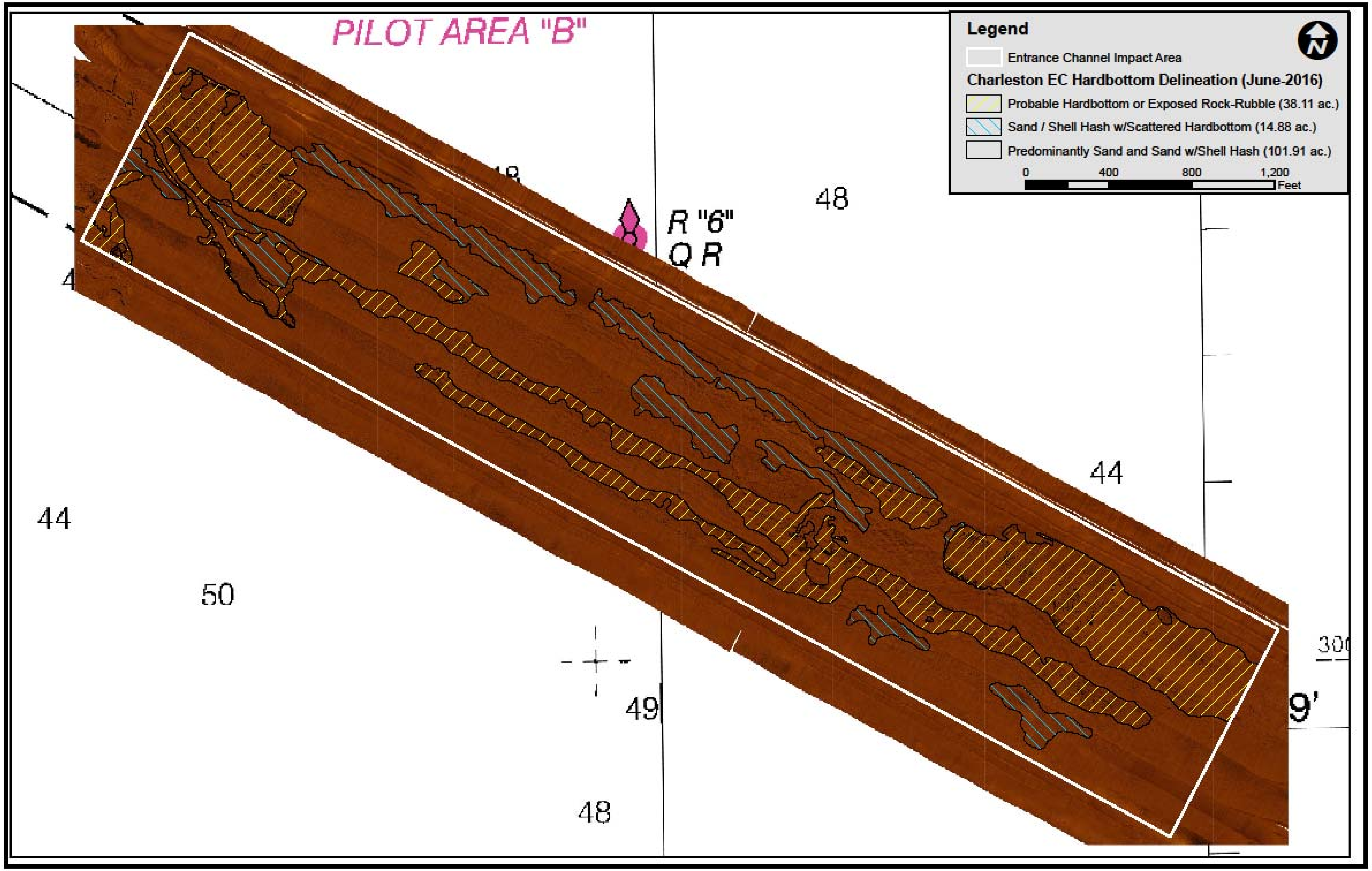


Figure 5. Final Hardbottom Habitat Map for Entrance Channel Impact Study Area

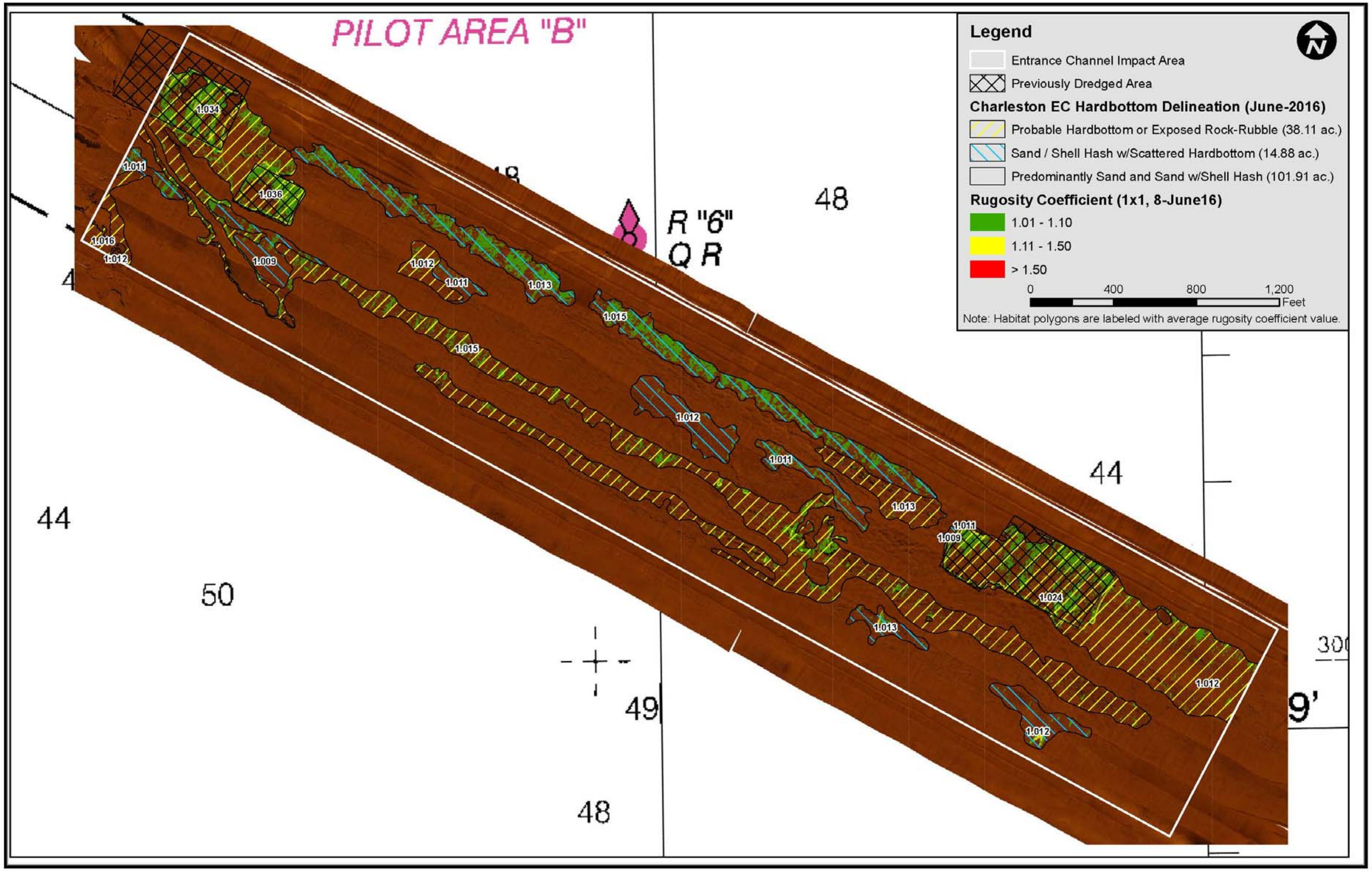


Figure 6. Hardbottom Habitat Rugosity in Entrance Channel Impact Area

All of the hardbottom polygons in Figure 6 contain multiple areas with a rugosity value of 1.000 (i.e. no rugosity). This is an artifact of using the 1x1 multibeam grid which simultaneously provides greater detail for distinguishing hardbottom areas while also allowing for the inclusion of thousands of small (e.g. a few square feet) non-rugose areas. Therefore, all of the polygons have the same "1.000" minimum value (Table 3). When distinguishing between areas of previous impact and areas of new impact, the average rugosity for the previously impacted hardbottom areas (1.031) is almost 2.5 times greater compared to the average rugosity at areas of new impact (1.013). All of the previously impacted hardbottom areas have a maximum rugosity value greater than 2.0 with the average being 2.351. In contrast, only two of the new impact hardbottom areas have a maximum value greater than 2.0 with the average being 1.649 (only 70% of the maximum rugosity found in previously impacted areas).

Table 3. Rugosity coefficients from Entrance Channel impact area between previously impacted and new impact areas.

Impact Type	Benthic Description	Acres	Average Rugosity	Maximum Rugosity	Minimum Rugosity	Standard Deviation
Previously Impacted	Probable HB / Exposed RR	4.975	1.024	2.172	1.000	0.033
Previously Impacted	Probable HB / Exposed RR	2.141	1.034	2.381	1.000	0.058
Previously Impacted	Probable HB / Exposed RR	1.264	1.036	2.501	1.000	0.067
Overall Averages			**1.031**	**2.351**	**1.000**	**0.053**

Impact Type	Benthic Description	Acres	Average Rugosity	Maximum Rugosity	Minimum Rugosity	Standard Deviation
New Impact	Probable HB / Exposed RR	0.799	1.012	1.341	1.000	0.008
New Impact	Probable HB / Exposed RR	0.043	1.012	1.097	1.000	0.017
New Impact	Probable HB / Exposed RR	7.155	1.012	2.180	1.000	0.026
New Impact	Probable HB / Exposed RR	1.662	1.013	1.333	1.000	0.007
New Impact	Probable HB / Exposed RR	19.166	1.015	2.189	1.000	0.028
New Impact	Probable HB / Exposed RR	0.903	1.016	1.753	1.000	0.025
Overall Averages			**1.013**	**1.649**	**1.000**	**0.019**

2.4.1 Comparison of Present Study with 2013 Hardbottom Coverage

The hardbottom mapping results shown above were compared to those found during the Gayes et al. (2013) investigation (Figure 7). Major differences in coverage of hardbottoms were present. Likely reasons could include use of different side-scan technologies and use of relatively higher frequencies during the present study. It should also be noted that Gayes et al. (2013) were not directed to map the interior extents of the Entrance Channel, thus the lack of mapped signatures present.

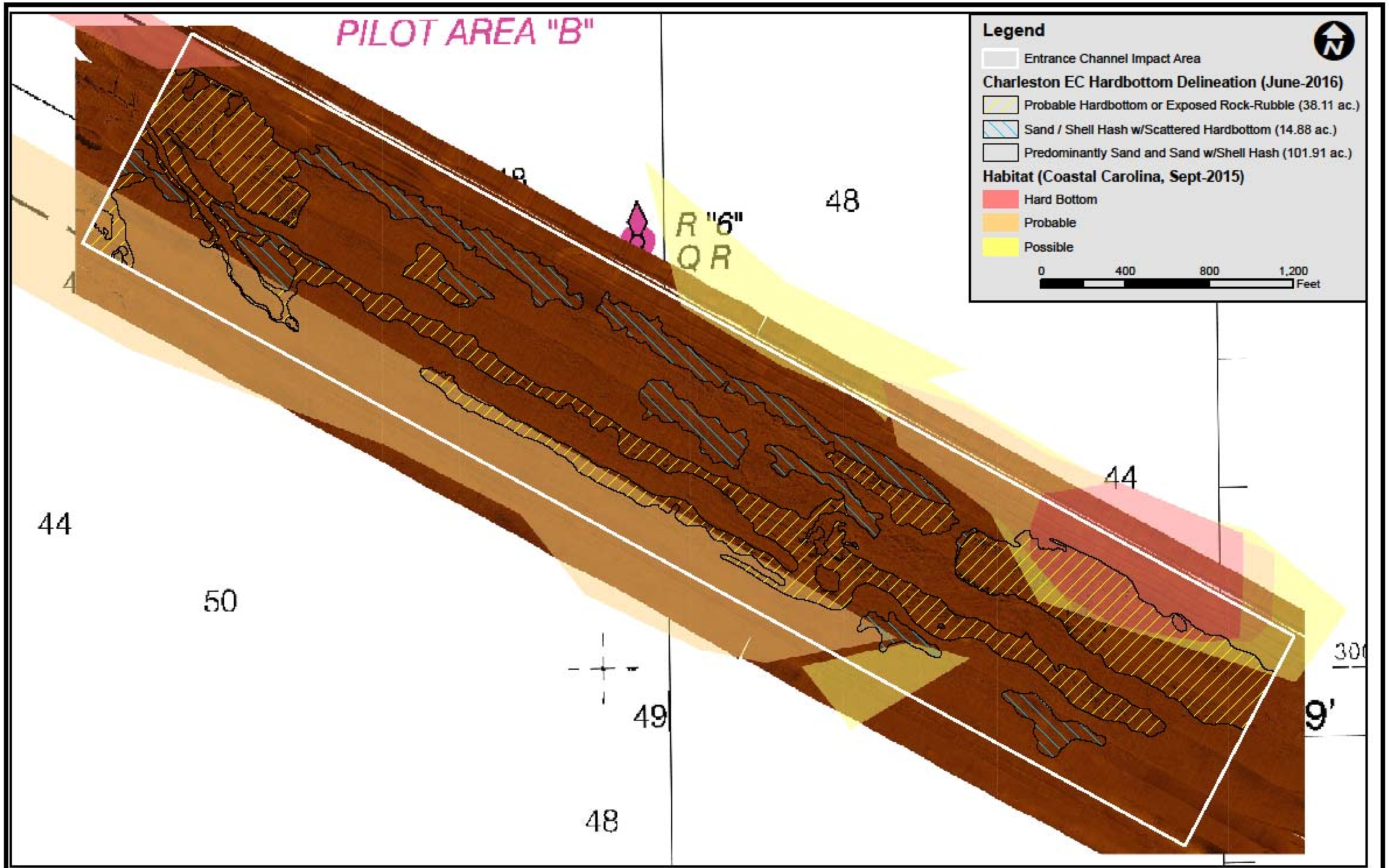


Figure 7. Comparison of Findings of Hardbottom Habitat in Entrance Channel Impact Area: Gayes et al. (2013) Study and the Current Study

2.4.2 Characterization of Previously Impacted and Not Previously Impacted Hardbottom Habitat

Finally, the USACE requested that hardbottom areas in the Entrance Channel study area be categorized, based on remote sensing and diver observations, as previously impacted by dredges, vessels, etc. or not previously impacted. The Final Post 45 IFR/EIS stated that previously dredged areas would be excluded from being considered as an impacted hardbottom area. Figure 8 illustrates that under the Post 45 project, approximately 29.73 acres of the latter category would be impacted during channel expansion. A total of 8.38 acres were calculated to have been previously impacted. Regarding rugosity values in these areas, previously impacted hardbottom areas were calculated to have an average rugosity coefficient of 1.031 with a standard deviation of 0.053. Potential new hardbottom impact areas were calculated to have an average rugosity coefficient of 1.013 with a standard deviation of 0.019 (Figure 8).

2.5 Phase 3: Characterization of Hardbottom Habitats

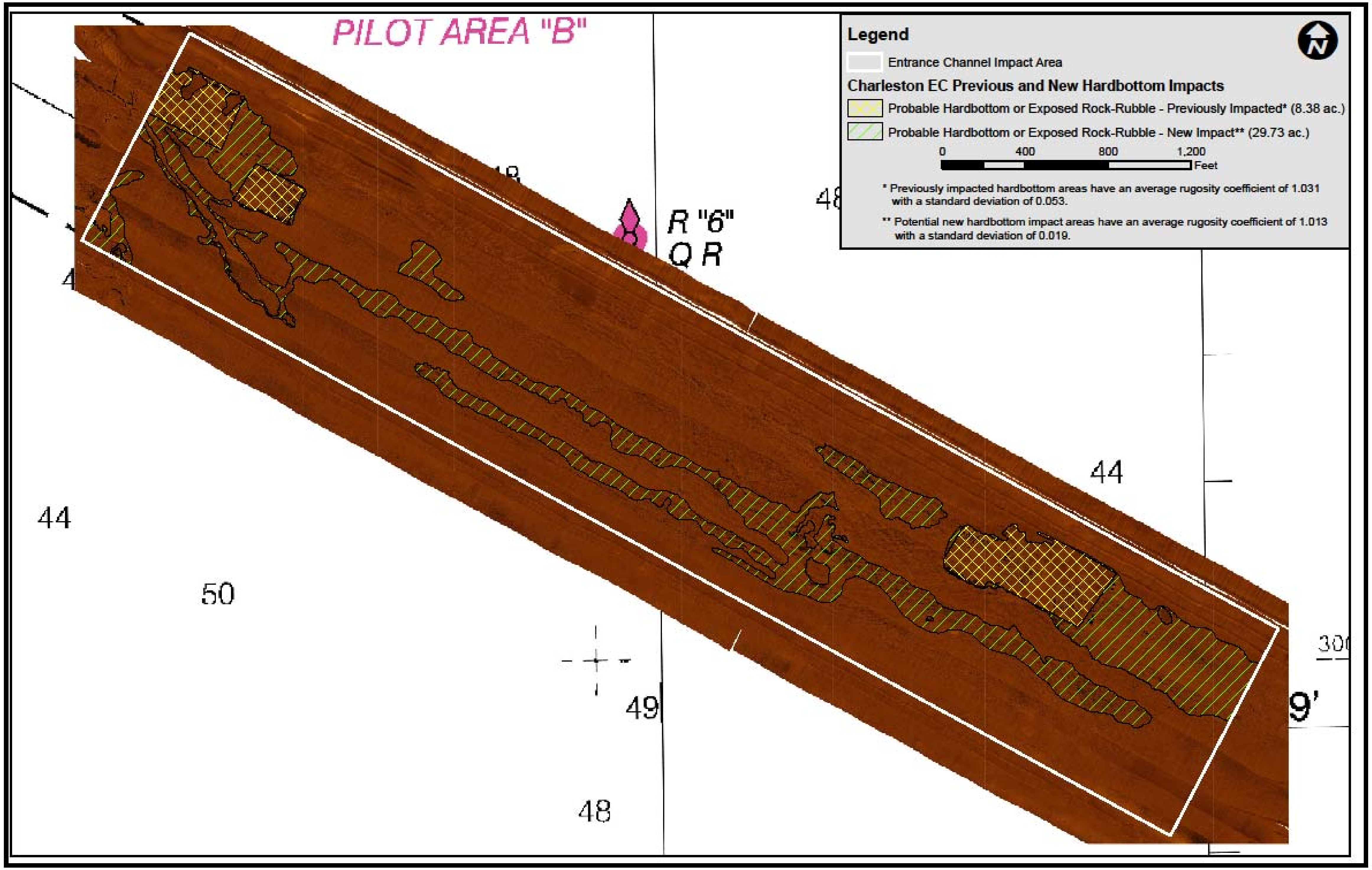
2.5.1 Objectives

This phase involved the detailed characterization of the identified habitat within the Entrance Channel in order to determine the quality of the impacted habitat and to develop success criteria for the future monitoring of constructed artificial reefs consistent with the Post 45 Mitigation, Monitoring and Adaptive Management Plan. In general, a quantitative characterization of the reef communities found within the impacted hardbottom communities was performed. Guided by hardbottom habitat maps (Figures 5-7), six randomly selected sites were positioned so that divers could further characterize hardbottom habitat.

2.5.2 Technical Approach

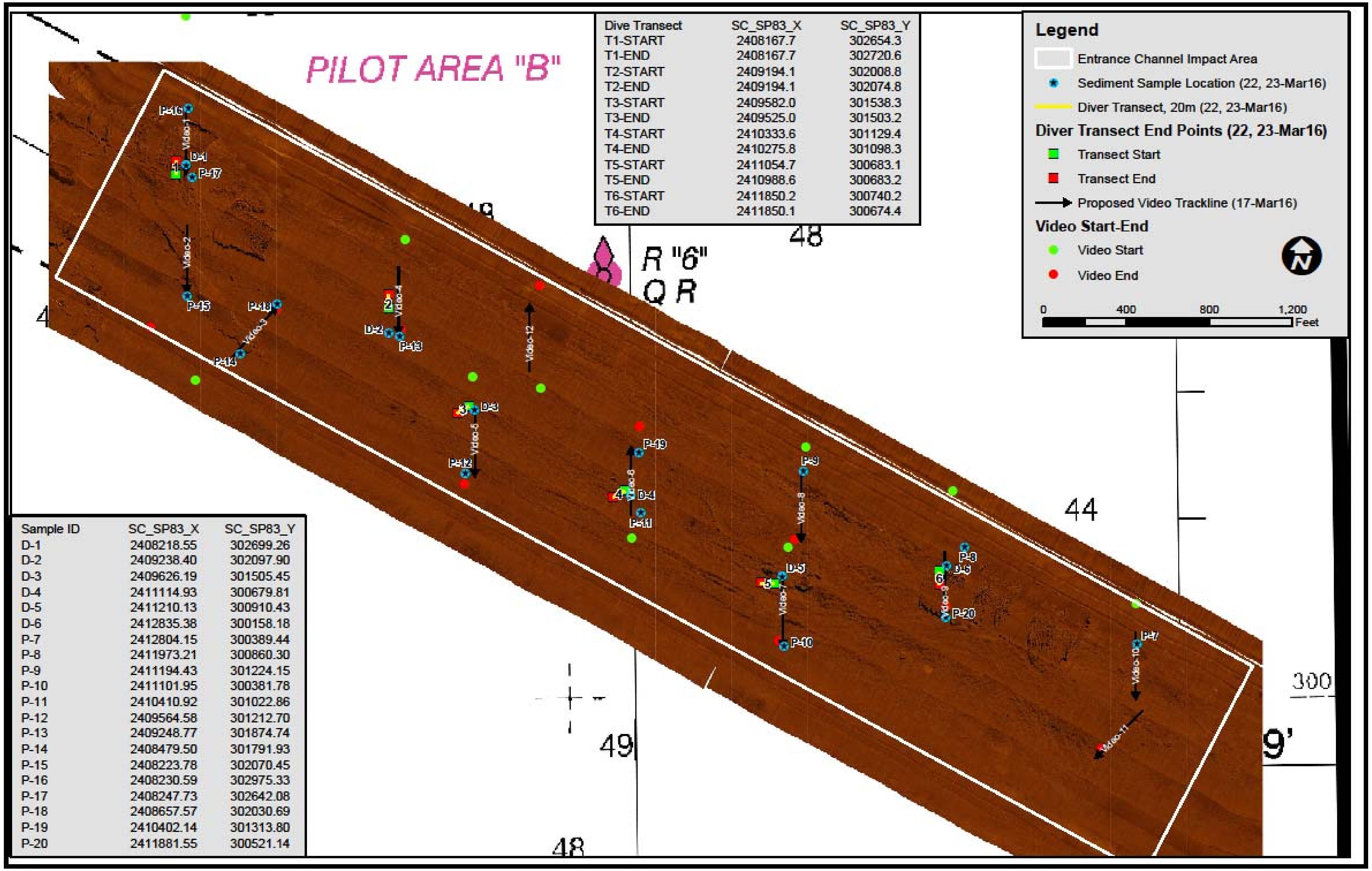
Diver surveys were conducted on 22 and 23 March 2016 along six 20m-long, 1m-wide, belt transects within the project area (Figure 9). Belt transect position was determined based on side-scan survey data and towed video verification of hardbottom areas within the proposed impact area. Belt transects were positioned in areas of hardbottom habitat in order to characterize it using *in situ* diver visual surveys, collect video transect data, and collect observations on fish species, abundance, and utilization.

The positions of the belt transects were documented in the field using HYPACK navigational software. A mesh bag with transect tapes was positioned on a planned transect origin position and its actual position was recorded in HYPACK. Scientific divers entered the water at the buoy, which marked the surface location of the transect origin. Scientific divers extended transect tapes 20m along the hardbottom. Each transect had a different orientation, depending upon the current and axis of hardbottom. Transects were extended



*Note average rugosity coefficients between the different areas.

Figure 8. Hardbottom Habitat Previously Impacted by Dredging and Proposed New Hardbottom Impact Areas



Dive Transect	SC_SP83_X	SC_SP83_Y
T1-START	2408167.7	302654.3
T1-END	2408167.7	302720.6
T2-START	2409194.1	302008.8
T2-END	2409194.1	302074.8
T3-START	2409582.0	301538.3
T3-END	2409525.0	301503.2
T4-START	2410333.6	301129.4
T4-END	2410275.8	301098.3
T5-START	2411054.7	300683.1
T5-END	2410988.6	300683.2
T6-START	2411850.2	300740.2
T6-END	2411850.1	300674.4

Sample ID	SC_SP83_X	SC_SP83_Y
D-1	2408218.55	302699.26
D-2	2409238.40	302097.90
D-3	2409626.19	301505.45
D-4	2411114.93	300679.81
D-5	2411210.13	300910.43
D-6	2412835.38	300158.18
P-7	2412804.15	300389.44
P-8	2411973.21	300860.30
P-9	2411194.43	301224.15
P-10	2411101.95	300381.78
P-11	2410410.92	301022.86
P-12	2409564.58	301212.70
P-13	2409248.77	301874.74
P-14	2408479.50	301791.93
P-15	2408223.78	302070.45
P-16	2408230.59	302975.33
P-17	2408247.73	302642.08
P-18	2408657.57	302030.69
P-19	2410402.14	301313.80
P-20	2411881.55	300521.14

*Sample identification for sediment samples are labeled to denote sample method (D: Diver, P: Ponar).

Figure 9. Locations of All Diver Transects, Towed Video Transects and Sediment Sample Collection Sites

along the longest axis of hardbottom in order to maximize sampling within hardbottom and to avoid areas of sand or shell hash (Table 4 and Figure 9).

Table 4. Position of the six 20m belt transects where *in situ* and video transect data were collected within the proposed impact area.

Transect	Origin	Heading	Distance (m)
1	N 32.65793558 W -79.67372362	North	20
2	N 32.65612504 W -79.67041595	North	20
3	N 32.65481839 W -79.66917536	Southwest	20
4	N 32.65366779 W -79.66675075	Southwest	20
5	N 32.65241568 W -79.66442666	West	20
6	N 32.65254439 W -79.66183988	South	20

Two SCUBA divers dove on the six belt transects. The position of the beginning of each transect was noted using DGPS with sub-meter accuracy, and the compass orientation was also noted. Data were collected in the following manner:

1. The first diver was equipped with a GoPro video camera with a scale bar. The scale bar was perpendicular to the camera lens and visible in the video frame. The diver swam and recorded video with the camera lens facing the bottom, such that birds-eye-view video was recorded for each transect. The scale bar was positioned as close to the bottom as possible, making approximately 40 centimeters (cm) of benthos visible in the recorded video. The diver swam slowly (1 minute/5 meters), as was necessary for high-quality video collection. Video was collected on each side of the transect line (non-overlapping) for a total of 16 square meters. Because larger fishes have a tendency to flee divers on approach prior to being captured by video or photography, the diver separately recorded the anecdotal presence of individuals/species in the vicinity of the belt-transects as the diver was entering the study sites or initiating the work described above. The diver noted species, relative size, and approximate number of individual species. Additionally, the inquisitive nature of some fish species resulted in multiple observations of the same individual within a single transect video. The collection of anecdotal data helped to reduce the chance of pseudoreplication.

2. The second diver collected *in situ* benthic data on waterproof paper and project specific data sheets. Data collected included: (1) the number and size (maximum diameter or height in centimeters) of octocorals and massive sponges to the lowest taxonomic level possible [genera for octocorals (*Leptogorgia* sp. and *Titanideum* sp)]; (2) morphotypes or genera for sponges (*Ircinia* sp); and (3) scleractinian corals (*Oculina arbuscula)*. Colonies were counted if their base or holdfast was anywhere within the belt transect (50cm either side of the transect line). All visible individual colonies were counted and measured to the nearest centimeter. Representative photographs were collected of the transect organisms and the landscape. Data was

collected within 50cm on both sides of the transect, for a total area surveyed of 20 square meters per transect. Surficial sediment depth on hardbottom was measured using a ruler at 0, 10, and 20m marks along the transect. The ruler was depressed into the sand firmly until the diver detected hardbottom. The measurement was taken to the nearest centimeter.

In situ data was tabulated to calculate abundance, density for functional groups (organisms/square meter; i.e. octocorals/square meter), and size-class distribution for sessile organisms. *In situ* data (abundance, density and species/genera distribution, as well as size class distribution) and percent-cover data for these natural areas was used to establish success criteria for mitigation areas.

Video was post-processed and analyzed for coverage of benthic fauna and presence of fishes (species, relative size). Video transect footage was segmented (frame grab) into non-overlapping still images using GOM Player™ software, Coral Point Count with Excel extensions (CPCe) (Kohler and Gill 2006). This method was used to quantify the percent cover of benthic functional group categories (i.e. octocorals, Sand/Shell Hash/Rubble, etc.). For a 20m transect, recorded on both sides, exactly 80 individual non-overlapping still images were generated. Each image was analyzed by using CPCe, overlaying ten randomly generated points (Somerfield et al. 2008). The organism or feature underneath each random point on the image was characterized by functional group. Functional groups were categorized and labeled as follows:

- Bryozoan (BRY)
- Coral (C)
- Fish (FISH)
- Octocoral (OCTO)
- Other organisms (O)
- Sand/shell hash/rubble (SSHR, grain size <5cm)
- Sponge (SPO)
- Turf/bare (TB, located on grain size >5cm)

Sand, Shell Hash, and Rubble (SSHR) were combined into a single category due to the difficulty associated with differentiation of grain size using video techniques (Aronson et al. 1994). Sediment with a grain size that was less than approximately 5cm was placed in this category. The “turf” and “bare” (i.e. bare substrate) categories were also combined as they signified substrate (>5cm grain size) with the potential for colonization by benthic individuals. The “other organisms” category (O) included benthic species such as echinoderms, tunicates, etc.). This category was also divided into mobile (MOB) and sessile (SES) sub-categories.

2.5.3 *In Situ* Benthic Survey Results

2.5.3.1 Diver-Collected Benthic Data

Diver-led benthic surveys were conducted at all six transects. The hardbottom areas in which the monitoring sites were located were characterized by assemblages of octocorals, stony corals, bryozoans, and various species of fish, invertebrates, and sponges (Figure 10). No measurements of rugosity were collected by divers. Depth at all transects ranged from 53 to 55 feet. Water temperatures ranged from 60 to 62 degrees Fahrenheit. Visibility ranged from 10 to 25 feet and generally increased at depth with poorer visibility observed near the surface. Hardbottom habitat throughout all transects ranged from low to medium relief in some areas to no relief in other areas. Sediment composition largely consisted of SSHR (<5cm grain size). Bare areas of hardbottom were not widely observed and were usually colonized by either bryozoans, turf algae, octocorals, stony corals, or invertebrates. Sediment depth was measured at three points on each transect (0, 10, 20m intervals) and ranged from 0 to 3cm in depth. Signs of previous dredging activity were observed at Transect 6 (Figures 11 and 12). As such, summary statistics on the biological metrics for the overall site characterization were calculated twice: 1) all sites and 2) all sites with the exclusion of Transect 6 (see Results Summary). Field data tables are provided in Appendix A.

Octocorals measured and counted at each site consisted of three species: *Leptogorgia virgulata, L. hebes,* and *Titanideum frauenfeldi*. The mean size for *Leptogorgia spp.* across all sites was 20cm. The mean size for *Titanideum sp.* across all sites was 20cm. Distribution of octocorals was patchy along transects, but all transects surveyed did include individuals representing all three species. *T. frauenfeldi* was more abundant overall compared to *Leptogorgia spp.* Octocoral abundance varied between transects with counts ranging from five (Transect 6) to 167 (Transect 2) colonies measured per transect and a mean abundance of 103 colonies per transect. Octocoral density on individual transects ranged from 0.3 to 8.4 colonies per square meter with an average of 5.3 colonies per square meter over all transects. Size ranges were skewed toward the smaller size classes (i.e. 11-15cm and 16-20cm) with the sizes from 2 to 67cm and an average size of 19.69cm with a standard error of 0.47 (Figure 13).

Stony corals measured and counted at each site consisted of one species: *Oculina arbuscula (*Wagner 2006). *O. arbuscula* is a scleractinian coral that is endemic to the temperate waters of the northwestern Atlantic Ocean. *O. arbuscula* is a facultatively symbiotic species and can naturally occur with or without zooxanthellae (Miller 1995), which explains the large number of colonies that look pale or bleached observed across all transects (Figures 14 and 15). The presence and appearance of this species in this area is congruent with the prevailing environmental conditions of low (range of degrees) and variable water temperatures and higher nutrient concentrations that increase turbidity (Birkeland 1988, Dana 1843, Jokiel and Coles 1977). Coral species such as *O. arbuscula* that have adapted to temperate waters do not contribute significantly to the accretion of reef structure (Miller 1995). Distribution of colonies across all sites was relatively patchy with abundances at individual transects ranging from 1 to 78 colonies with an average of 34 corals per transect. Stony coral density on individual transects ranged from 0.05 to 3.9 colonies per

Figure 10. Landscape at Transect 4

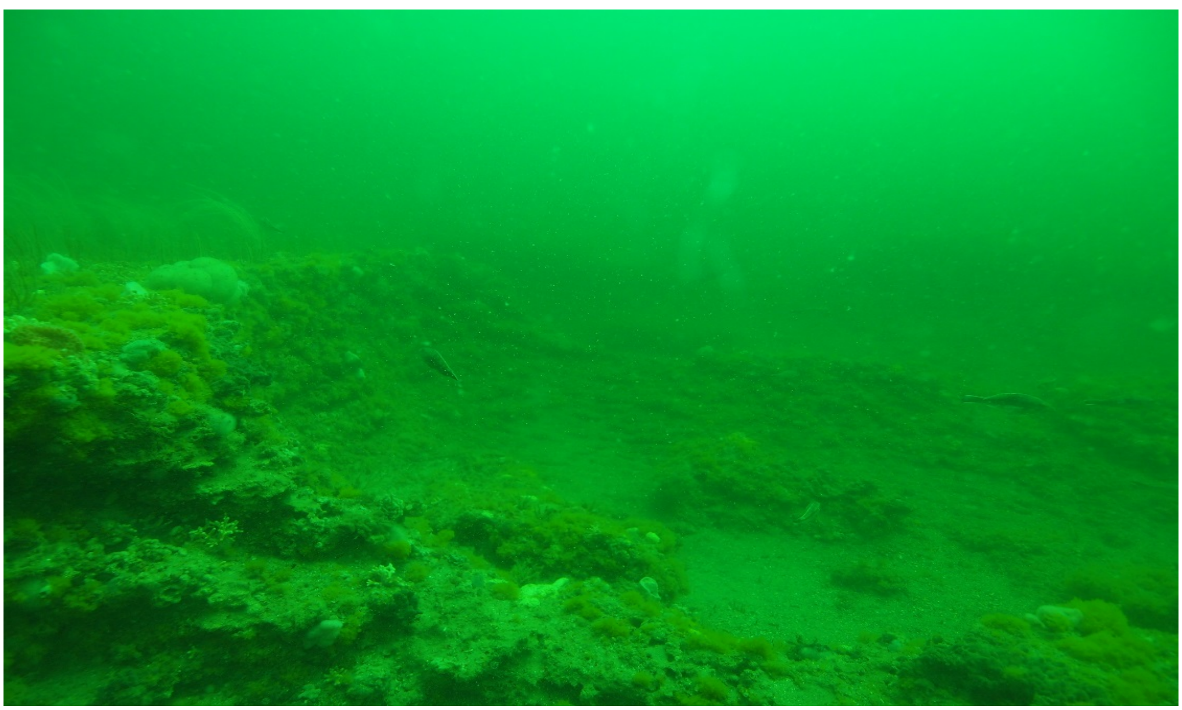
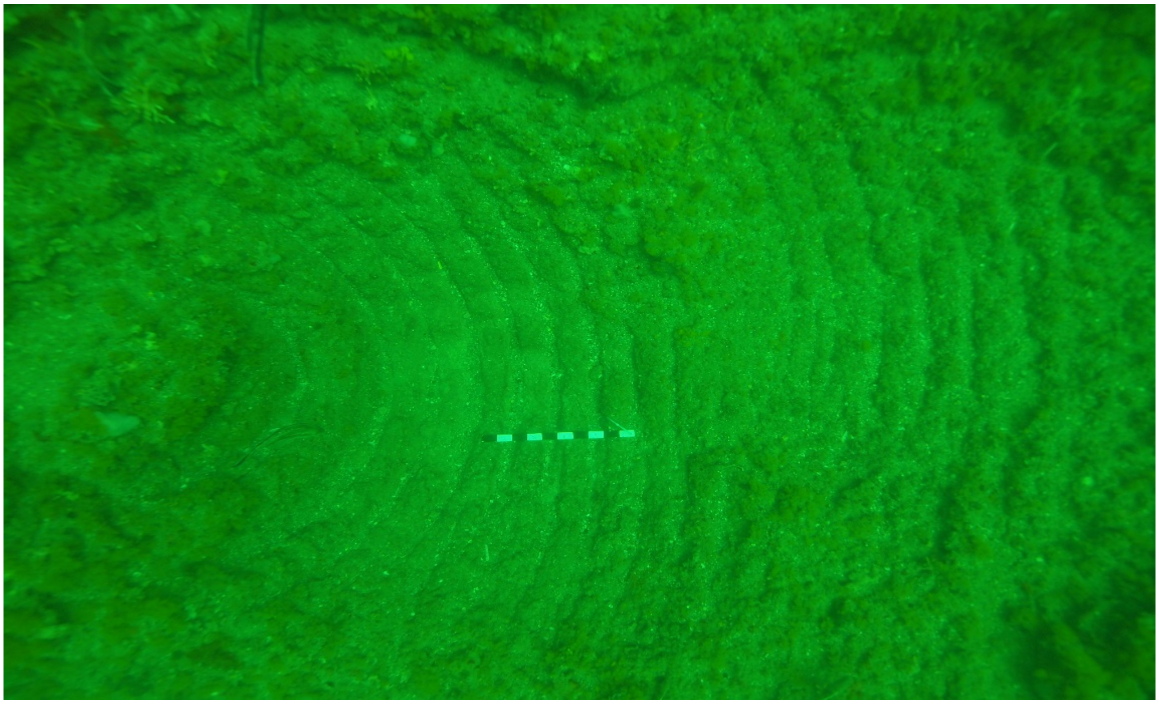


Figure 11. Signs of Previous Dredging Activity on Transect 6



Note: Scale bar is 50 cm in length.

Figure 12. Signs of Previous Dredging Activity on Transect 6

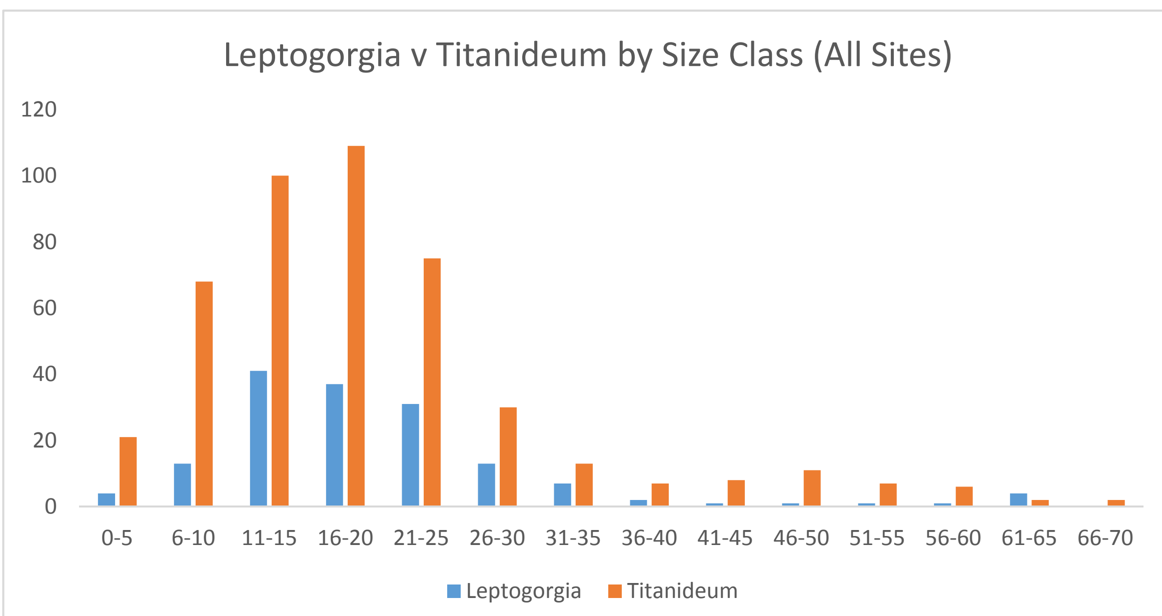


Figure 13. Size Distribution in Centimeters of Octocorals Across All Sites

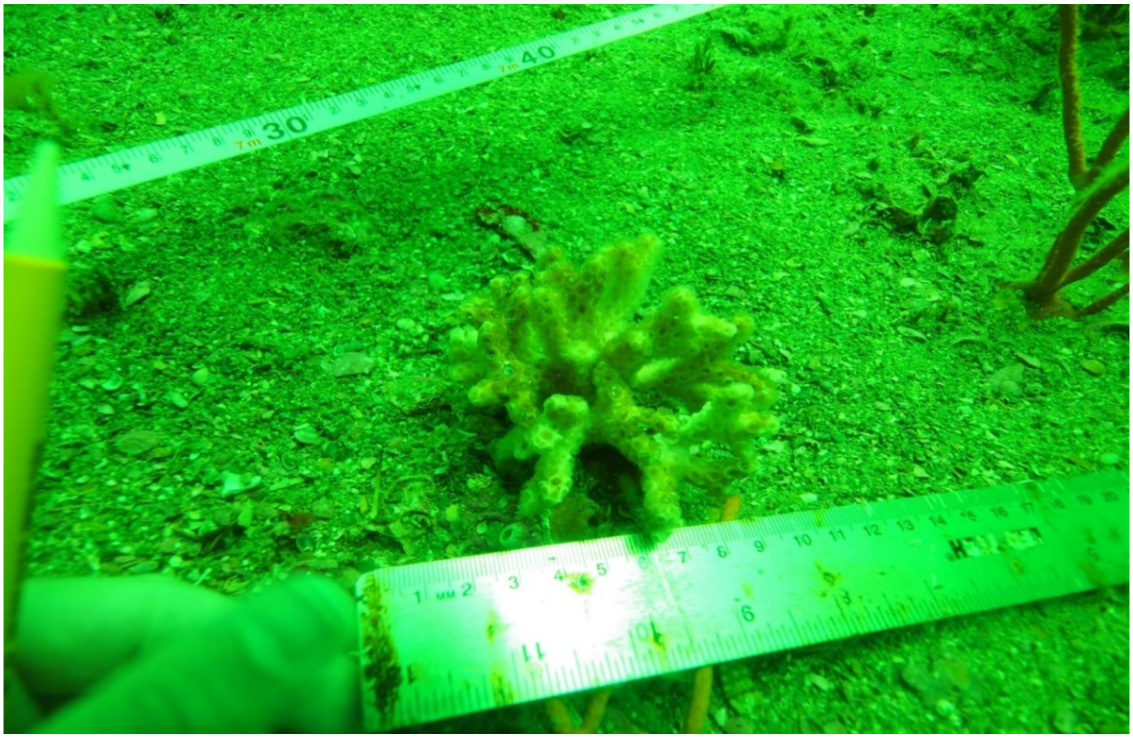


Figure 14. Small *Oculina* arbuscula Colony on Transect 3

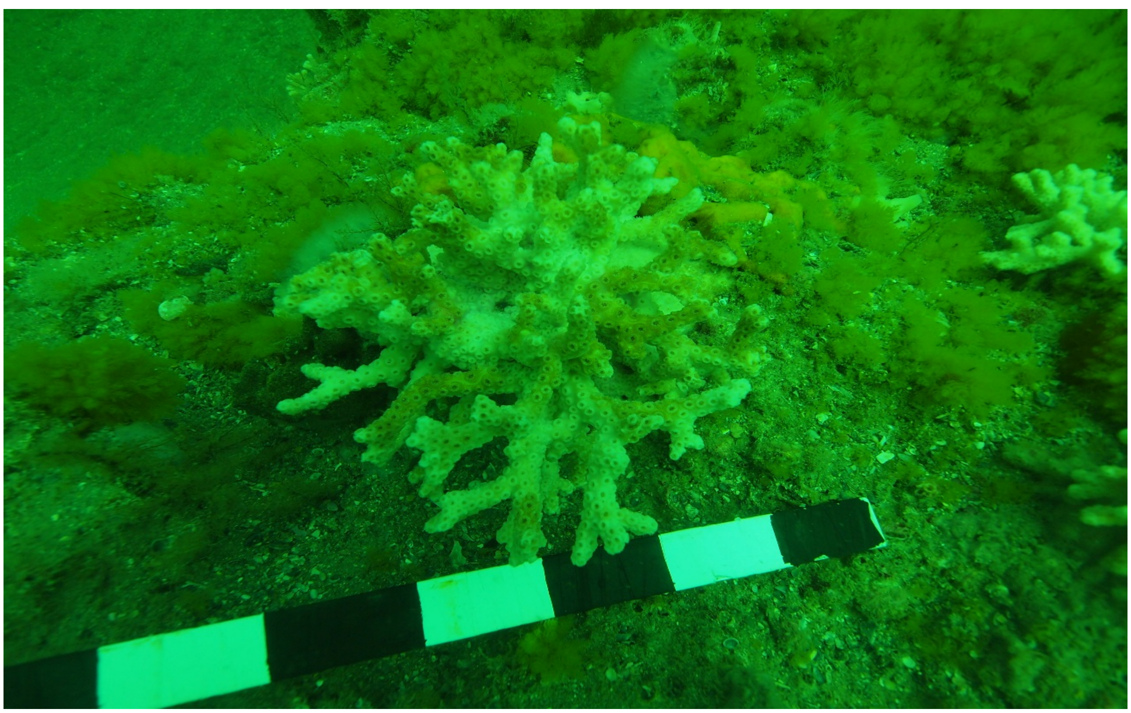


Figure 15. Large *Oculina arbuscula* Colony Observed Near Transect 6

square meter with a density of 1.7 colonies per square meter over all transects. Colonies measured within all transects ranged in size from 3 to 20cm in diameter or length, but larger colonies were observed in the area surrounding the sites. The overall size distribution of colonies across all transects is skewed toward smaller size ranges. The majority of colonies measured fell in the 0 to 5cm and 6-10cm size classes (Figure 16).

Sponge abundance was relatively low across all sites; *Spirastrella sp.* and *Ircinia campana* were the most common species with a total of 25 individuals from 5 genera (*Ircinia sp., Spirastrella sp., Chondrilla sp., Desmapsamma sp.,* and one unknown genus) across all transects. The average diameter of *Ircinia* sp. was 16.9cm diameter with a range of 8 to 29cm. All *Spirastrella sp.* were encrusting morphotypes. Depending on shape, either the longest edge or the diameter was measured. The average size was 19.8cm with a range of 4 to 40cm (Figure 17). Sponge density on individual transects ranged from 0.05 to 0.4 colonies per square meter with an average of 0.2 colonies per square meter over all transects.

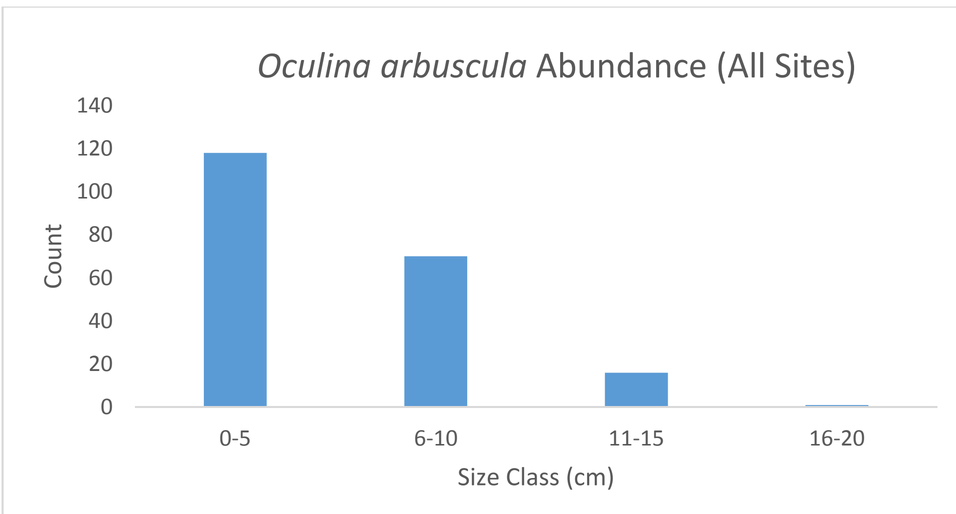


Figure 16. Size Class Distribution of *Oculina arbuscula* Across All Transects

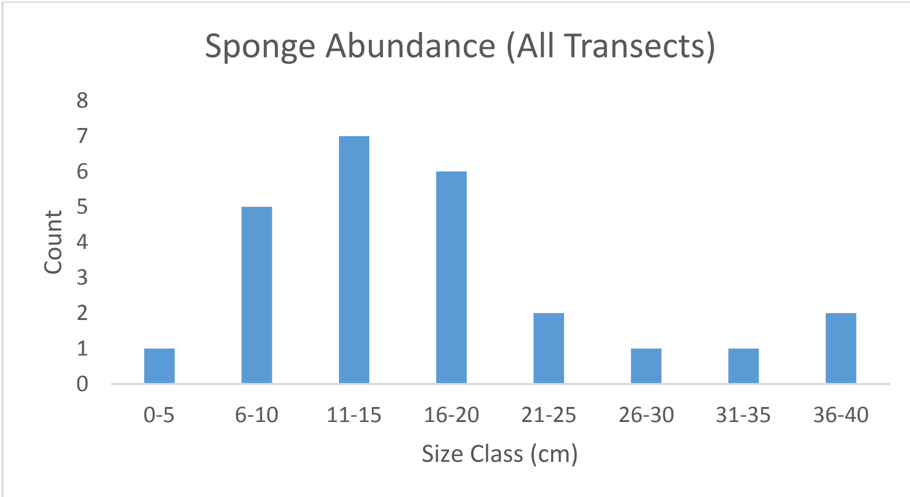


Figure 17. Size Class Distribution of All Sponge Species Across All Transects

2.5.3.2 Diver-Collected Fish Data

Fish abundance and diversity were assessed by diver observations. Total number of fish species observed at each site ranged from three to eight species with a total of 13 species observed across all sites. The most abundant species were pinfish, black sea bass, scad, and sheepshead respectively (Table 5). Black sea bass was the only species observed across all sites. Transect 2 had the highest fish abundance of all transects while Transect 4 had the lowest fish abundance. Size classes of individual species varied by species (Table 6).

Table 5. Estimated counts of fish species by transect.

Fish Species		**Estimated Count by Transect**						
Scientific Name	**Common Name**	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**Grand Total**
Archosargus probatocephalus	Sheepshead	25		30		150	50	**255**
Centropristis striata	Black Sea Bass	200	200	100	30	200	50	**780**
Decapterus sp.	Scad	-	500	-	-	-	-	**500**
Diplodus holbrookii	Spottail Pinfish	-	-	-	-	20	17	**37**
Halichoeres bivittatus	Slippery Dick	-	10	-	25	-	1	**36**

Table 5. (concluded).

Fish Species		Estimated Count by Transect						
Scientific Name	Common Name	T1	T2	T3	T4	T5	T6	Grand Total
Lagodon rhomboides	Pinfish	30	500	300	-	-	-	**830**
Mycteroperca microlepis	Gag Grouper	3	-	2	-	8	6	**19**
Ogcocephalus radiatus	Batfish	2	-	-	-	-	-	**2**
Opsanus tau	Oyster Toadfish	7	10	10	-	-	3	**30**
Paralichthys lethostigma	Southern Flounder	-	-	-	-	-	1	**1**
Pareques umbrosus	Cubbyu	-	-	-	-	30	-	**30**
Serranus subligarius	Belted Sandfish	-	-	-	15	-	5	**20**
Urophycis cirrata	Southern Hake	-	-	-	-	5	-	**5**
Grand Total		**267**	**1220**	**442**	**70**	**413**	**133**	**2545**

Table 6. Estimated size classes of fish species by transect.

Fish Species		Estimated Size Class (in)					
Scientific Name	Common Name	T1	T2	T3	T4	T5	T6
Archosargus probatocephalus	Sheepshead	10-15"	-	12-25"	-	10-25"	10-15"
Centropristis striata	Black Sea Bass	10-15"	5-15"	5-15"	5-12"	5-15"	5-15"
Decapterus sp.	Scad	-	3-6"	-	-	-	-
Diplodus holbrookii	Spottail Pinfish	-	-	-	-	4-7"	4-7"
Halichoeres bivittatus	Slippery Dick	-	3-8"	-	3-8"	-	6"
Lagodon rhomboides	Pinfish	3-6"	3-6"	3-6"	-	-	-
Mycteroperca microlepis	Gag Grouper	15-20"	-	10-15"	-	15-20"	15-20"
Ogcocephalus radiatus	Batfish	10-13"	-	-	-	-	-
Opsanus tau	Oyster Toadfish	10-15"	10-15"	10-15"	-	-	10-15"
Paralichthys lethostigma	Southern Flounder	-	-	-	-	-	15"
Pareques umbrosus	Cubbyu	-	-	-	-	5-12"	-
Serranus subligarius	Belted Sandfish	-	-	-	2-3"	-	2-3"
Urophycis cirrata	Southern Hake	-	-	-	-	12-15"	-

2.5.3.3 CPCe Video Analyses

Data from diver-collected video were processed and analyzed using CPCe (Appendix B). A representative captured image from the digital video along Transect 4 is shown in Figure 18 with the ten randomly assigned points for analysis of cover types and functional groups. The dominant category across all sites was SSHR. Percentages of SSHR throughout all monitored sites ranged from 69.65% to 90.75%. Percentages of bryozoans (*Bugula turrita*) ranged from 0.69% to 23.74% and were the predominant living benthic cover along surveyed transects. Percentages of turf or bare substrate ranged from 0.16% to 6.12%. Octocorals ranged from 0.16% to 5.95% and were made up of Leptogorgia spp. (*L. virgulata and L. hebes*) and *Titanideum frauenfeldi*. Sponges, stony corals, other organisms (e.g., tunicates, urchins, seastars, etc.), and fish ranged from 0% to less than 2% among all sites (Figures 19 - 24). In terms of sessile benthic organisms, species diversity at the monitored transects was fairly low with only three species of octocorals, one species of stony coral, and four species of sponges. Diversity values (H') ranged from 0.45 to 1.16 across all transects with evenness values (J') ranging from 0.11 to 0.30. Stony corals were represented solely by the species *O. arbuscula*. Of all the video images that were analyzed, points only fell on individual fish a total of three times. Two of the three points fell on a single individual. Both individuals were *Centropristis striata* (black sea bass) and approximately 20 to 30cm in length. This method of video analysis is not ideal for assessing fish populations as it is downward-facing and most species flee before they can be captured on film

2.5.3.4 Results Summary

Success criteria for this monitoring effort consists of four factors: 1) Percent cover by sessile invertebrates, 2) Sessile species size, abundance, and diversity, 3) Fish assemblage abundance and diversity, and 4) Rugosity. Overall, the habitat monitored over these six transects was characterized by relatively low species diversity. Sessile organisms consisted of three species of octocorals, one species of stony coral, and four species of sponges. During monitoring efforts, signs of previous dredging impacts were observed on Transect 6. Therefore, multiple rounds of statistical analyses were conducted to show metrics for all 6 sites and also for all sites excluding Transect 6 to account for any differences that may have been a result of previous dredging impacts (Tables 7 and 8). H' ranged from 0.45 to 1.16 for the individual transects with J' ranging from 0.11 to 0.30. When calculating the overall diversity and evenness for all sites, H' was 1.12 and J' was 0.17. When Transect 6 was excluded from the calculations, H' was 1.10 and J' 0.16 (a difference of 0.02 and 0.01 respectively).

Across all sites, the mean size for octocorals, stony corals, and sponges was 19.69cm, 7.54cm, and 17.68cm, respectively. The mean abundance across all sites for octocorals, stony corals, and sponges was 102.50, 34.17, and 4.17 respectively. The density (colonies per square meter) across all sites for octocorals, stony corals, and sponges across all transects was 5.13, 1.71, and 0.21 colonies per square meter, respectively. When Transect 6 was excluded, the mean size for octocorals decreased slightly (-0.09cm) and increased slightly for stony corals and sponges (+0.03 and +0.99 respectively). The mean abundance increased for octocorals, stony, corals, and sponges (+19.5, +2.83, and +0.03 respectively).

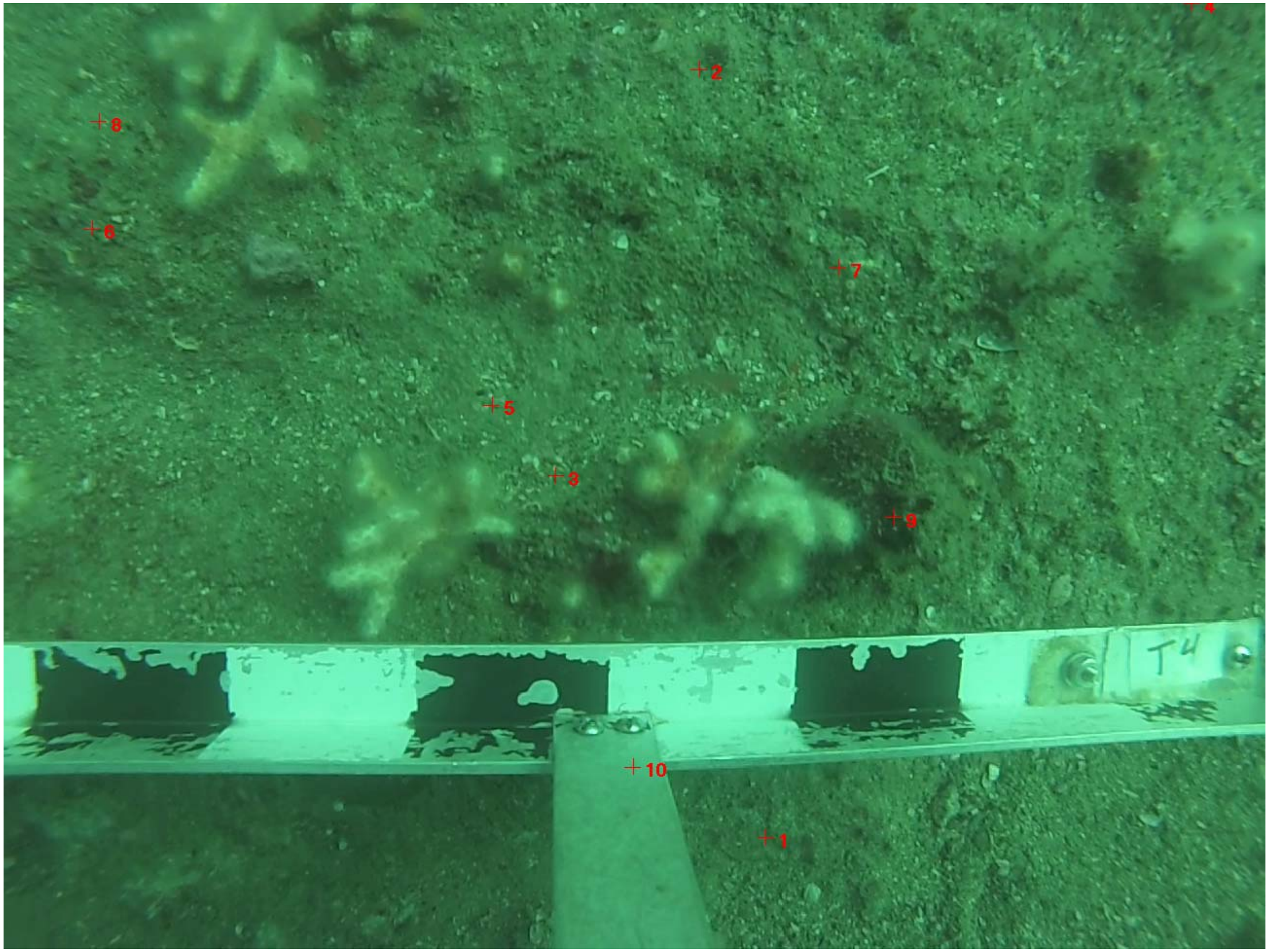


Figure 18. Representative Image Capture Along Transect 4 with Randomly Assigned Points for Analysis

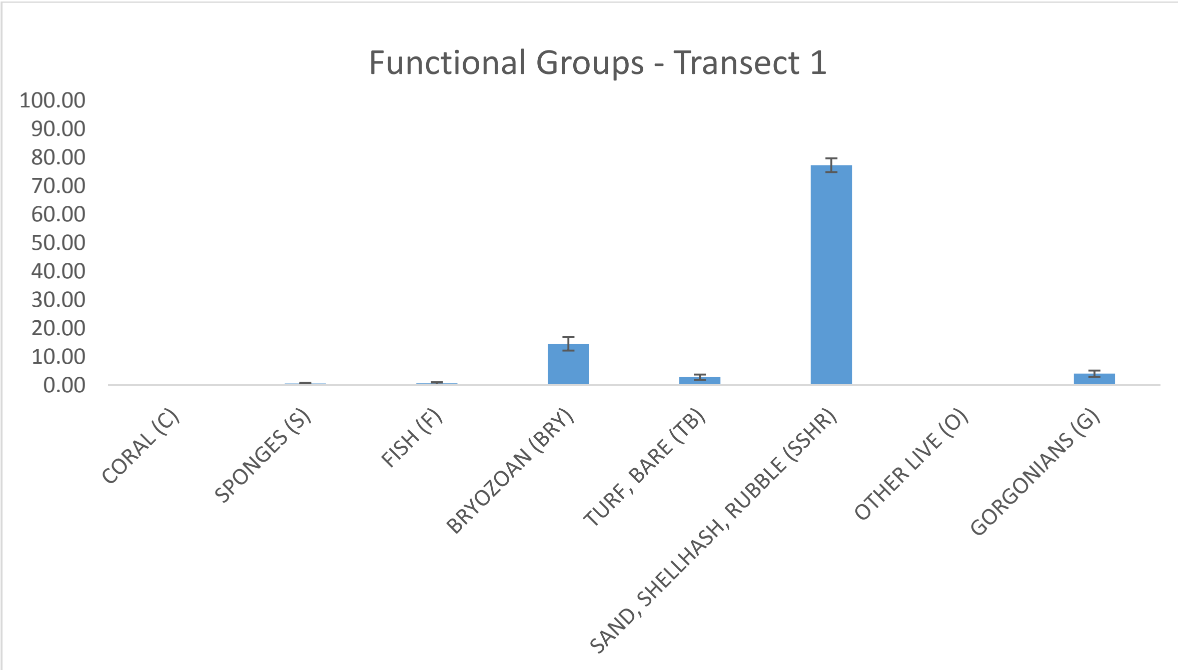


Figure 19. CPCe Analysis of Percent Cover of All Functional Groups on Transect 1

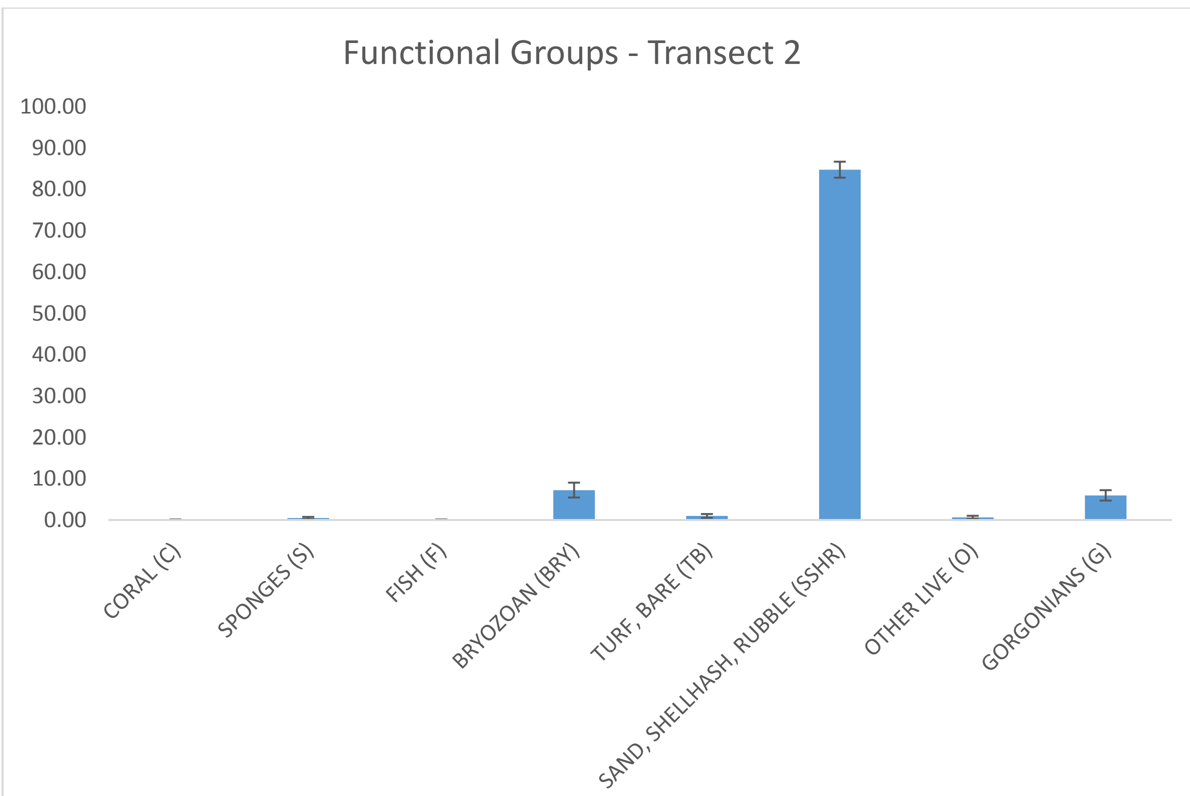


Figure 20. CPCe Analysis of Percent Cover of All Functional Groups on Transect 2

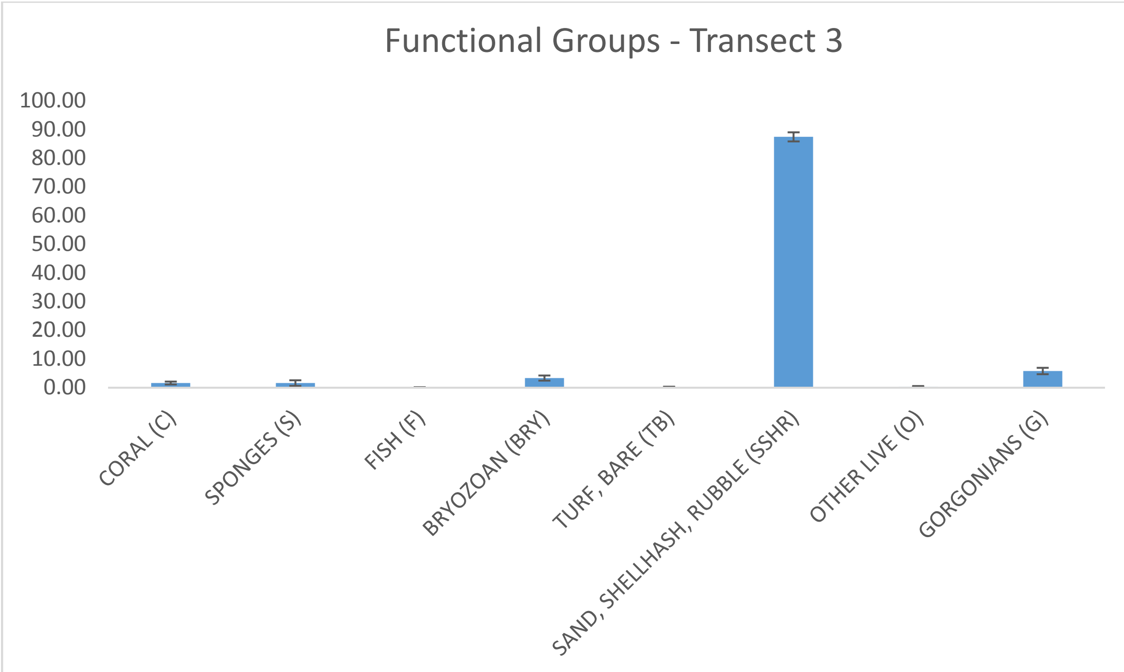


Figure 21. CPCe Analysis of Percent Cover of All Functional Groups on Transect 3

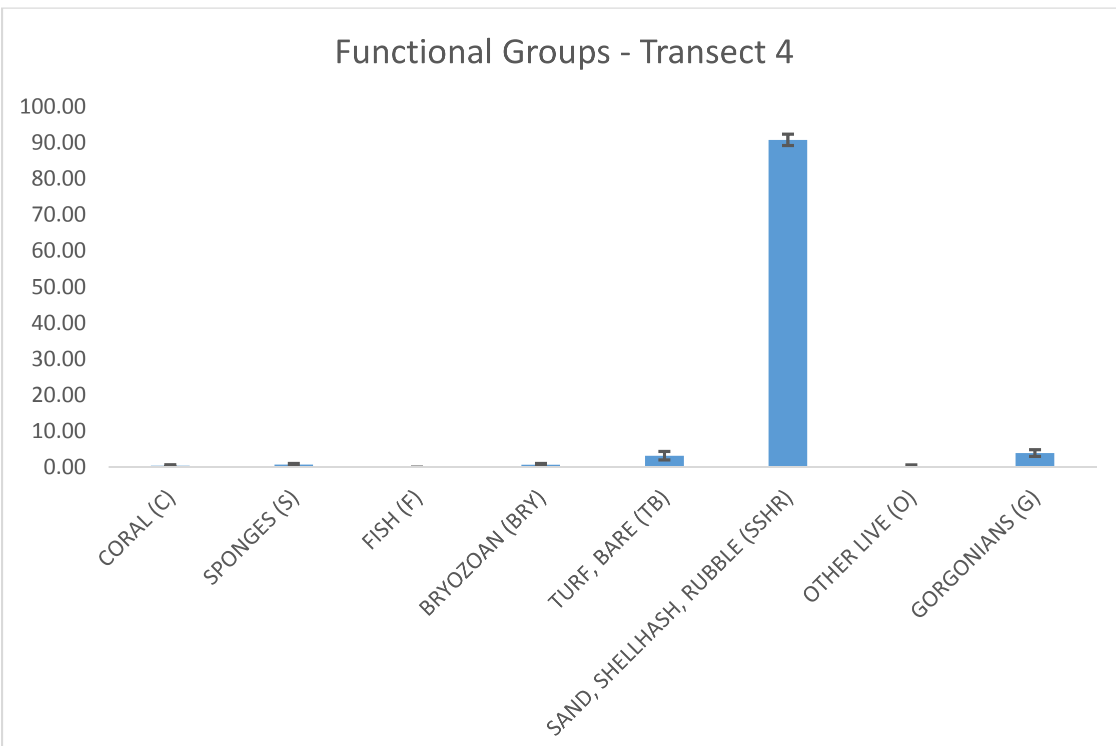


Figure 22. CPCe Analysis of Percent Cover of All Functional Groups on Transect 4

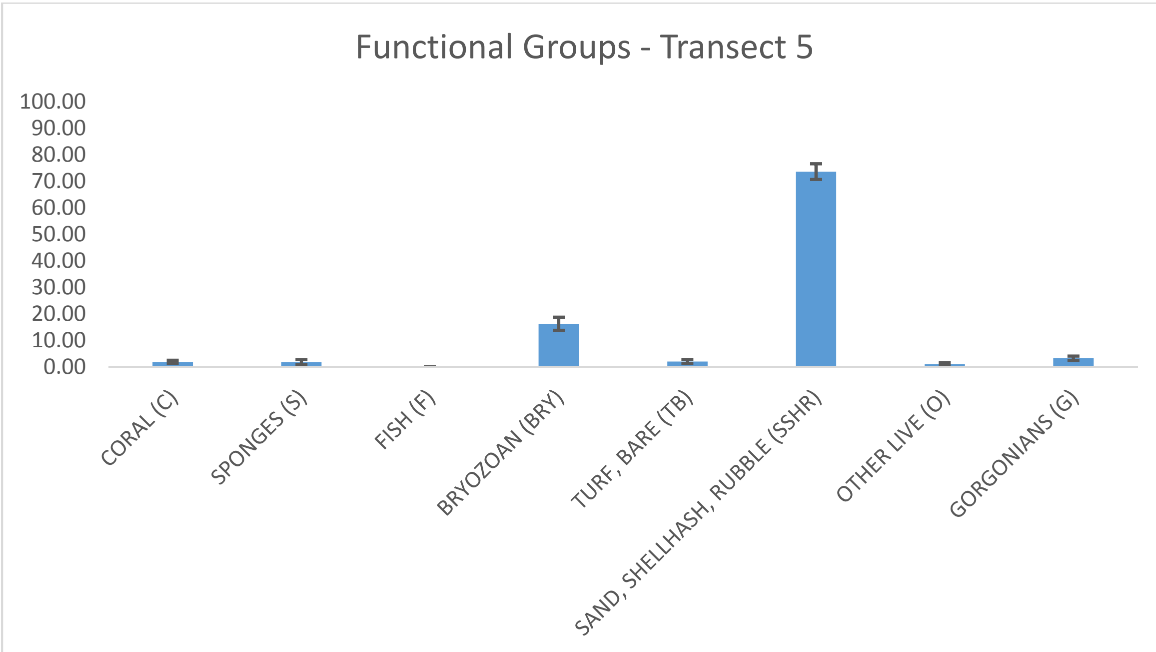


Figure 23. CPCe Analysis of Percent Cover of All Functional Groups on Transect 5.

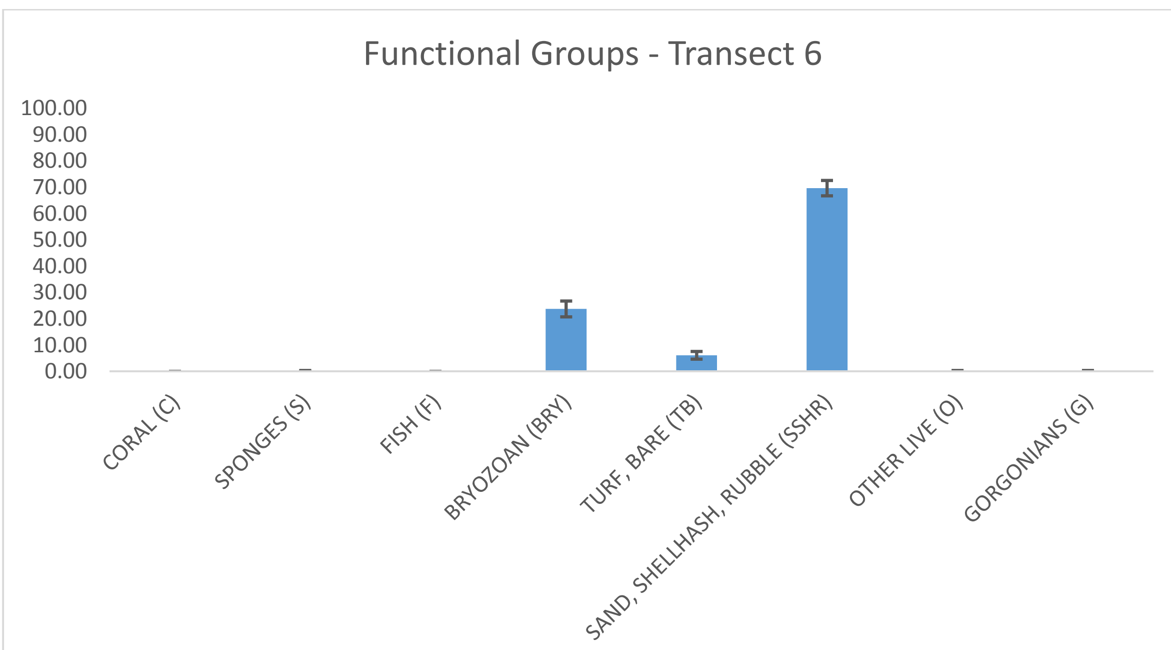


Figure 24. CPCe Analysis of Percent Cover of All Functional Groups on Transect 6.

Table 7. Shannon-Weiner Diversity Index for all transects.

Species Diversity and Evenness		
Site	Baseline	
	H'	J'
All Transects	1.12	0.17
All Transects (excluding T6)	1.10	0.16
T1	0.45	0.11
T2	0.81	0.16
T3	0.85	0.16
T4	1.16	0.22
T5	0.84	0.16
T6	1.03	0.30

Table 8. Summary statistics for all transects.

Functional Group	Mean Abundance		Density (colonies per square meter)		Mean Overall Size	
	All Transects	All Transects (Excluding T6)	All Transects	All Transects (Excluding T6)	All Transects	All Transects (Excluding T6)
Octocoral	102.50	122.00	5.13	6.10	19.69	19.60
Stony Coral	34.17	37.00	1.71	1.85	7.54	7.57
Sponge	4.17	4.20	0.21	0.21	17.68	18.67

The density for these three groups increased for octocorals and stony corals (+0.97 and +0.14 respectively) but did not change for sponges when Transect 6 was excluded (Table 8). Percent cover by functional group (as calculated by CPCe) was relatively low across all transects with the majority of hardbottom habitat being uncolonized (approximately 70 to 90% across all transects). Live cover consisted mainly of bryozoans (approximately 1 to 24% across all transects) and octocorals (approximately 0.2 to 6% across all transects). Stony coral and sponge cover (%) ranged from zero to less than two percent across all transects. Total number of fish species observed at each site ranged from three to eight species with a total of 13 species observed across all sites. The most abundant species were pinfish, black sea bass, scad, and sheepshead respectively. Black sea bass was the only species observed across all sites.

Regarding rugosity of the impact area, preliminary mapping revealed that much of the Entrance Channel site was characterized by benthic habitat transitions, due to significant substrate disturbance from previous dredging activities and daily large vessel traffic in the channel. A total of 8.38 acres were calculated to have been previously impacted. These previously impacted hardbottom areas were calculated to have an average rugosity coefficient of 1.031 with a standard deviation of 0.053. Potential new hardbottom impact areas were calculated to have an average rugosity coefficient of 1.013 with a standard deviation of 0.019. The average rugosity for the previously impacted hardbottom areas (1.031) was almost 2.5 times greater compared to the average rugosity at areas of new impact (1.013). The three primary benthic habitats identified during our surveys were: 1) Probable Hardbottom, 2) Sand with Scattered Hardbottom, and 3) Predominantly Sand. Much of the Predominantly Sand habitat type within the central portion of the Entrance Channel (roughly 100m either side of centerline) is populated with an abundance of individual, small (12-18 inch) rocks strewn throughout the Sandy/Shell Hash areas. These are typically small, widely scattered isolated rocks and are likely associated with the various disturbance events within the Entrance Channel. Probable Hardbottom or Exposed Rock-Rubble comprised 37.99 acres of the study area. Sand/Shell Hash with Scattered Hardbottom and Predominantly Sand and Sand with Shell Hash habitat types comprised 14.89 acres and 102.02 acres, respectively. Overall, the vast majority of hardbottom habitats have rugosity coefficients of less than 1.1, indicating that most hardbottoms were fairly low in profile. This was confirmed during diver surveys in which divers made similar anecdotal observations of low profile habitat, with the exception being in areas that had previously been impacted by past dredging projects. In these areas, relief was relatively higher than areas where no dredging impacts had occurred.

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APPENDIX A

FIELD DATA SHEETS FROM DIVER SURVEYS

Charleston Dredging **Sponge & Octocoral Survey** **Diver Initials** KR

Date 3/22/16 **Time** 11:25 **Site** T1 **Transect** ______ MVR QA/QC 3/25/16

Water Temp 63 **°F** **Max depth** 55 **ft** **Rugosity** X **Notes** ______

Lepto = flat, polyps either side. Tit. = smooth cylindrical

Bare Substrate		**Hard Bottom**		**Boulders**		**Rocks**		**Sed**	
Rubble		**Gravel**		**Shell Hash**		**Sand**		**Artif Subs**	

OCTOCORALS

Genus (morpho description) Sed depth (cm) 0 1cm 10 2cm 20 1cm

Titan 5, 22, 17, 8, 9, 10, 3, 9, 8, 10, 5, 85, 15, 22, 20, 15, 14, 8, 11, 9, 5, 17, 29, 12, 17, 10, 39, 28, 9, 71, 13, 28, 71, 12, 25, 48, 48, 51, 14, 31, 57, 34, 60, 45, 48, 49, 51, 27, 42, 37, 26, 41, 45, 25, 46, 21, 29, 24, 27, 22, 24, 36, 44, 36

Lepto 9, 11, 11, 22

DROBS: 1 (Head, (5-10)

Sponge 1: 17cm

Charleston Dredging **Sponge & Octocoral Survey** **Diver Initials** KF

Date 3/[illegible]/16 **Time** 12:50 **Site** T2 **Transect** ______ MR QA/QC 3/25/16

Water Temp 60 °F **Max depth** 52 ft **Rugosity** ________ **Notes** ________

Bare Substrate	______	Hard Bottom	______	Boulders	______	Rocks	______	Sed	______
Rubble	______	Gravel	______	Shell Hash	______	Sand	______	Artif Subs	______

OCTOCORALS

Genus (morpho description)

Titan: 11, 14, 9, 12, 8, 12, 9, 13, 27, 12, 10, 11, 34, 36, 33, 14, 25, 50
56, 9, 44, 13, 49, 26, 12, 32, 18, (10), 17, 9, 60, 16, 58, 9
87, 50, 46, 4, 18, 21, 20, 17, 17, 14, 18, 9, 17, 22, 19
17, 17, 26, 21, 17, 12, 28, 32, 36, 9, 18, 21, (19), (19), 20

Lepto: 14, 17, 18, 20, 26, 13, 15, 6, 11, 11, 12, 19, 14, 15, 10, 8, 20, 15, 29, 18
35, 10, 15, 26, 20, 13, 13, 9, 12, 18, 13, 14, 16, 18, 22, 9, 28
16, 18, 12, 37, 23, 25, 18, 28, 27, 14, 19, 22, 11, 13, 21
20, 14, 15, 22, 23, 11, 24, 16, 20, 18, 22, 17, 27, 29, 18, 22, 17
22, 22, 20, 19, 21, 25, 24, 21, 17, 33, 19, 25, 23, 13, 16, 18, 20, 21
14, 13, 27, 23, 11, 12, 21, 7, 10, 21, 21, 14, 8, 13, 20, 21, 23

Ircinia: 13

MROB: 17, 14

[illegible]

Charleston Dredging **Sponge & Octocoral Survey** **Diver Initials** KR

Date 3/22/16 **Time** 12:25 **Site** T3 **Transect** ______ MMM QA/QC 3/28/16

Water Temp _____ °F **Max depth** 80 ft **Rugosity** ________ **Notes** SW [illegible]

depth sed. 0 0cm 10 0cm 20 1cm

Bare Substrate		**Hard Bottom**		**Boulders**		**Rocks**		**Sed**	
Rubble		**Gravel**		**Shell Hash**		**Sand**		**Artif Subs**	

OCTOCORALS

Genus (morpho description)

Titan 15, 19, 17, 19, 8, 28, 23, 12, 15, 15, 17, 18, 23, 22, 15, 20
22, 19, 11, 15, 22, 21, 30, 17, 19, 9, 10, 13, 15, 27, 19, 25
54, 14, 14, 11, 31, 14, 12, 17, 14, 19, 17, 8, 24, 12, 8, 17
20, 12, 67, 15, 8, 18, 67, 63, 45, 15, 19, 19, 9, 6, 11, 11, 25
22, 11, 17, 12, 13, 16, 15, 20, 57, 12, 23, 31, 41, 17, 19, 7, 10, 21
11, 15, 9, 8, 18, 18, 19, 20, 12, 10, 15, 28, 32, 20, 22, [illegible], 21, 40, 12
19, 6, 20, 25, 22, 24, 11, 8, 23, 12, 26, 24, 23, 22, 16, 21, 11, 2
17, 18, 21, 24, 6, 7, 9, 11, [illegible], 65, 25, 27, 14, 21, 19, 17, 20, 16
9, 22, 18, 16, 32

Lepto 24, 15, 18, 19, 22, 14, 18, 11, 14, 18, 27

Ircinia 13, 29

⊘ Rub. |||||| (0-5cm) 5-10

26 26

Charleston Dredging   Sponge & Octocoral Survey   Diver Initials KR

Date 3/23/16 Time 10:17 Site T4 Transect ______ QA/QC MR 3/25/16

Water Temp_____°F Max depth 54 ft Rugosity________ Notes________

Bare Substrate		Hard Bottom		Boulders		Rocks		Sed	
Rubble		Gravel		Shell Hash		Sand		Artif Subs	

Sed 0 3cm, 10 0cm, 20 1cm

OCTOCORALS

Genus (morpho description)

Lepto: 61, 64, 62, 58, 54, 47, 31, 39, 17, 27, 18, 33, 32, 19, 32, 27
19, 4, 12, 12, 9, 8, 5, 4, 7, 11, 8, 5, 13

Titan: 14, 20, 8, 18, 4, 9, 9, 12, 10, 22, 16, 9, 26, 17, 28, 26, 23, 26
30, 17, 32, 12, 20, 18, 18, 17, 7, 6, 8, 12, 2, 16, 16, 7, 24, 17, 9,
8, 24, 5, 10, 19, 13, 21, 14, 16, 24, 24, 12, 20, 22, 12, 19, 8, 14, 18, 24, 20
21, 12, 12, 18, 12, 20, 15, 16, 16, 21, 22, 25
13, 10, 11, 4, 18, 19, 17, 13, 10, 21, 11, 6, 5

Eunicea: 19, 12

Oculina 0-5 5-10 10-15
0-5: |||| |||| |||| |||| |||| |||| |||| |||| |||| ||||| ||
5-10: |||| |||| |||| |||| ||||
10-15: |

Charleston Dredging **Sponge & Octocoral Survey** **Diver Initials** KR

Date 3/23 **Time** 11:25 **Site** T5 **Transect** ______ QA/QC MR 3/25/16

Water Temp 61 **°F** **Max depth** 54 **ft** **Rugosity** ______ **Notes** ______

Bare Substrate		**Hard Bottom**		**Boulders**		**Rocks**		**Sed**	
Rubble		**Gravel**		**Shell Hash**		**Sand**		**Artif Subs**	

OCTOCORALS

Genus (morpho description)

Sed 0 2cm ✓ 10 2cm ✓ 20 0cm ✓

Titan 12, 6, 5, 10, 8, 24, 16, 17, 20, 11, 28, 16, 12, 5, 17, 9, 15, 18, 6
14, 15, 12, 16, 25, 29, 16, 11, 14, 28, 15, 14, 11, 15, 18, 28, 10, 2, 27, 30
33, 15, 17, 4, 8, 22, 24, 15, 13, 17, 19, 21, 8, 11, 4, 4, 5, 19, 22, 18, 14, 24
19, 18, 5, 5, 20, 24, 4, 4, 22, 16, 16, 18, 18, 24, 26, 14, 17, 22, 16, 11, 14, 12
23, 18, 22, 26, 23, 8, 7, 3, 22, 12, 8, 24, 5, 6, 5, 4, 4, 7, 6, 11, 9
23, 9, 19, 10, 24, 23, 17, 13, 4, 24, 11, 21, 10, 13, 5, 17, 7, 5, 5

Lepto 11, 21, 16,

Ircinia 8, 19

Oculina 0-5 5-10 10-15
𝍸 𝍸 𝍸 𝍸 𝍸 | 𝍸 𝍸 | 𝍸 𝍸 |||

Charleston Dredging | Sponge & Octocoral Survey | Diver Initials KR

Date 3/23/16 Time 1238 | Site T6 | Transect ______ QA/QC MR 3/25/16

Water Temp 61 °F Max depth 57 ft Rugosity X | Notes Previously dredged area South heading

Bare Substrate		Hard Bottom	X	Boulders	X	Rocks	X	Sed	
Rubble	X	Gravel		Shell Hash	X	Sand		Artif Subs	

OCTOCORALS

Genus (morpho description) Sed 0 1cm 10 1cm 20 1cm

Titan. 22, 12, 25

Lepto: 65, 28

Eudistoma (tunicate)

~~White sponge~~ 16, 16, 7, 7, 14, 11, 13

Erythia

Quiliba; 0-5 5-10 10-15 15-20

卌 卌 || 卌 || |

APPENDIX B

POINT COUNT VIDEO ANALYSIS RECORDS
OF HARDBOTTOM HABITAT

	T1			T2			T3		
MAJOR CATEGORY (% of transect)	MEAN	STD. DEV.	STD. ERROR	MEAN	STD. DEV.	STD. ERROR	MEAN	STD. DEV.	STD. ERROR
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	1.59	4.39	0.49
SPONGES (S)	0.60	2.63	0.29	0.47	2.43	0.27	1.55	8.72	0.97
FISH (F)	0.66	3.45	0.39	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	14.56	21.18	2.37	7.22	16.08	1.80	3.32	7.97	0.89
TURF, BARE (TB)	2.85	8.30	0.93	0.99	4.08	0.46	0.16	1.40	0.16
SAND, SHELLHASH, RUBBLE (SSHR)	77.24	21.61	2.42	84.73	17.32	1.94	87.34	14.28	1.60
OTHER LIVE (O)	0.00	0.00	0.00	0.63	3.41	0.38	0.30	1.86	0.21
GORGONIANS (G)	4.09	9.84	1.10	5.95	11.31	1.26	5.75	9.98	1.12
TAPE, WAND, SHADOW (TWS)	20.75	13.00	1.45	19.75	11.58	1.29	14.75	11.58	1.29

Dominant	**Min**	**Max**
SSHR	**69.65**	**90.75**
HYDR	**0.69**	**23.74**
TB	**0.16**	**6.12**
OCTO	**0.16**	**5.95**
SPO	**0.18**	**1.81**
CORAL	**0**	**1.88**
OTHER	**0**	**1.05**
FISH	**0**	**0.66**

	T4			T5			T6		
MAJOR CATEGORY (% of transect)	MEAN	STD. DEV.	STD. ERROR	MEAN	STD. DEV.	STD. ERROR	MEAN	STD. DEV.	STD. ERROR
CORAL (C)	0.43	2.22	0.25	1.88	5.69	0.64	0.00	0.00	0.00
SPONGES (S)	0.71	2.78	0.31	1.81	8.69	0.97	0.18	1.60	0.18
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.69	3.13	0.35	16.29	22.13	2.47	23.74	26.80	3.00
TURF, BARE (TB)	3.18	10.55	1.18	2.06	7.03	0.79	6.12	12.98	1.45
SAND, SHELLHASH, RUBBLE (SSHR)	90.75	14.13	1.58	73.63	26.40	2.95	69.65	26.30	2.94
OTHER LIVE (O)	0.31	2.80	0.31	1.05	5.00	0.56	0.16	1.40	0.16
GORGONIANS (G)	3.93	8.30	0.93	3.29	7.30	0.82	0.16	1.40	0.16
TAPE, WAND, SHADOW (TWS)	16.63	11.36	1.27	17.63	12.45	1.39	21.25	13.63	1.52

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston\CPCe\T1_CPCe_KR_UpdatedQAQC.xlsx:Data summary

TRANSECT NAME	**T1 (1)**	**T1 (2)**	**T1 (3)**	**T1 (4)**	**T1 (5)**	**T1 (6)**	**T1 (7)**	**T1 (8)**	**T1 (10)**	**T1 (11)**	**T1 (12)**	**T1 (13)**	**T1 (14)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow	**8**	**9**	**9**	**7**	**8**	**8**	**10**	**10**	**7**	**6**	**6**	**9**	**6**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	50.00	10.00	0.00	0.00	0.00	66.67	16.67
TURF, BARE (TB)	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	88.89	100.00	100.00	100.00	100.00	40.00	90.00	100.00	100.00	100.00	22.22	83.33
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	10.00	10.00	30.00	20.00	20.00	0.00	0.00	30.00	40.00	40.00	10.00	40.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Prec
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_H
File/sheetname: P:\Jobs\16-1360 Charles

TRANSECT NAME	**T1 (15)**	**T1 (16)**	**T1 (17)**	**T1 (18)**	**T1 (19)**	**T1 (20)**	**T1 (21)**	**T1 (22)**	**T1 (23)**	**T1 (24)**	**T1 (25)**	**T1 (26)**	**T1 (27)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow	**6**	**7**	**8**	**10**	**7**	**6**	**7**	**7**	**8**	**8**	**8**	**6**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	33.33	57.14	37.50	0.00	0.00	0.00	0.00	42.86	50.00	12.50	37.50	16.67	25.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	66.67	42.86	37.50	100.00	85.71	100.00	100.00	57.14	50.00	87.50	50.00	83.33	75.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00
TAPE, WAND, SHADOW (TWS)	40.00	30.00	20.00	0.00	30.00	40.00	30.00	30.00	20.00	20.00	20.00	40.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Prec
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_H
File/sheetname: P:\Jobs\16-1360 Charle:

TRANSECT NAME	**T1 (28)**	**T1 (29)**	**T1 (30)**	**T1 (31)**	**T1 (32)**	**T1 (33)**	**T1 (34)**	**T1 (35)**	**T1 (37)**	**T1 (38)**	**T1 (39)**	**T1 (40)**	**T1 (41)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow	**5**	**9**	**6**	**9**	**10**	**9**	**7**	**9**	**9**	**10**	**9**	**8**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	20.00	11.11	50.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	80.00	88.89	50.00	100.00	100.00	100.00	71.43	100.00	55.56	70.00	55.56	100.00	85.71
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	44.44	30.00	33.33	0.00	14.29
TAPE, WAND, SHADOW (TWS)	50.00	10.00	40.00	10.00	0.00	10.00	30.00	10.00	10.00	0.00	10.00	20.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Prec
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_H
File/sheetname: P:\Jobs\16-1360 Charle:

TRANSECT NAME	**T1 (42)**	**T1 (43)**	**T1 (44)**	**T1 (45)**	**T1 (46)**	**T1 (48)**	**T1 (49)**	**T1 (50)**	**T1 (51)**	**T1 (52)**	**T1 (53)**	**T1 (54)**	**T1 (55)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow	**6**	**8**	**9**	**8**	**8**	**9**	**6**	**7**	**8**	**9**	**9**	**9**	**9**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	37.50	33.33	22.22	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	87.50	66.67	75.00	100.00	88.89	66.67	100.00	62.50	66.67	77.78	100.00	77.78
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	12.50	33.33	25.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	11.11
TAPE, WAND, SHADOW (TWS)	40.00	20.00	10.00	20.00	20.00	10.00	40.00	30.00	20.00	10.00	10.00	10.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Prec
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_H
File/sheetname: P:\Jobs\16-1360 Charle:

TRANSECT NAME	**T1 (56)**	**T1 (57)**	**T1 (58)**	**T1 (59)**	**T1 (60)**	**T1 (61)**	**T1 (62)**	**T1 (63)**	**T1 (64)**	**T1 (65)**	**T1 (66)**	**T1 (67)**	**T1 (68)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow	**8**	**8**	**9**	**7**	**6**	**9**	**6**	**7**	**8**	**7**	**10**	**5**	**6**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00
BRYOZOAN (BRY)	12.50	50.00	0.00	0.00	0.00	55.56	33.33	0.00	87.50	14.29	10.00	0.00	50.00
TURF, BARE (TB)	0.00	0.00	22.22	0.00	0.00	0.00	0.00	28.57	0.00	14.29	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	87.50	50.00	77.78	100.00	83.33	44.44	66.67	71.43	12.50	57.14	90.00	100.00	50.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	20.00	10.00	30.00	40.00	10.00	40.00	30.00	20.00	30.00	0.00	50.00	40.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Prec
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_H
File/sheetname: P:\Jobs\16-1360 Charles

TRANSECT NAME	**T1 (69)**	**T1 (70)**	**T1 (71)**	**T1 (72)**	**T1 (73)**	**T1 (74)**	**T1 (75)**	**T1 (76)**	**T1 (77)**	**T1 (78)**	**T1 (79)**	**T1 (80)**	**T1 (9)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow	**10**	**7**	**9**	**8**	**9**	**7**	**8**	**9**	**7**	**9**	**8**	**9**	**9**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	14.29	44.44	62.50	44.44	42.86	0.00	33.33	14.29	0.00	0.00	11.11	22.22
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	85.71	44.44	37.50	55.56	57.14	62.50	66.67	71.43	100.00	87.50	88.89	77.78
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	37.50	0.00	0.00	0.00	12.50	0.00	0.00
TAPE, WAND, SHADOW (TWS)	0.00	30.00	10.00	20.00	10.00	30.00	20.00	10.00	30.00	10.00	20.00	10.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Prec
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_H
File/sheetname: P:\Jobs\16-1360 Charle

TRANSECT NAME	**T1 (36)**	**T1 (47)**			
Number of frames	**1**	**1**			
Total points	**10**	**10**			
Total points (minus tape+wand+shadow	**9**	**9**			
MAJOR CATEGORY (% of transect)			**MEAN**	**STD. DEV.**	**STD. ERROR**
CORAL (C)	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	11.11	0.60	2.63	0.29
FISH (F)	22.22	0.00	0.66	3.45	0.39
BRYOZOAN (BRY)	0.00	0.00	14.56	21.18	2.37
TURF, BARE (TB)	0.00	0.00	2.85	8.30	0.93
SAND, SHELLHASH, RUBBLE (SSHR)	77.78	88.89	77.24	21.61	2.42
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	4.09	9.84	1.10
TAPE, WAND, SHADOW (TWS)	10.00	10.00	20.75	13.00	1.45
Sum (excluding tape+shadow+wand)	100.00	100.00			

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston\CPCe\T1_CPCe_KR_UpdatedQAQC.xlsx:Data summary

TRANSECT NAME	**T2 (1)**	**T2 (2)**	**T2 (3)**	**T2 (4)**	**T2 (5)**	**T2 (6)**	**T2 (8)**	**T2 (9)**	**T2 (10)**	**T2 (11)**	**T2 (12)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**8**	**6**	**8**	**9**	**8**	**9**	**9**	**8**	**8**	**9**	**8**
MAJOR CATEGORY (% of transect)											
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	50.00	50.00	50.00	77.78	37.50	22.22	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	50.00	50.00	50.00	22.22	62.50	77.78	100.00	100.00	100.00	100.00	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	40.00	20.00	10.00	20.00	10.00	10.00	20.00	20.00	10.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME	**T2 (13)**	**T2 (14)**	**T2 (15)**	**T2 (16)**	**T2 (17)**	**T2 (18)**	**T2 (19)**	**T2 (20)**	**T2 (21)**	**T2 (22)**	**T2 (23)**	**T2 (24)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**6**	**9**	**8**	**9**	**7**	**5**	**9**	**8**	**8**	**9**	**8**
MAJOR CATEGORY (% of transect)												
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	88.89	75.00	100.00	100.00	100.00	88.89	100.00	87.50	88.89	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	11.11	25.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00
TAPE, WAND, SHADOW (TWS)	10.00	40.00	10.00	20.00	10.00	30.00	50.00	10.00	20.00	20.00	10.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME	**T2 (25)**	**T2 (26)**	**T2 (27)**	**T2 (28)**	**T2 (29)**	**T2 (30)**	**T2 (31)**	**T2 (32)**	**T2 (33)**	**T2 (34)**	**T2 (35)**	**T2 (36)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**9**	**9**	**8**	**10**	**7**	**6**	**7**	**8**	**6**	**8**	**8**
MAJOR CATEGORY (% of transect)												
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	22.22	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	77.78	100.00	87.50	90.00	57.14	100.00	100.00	87.50	83.33	100.00	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	12.50	16.67	0.00	0.00
TAPE, WAND, SHADOW (TWS)	30.00	10.00	10.00	20.00	0.00	30.00	40.00	30.00	20.00	40.00	20.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME	**T2 (37)**	**T2 (38)**	**T2 (39)**	**T2 (40)**	**T2 (41)**	**T2 (42)**	**T2 (43)**	**T2 (44)**	**T2 (45)**	**T2 (46)**	**T2 (47)**	**T2 (48)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**6**	**8**	**8**	**9**	**9**	**7**	**10**	**8**	**7**	**9**	**9**
MAJOR CATEGORY (% of transect)												
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	77.78	83.33	37.50	87.50	88.89	88.89	85.71	70.00	100.00	71.43	77.78	88.89
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11
GORGONIANS (G)	11.11	16.67	62.50	0.00	11.11	11.11	14.29	30.00	0.00	28.57	22.22	0.00
TAPE, WAND, SHADOW (TWS)	10.00	40.00	20.00	20.00	10.00	10.00	30.00	0.00	20.00	30.00	10.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME	**T2 (49)**	**T2 (50)**	**T2 (51)**	**T2 (52)**	**T2 (53)**	**T2 (54)**	**T2 (55)**	**T2 (56)**	**T2 (57)**	**T2 (58)**	**T2 (59)**	**T2 (60)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**9**	**6**	**6**	**9**	**8**	**8**	**8**	**6**	**9**	**8**	**7**
MAJOR CATEGORY (% of transect)												
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29
TURF, BARE (TB)	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	66.67	100.00	100.00	100.00	100.00	100.00	87.50	83.33	66.67	87.50	85.71
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	22.22	0.00	0.00	0.00	0.00	0.00	12.50	16.67	33.33	12.50	0.00
TAPE, WAND, SHADOW (TWS)	30.00	10.00	40.00	40.00	10.00	20.00	20.00	20.00	40.00	10.00	20.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME	**T2 (61)**	**T2 (62)**	**T2 (63)**	**T2 (64)**	**T2 (65)**	**T2 (66)**	**T2 (67)**	**T2 (68)**	**T2 (69)**	**T2 (70)**	**T2 (71)**	**T2 (72)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**8**	**10**	**8**	**9**	**8**	**8**	**7**	**8**	**10**	**10**	**9**	**8**
MAJOR CATEGORY (% of transect)												
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	11.11	37.50
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	70.00	75.00	100.00	75.00	100.00	100.00	100.00	90.00	90.00	88.89	62.50
OTHER LIVE (O)	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	30.00	0.00	0.00	25.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	0.00	20.00	10.00	20.00	20.00	30.00	20.00	0.00	0.00	10.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME	**T2 (73)**	**T2 (74)**	**T2 (75)**	**T2 (76)**	**T2 (77)**	**T2 (78)**	**T2 (79)**	**T2 (80)**	**T2 (7)**	
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	
Total points (minus tape+wand+shadow)	**8**	**9**	**9**	**5**	**8**	**9**	**9**	**7**	**7**	
MAJOR CATEGORY (% of transect)										**MEAN**
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.47
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	40.00	50.00	22.22	44.44	14.29	14.29	7.22
TURF, BARE (TB)	0.00	11.11	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.99
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	88.89	77.78	60.00	50.00	77.78	55.56	71.43	85.71	84.73
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.95
TAPE, WAND, SHADOW (TWS)	20.00	10.00	10.00	50.00	20.00	10.00	10.00	30.00	30.00	19.75
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston

TRANSECT NAME		
Number of frames		
Total points		
Total points (minus tape+wand+shadow)		
MAJOR CATEGORY (% of transect)	**STD. DEV.**	**STD. ERROR**
CORAL (C)	0.00	0.00
SPONGES (S)	2.43	0.27
FISH (F)	0.00	0.00
BRYOZOAN (BRY)	16.08	1.80
TURF, BARE (TB)	4.08	0.46
SAND, SHELLHASH, RUBBLE (SSHR)	17.32	1.94
OTHER LIVE (O)	3.41	0.38
GORGONIANS (G)	11.31	1.26
TAPE, WAND, SHADOW (TWS)	11.58	1.29
Sum (excluding tape+shadow+wand)		

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston\CPCe\T1_CPCe_KR_UpdatedQAQC.xlsx:Data summary

TRANSECT NAME	**T3 (1)**	**T3 (2)**	**T3 (3)**	**T3 (4)**	**T3 (5)**	**T3 (6)**	**T3 (7)**	**T3 (8)**	**T3 (9)**	**T3 (10)**	**T3 (11)**	**T3 (12)**	**T3 (13)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**8**	**9**	**6**	**10**	**6**	**7**	**8**	**8**	**8**	**8**	**10**	**10**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	16.67	20.00	33.33	0.00	0.00	12.50	0.00	0.00	0.00	10.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	66.67	80.00	66.67	100.00	62.50	75.00	87.50	75.00	100.00	80.00	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	16.67	0.00	0.00	0.00	25.00	12.50	0.00	25.00	0.00	10.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	10.00	40.00	0.00	40.00	30.00	20.00	20.00	20.00	20.00	0.00	0.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlesto

TRANSECT NAME	**T3 (14)**	**T3 (15)**	**T3 (16)**	**T3 (17)**	**T3 (18)**	**T3 (19)**	**T3 (20)**	**T3 (21)**	**T3 (22)**	**T3 (23)**	**T3 (24)**	**T3 (25)**	**T3 (26)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**8**	**9**	**8**	**9**	**10**	**8**	**7**	**7**	**9**	**8**	**8**	**9**
MAJOR CATEGORY (% of transect)													
CORAL (C)	11.11	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	22.22
SPONGES (S)	11.11	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	66.67	62.50	88.89	100.00	100.00	100.00	87.50	100.00	100.00	100.00	87.50	75.00	77.78
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00
GORGONIANS (G)	11.11	37.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00
TAPE, WAND, SHADOW (TWS)	10.00	20.00	10.00	20.00	10.00	0.00	20.00	30.00	30.00	10.00	20.00	20.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T3 (27)**	**T3 (28)**	**T3 (29)**	**T3 (30)**	**T3 (31)**	**T3 (32)**	**T3 (33)**	**T3 (34)**	**T3 (35)**	**T3 (36)**	**T3 (37)**	**T3 (38)**	**T3 (39)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**10**	**9**	**7**	**7**	**9**	**9**	**10**	**8**	**10**	**10**	**10**	**10**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	77.78	100.00	100.00	85.71	100.00	77.78	88.89	80.00	75.00	100.00	100.00	90.00	90.00
OTHER LIVE (O)	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	11.11	0.00	0.00	0.00	0.00	22.22	11.11	20.00	25.00	0.00	0.00	10.00	10.00
TAPE, WAND, SHADOW (TWS)	10.00	0.00	10.00	30.00	30.00	10.00	10.00	0.00	20.00	0.00	0.00	0.00	0.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T3 (40)**	**T3 (41)**	**T3 (42)**	**T3 (43)**	**T3 (44)**	**T3 (45)**	**T3 (46)**	**T3 (47)**	**T3 (48)**	**T3 (49)**	**T3 (50)**	**T3 (51)**	**T3 (52)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**9**	**9**	**8**	**7**	**9**	**7**	**8**	**10**	**8**	**9**	**7**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	11.11	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	11.11	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.43	28.57
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	85.71	88.89	100.00	100.00	100.00	88.89	85.71	100.00	100.00	87.50	77.78	28.57	71.43
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	14.29	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	12.50	11.11	0.00	0.00
TAPE, WAND, SHADOW (TWS)	30.00	10.00	10.00	20.00	30.00	10.00	30.00	20.00	0.00	20.00	10.00	30.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T3 (53)**	**T3 (54)**	**T3 (55)**	**T3 (56)**	**T3 (57)**	**T3 (58)**	**T3 (59)**	**T3 (60)**	**T3 (61)**	**T3 (62)**	**T3 (63)**	**T3 (64)**	**T3 (65)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**9**	**6**	**7**	**8**	**10**	**9**	**10**	**9**	**7**	**8**	**10**	**10**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	90.00	88.89	100.00	100.00	50.00	70.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	50.00	30.00
TAPE, WAND, SHADOW (TWS)	10.00	10.00	40.00	30.00	20.00	0.00	10.00	0.00	10.00	30.00	20.00	0.00	0.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T3 (66)**	**T3 (67)**	**T3 (68)**	**T3 (69)**	**T3 (70)**	**T3 (71)**	**T3 (72)**	**T3 (73)**	**T3 (74)**	**T3 (75)**	**T3 (76)**	**T3 (77)**	**T3 (78)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**10**	**10**	**10**	**9**	**9**	**9**	**9**	**10**	**8**	**7**	**10**	**7**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	30.00	10.00	0.00	11.11	0.00	22.22	30.00	12.50	0.00	20.00	0.00	25.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	80.00	60.00	90.00	100.00	88.89	100.00	77.78	70.00	87.50	85.71	80.00	100.00	75.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	20.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	0.00	0.00	0.00	10.00	10.00	10.00	10.00	0.00	20.00	30.00	0.00	30.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T3 (79)**	**T3 (80)**			
Number of frames	**1**	**1**			
Total points	**10**	**10**			
Total points (minus tape+wand+shadow)	**8**	**8**			
MAJOR CATEGORY (% of transect)			**MEAN**	**STD. DEV.**	**STD. ERROR**
CORAL (C)	0.00	0.00	1.59	4.39	0.49
SPONGES (S)	0.00	0.00	1.55	8.72	0.97
FISH (F)	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	12.50	0.00	3.32	7.97	0.89
TURF, BARE (TB)	0.00	0.00	0.16	1.40	0.16
SAND, SHELLHASH, RUBBLE (SSHR)	75.00	100.00	87.34	14.28	1.60
OTHER LIVE (O)	0.00	0.00	0.30	1.86	0.21
GORGONIANS (G)	12.50	0.00	5.75	9.98	1.12
TAPE, WAND, SHADOW (TWS)	20.00	20.00	14.75	11.58	1.29
Sum (excluding tape+shadow+wand)	100.00	100.00			

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston\CPCe\T1_CPCe_KR_UpdatedQAQC.xlsx:Data summary

TRANSECT NAME	**T4 (1)**	**T4 (2)**	**T4 (3)**	**T4 (4)**	**T4 (5)**	**T4 (6)**	**T4 (7)**	**T4 (8)**	**T4 (9)**	**T4 (10)**	**T4 (11)**	**T4 (12)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**5**	**9**	**8**	**10**	**10**	**9**	**8**	**9**	**7**	**8**	**9**	**9**
MAJOR CATEGORY (% of transect)												
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.22
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	100.00	100.00	60.00	77.78	87.50	77.78	100.00	100.00	88.89	77.78
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	40.00	22.22	12.50	11.11	0.00	0.00	11.11	0.00
TAPE, WAND, SHADOW (TWS)	50.00	10.00	20.00	0.00	0.00	10.00	20.00	10.00	30.00	20.00	10.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	T4 (13)	T4 (14)	T4 (15)	T4 (16)	T4 (17)	T4 (18)	T4 (19)	T4 (20)	T4 (21)	T4 (22)	T4 (23)	T4 (24)	T4 (26)
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**10**	**10**	**9**	**9**	**8**	**9**	**8**	**9**	**9**	**10**	**8**	**10**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.78	30.00	0.00	10.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	90.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	22.22	70.00	100.00	90.00	85.71
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29
TAPE, WAND, SHADOW (TWS)	0.00	0.00	10.00	10.00	20.00	10.00	20.00	10.00	10.00	0.00	20.00	0.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T4 (28)**	**T4 (30)**	**T4 (32)**	**T4 (34)**	**T4 (36)**	**T4 (38)**	**T4 (40)**	**T4 (42)**	**T4 (44)**	**T4 (46)**	**T4 (48)**	**T4 (50)**	**T4 (52)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**9**	**7**	**9**	**10**	**8**	**9**	**9**	**8**	**8**	**9**	**6**	**9**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	12.50	11.11	0.00	0.00	0.00	11.11	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	12.50	11.11	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	71.43	100.00	85.71	100.00	100.00	87.50	88.89	88.89	62.50	87.50	77.78	100.00	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	28.57	0.00	14.29	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	30.00	10.00	30.00	10.00	0.00	20.00	10.00	10.00	20.00	20.00	10.00	40.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T4 (54)**	**T4 (56)**	**T4 (58)**	**T4 (60)**	**T4 (62)**	**T4 (64)**	**T4 (66)**	**T4 (68)**	**T4 (70)**	**T4 (72)**	**T4 (74)**	**T4 (76)**	**T4 (78)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**8**	**9**	**9**	**7**	**8**	**7**	**8**	**9**	**7**	**8**	**10**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50
TURF, BARE (TB)	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	66.67	88.89	100.00	100.00	100.00	100.00	88.89	100.00	100.00	90.00	75.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	11.11	11.11	0.00	0.00	0.00	0.00	11.11	0.00	0.00	10.00	0.00
TAPE, WAND, SHADOW (TWS)	30.00	20.00	10.00	10.00	30.00	20.00	30.00	20.00	10.00	30.00	20.00	0.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T4 (80)**	**T4 (25)**	**T4 (27)**	**T4 (29)**	**T4 (31)**	**T4 (33)**	**T4 (35)**	**T4 (37)**	**T4 (39)**	**T4 (41)**	**T4 (43)**	**T4 (45)**	**T4 (47)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**8**	**9**	**7**	**7**	**9**	**8**	**9**	**8**	**9**	**10**	**8**	**8**	**9**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	11.11
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	87.50	100.00	100.00	100.00	88.89	100.00	88.89	100.00	88.89	100.00	100.00	100.00	88.89
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	10.00	30.00	30.00	10.00	20.00	10.00	20.00	10.00	0.00	20.00	20.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlesto

TRANSECT NAME	**T4 (49)**	**T4 (51)**	**T4 (53)**	**T4 (55)**	**T4 (57)**	**T4 (59)**	**T4 (61)**	**T4 (63)**	**T4 (65)**	**T4 (67)**	**T4 (69)**	**T4 (71)**	**T4 (73)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**8**	**6**	**9**	**6**	**9**	**8**	**7**	**9**	**9**	**9**	**6**	**10**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
TURF, BARE (TB)	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	50.00	83.33	55.56	100.00	100.00	100.00	100.00	100.00	100.00	100.00	83.33	80.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	37.50	16.67	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00
TAPE, WAND, SHADOW (TWS)	30.00	20.00	40.00	10.00	40.00	10.00	20.00	30.00	10.00	10.00	10.00	40.00	0.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T4 (75)**	**T4 (77)**	**T4 (79)**			
Number of frames	**1**	**1**	**1**			
Total points	**10**	**10**	**10**			
Total points (minus tape+wand+shadow)	**10**	**7**	**8**			
MAJOR CATEGORY (% of transect)				**MEAN**	**STD. DEV.**	**STD. ERROR**
CORAL (C)	0.00	0.00	0.00	0.43	2.22	0.25
SPONGES (S)	0.00	0.00	0.00	0.71	2.78	0.31
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	10.00	0.00	12.50	0.69	3.13	0.35
TURF, BARE (TB)	0.00	0.00	0.00	3.18	10.55	1.18
SAND, SHELLHASH, RUBBLE (SSHR)	90.00	100.00	87.50	90.75	14.13	1.58
OTHER LIVE (O)	0.00	0.00	0.00	0.31	2.80	0.31
GORGONIANS (G)	0.00	0.00	0.00	3.93	8.30	0.93
TAPE, WAND, SHADOW (TWS)	0.00	30.00	20.00	16.63	11.36	1.27
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00			

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston\CPCe\T1_CPCe_KR_UpdatedQAQC.xlsx:Data summary

TRANSECT NAME	**T5 (1)**	**T5 (2)**	**T5 (3)**	**T5 (4)**	**T5 (5)**	**T5 (6)**	**T5 (7)**	**T5 (8)**	**T5 (9)**	**T5 (10)**	**T5 (11)**	**T5 (12)**	**T5 (13)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**10**	**10**	**8**	**8**	**9**	**8**	**8**	**9**	**7**	**8**	**6**	**9**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	12.50	12.50	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	10.00	40.00	50.00	62.50	55.56	12.50	50.00	11.11	0.00	37.50	0.00	44.44	14.29
TURF, BARE (TB)	10.00	0.00	0.00	12.50	0.00	0.00	12.50	0.00	28.57	37.50	0.00	33.33	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	80.00	60.00	50.00	25.00	44.44	75.00	25.00	88.89	71.43	25.00	66.67	22.22	85.71
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	0.00	0.00	20.00	20.00	10.00	20.00	20.00	10.00	30.00	20.00	40.00	10.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precoı
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T5 (14)**	**T5 (15)**	**T5 (16)**	**T5 (17)**	**T5 (18)**	**T5 (19)**	**T5 (20)**	**T5 (21)**	**T5 (22)**	**T5 (23)**	**T5 (24)**	**T5 (25)**	**T5 (26)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**8**	**7**	**9**	**8**	**9**	**7**	**8**	**8**	**8**	**8**	**8**	**7**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	87.50	100.00	88.89	87.50	77.78	71.43	75.00	87.50	100.00	87.50	100.00	100.00	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	11.11	12.50	22.22	28.57	25.00	0.00	0.00	12.50	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	30.00	10.00	20.00	10.00	30.00	20.00	20.00	20.00	20.00	20.00	30.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T5 (27)**	**T5 (28)**	**T5 (29)**	**T5 (30)**	**T5 (31)**	**T5 (32)**	**T5 (33)**	**T5 (34)**	**T5 (35)**	**T5 (36)**	**T5 (37)**	**T5 (38)**	**T5 (39)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**10**	**10**	**9**	**9**	**9**	**9**	**9**	**8**	**7**	**9**	**10**	**8**	**10**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	11.11	0.00	28.57	44.44	60.00	25.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	100.00	100.00	100.00	100.00	88.89	100.00	57.14	55.56	30.00	75.00	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	10.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	0.00	0.00	10.00	10.00	10.00	10.00	10.00	20.00	30.00	10.00	0.00	20.00	0.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T5 (40)**	**T5 (41)**	**T5 (42)**	**T5 (43)**	**T5 (44)**	**T5 (45)**	**T5 (46)**	**T5 (47)**	**T5 (48)**	**T5 (49)**	**T5 (50)**	**T5 (51)**	**T5 (52)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**10**	**10**	**8**	**10**	**7**	**8**	**10**	**9**	**8**	**8**	**9**	**7**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	50.00	0.00	0.00	0.00	57.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	25.00	60.00	14.29	12.50	30.00	33.33	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	10.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	40.00	50.00	50.00	40.00	28.57	87.50	70.00	66.67	100.00	100.00	100.00	85.71	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00
GORGONIANS (G)	0.00	30.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	0.00	0.00	20.00	0.00	30.00	20.00	0.00	10.00	20.00	20.00	10.00	30.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T5 (53)**	**T5 (54)**	**T5 (55)**	**T5 (56)**	**T5 (57)**	**T5 (58)**	**T5 (59)**	**T5 (60)**	**T5 (61)**	**T5 (62)**	**T5 (63)**	**T5 (64)**	**T5 (65)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**10**	**10**	**10**	**9**	**9**	**9**	**8**	**8**	**8**	**8**	**8**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	25.00	12.50	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	75.00	75.00	75.00	87.50	87.50	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	12.50	12.50	0.00
TAPE, WAND, SHADOW (TWS)	10.00	0.00	0.00	0.00	10.00	10.00	10.00	20.00	20.00	20.00	20.00	20.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T5 (66)**	**T5 (67)**	**T5 (68)**	**T5 (69)**	**T5 (70)**	**T5 (71)**	**T5 (72)**	**T5 (73)**	**T5 (74)**	**T5 (75)**	**T5 (76)**	**T5 (77)**	**T5 (78)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**6**	**9**	**9**	**8**	**8**	**7**	**8**	**6**	**9**	**7**	**3**	**7**	**7**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	11.11	11.11	0.00	12.50	0.00	25.00	16.67	11.11	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	16.67	22.22	66.67	62.50	37.50	14.29	12.50	16.67	44.44	85.71	66.67	42.86	28.57
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	83.33	55.56	11.11	25.00	50.00	85.71	37.50	66.67	33.33	14.29	33.33	57.14	71.43
OTHER LIVE (O)	0.00	11.11	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	11.11	12.50	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	40.00	10.00	10.00	20.00	20.00	30.00	20.00	40.00	10.00	30.00	70.00	30.00	30.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	T5 (79)	T5 (80)			
Number of frames	**1**	**1**			
Total points	**10**	**10**			
Total points (minus tape+wand+shadow)	**8**	**6**			
MAJOR CATEGORY (% of transect)			**MEAN**	**STD. DEV.**	**STD. ERROR**
CORAL (C)	0.00	0.00	1.88	5.69	0.64
SPONGES (S)	0.00	0.00	1.81	8.69	0.97
FISH (F)	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	25.00	16.67	16.29	22.13	2.47
TURF, BARE (TB)	0.00	0.00	2.06	7.03	0.79
SAND, SHELLHASH, RUBBLE (SSHR)	75.00	83.33	73.63	26.40	2.95
OTHER LIVE (O)	0.00	0.00	1.05	5.00	0.56
GORGONIANS (G)	0.00	0.00	3.29	7.30	0.82
TAPE, WAND, SHADOW (TWS)	20.00	40.00	17.63	12.45	1.39
Sum (excluding tape+shadow+wand)	100.00	100.00			

Project: 16-1360 Charleston Post 45 Precon
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.txt
File/sheetname: P:\Jobs\16-1360 Charleston\CPCe\T1_CPCe_KR_UpdatedQAQC.xlsx:Data summary

TRANSECT NAME	**T6 (1)**	**T6 (2)**	**T6 (3)**	**T6 (4)**	**T6 (5)**	**T6 (6)**	**T6 (7)**	**T6 (8)**	**T6 (9)**	**T6 (10)**	**T6 (11)**	**T6 (12)**	**T6 (13)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**4**	**8**	**10**	**9**	**8**	**6**	**9**	**9**	**6**	**10**	**7**	**5**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	12.50	40.00	55.56	62.50	33.33	77.78	0.00	0.00	0.00	42.86	60.00	12.50
TURF, BARE (TB)	0.00	0.00	0.00	11.11	12.50	16.67	0.00	0.00	33.33	10.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	87.50	60.00	33.33	25.00	50.00	22.22	100.00	66.67	90.00	57.14	40.00	87.50
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	60.00	20.00	0.00	10.00	20.00	40.00	10.00	10.00	40.00	0.00	30.00	50.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlesto

TRANSECT NAME	**T6 (14)**	**T6 (15)**	**T6 (16)**	**T6 (17)**	**T6 (18)**	**T6 (19)**	**T6 (20)**	**T6 (21)**	**T6 (22)**	**T6 (23)**	**T6 (24)**	**T6 (25)**	**T6 (26)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**8**	**8**	**10**	**8**	**7**	**8**	**7**	**8**	**8**	**6**	**10**	**4**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	11.11	75.00	50.00	0.00	0.00	0.00	25.00	14.29	12.50	50.00	0.00	0.00	25.00
TURF, BARE (TB)	22.22	0.00	0.00	50.00	0.00	28.57	25.00	0.00	12.50	0.00	0.00	10.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	66.67	25.00	50.00	50.00	100.00	71.43	50.00	71.43	75.00	50.00	100.00	90.00	75.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	10.00	20.00	20.00	0.00	20.00	30.00	20.00	30.00	20.00	20.00	40.00	0.00	60.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precoı
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T6 (27)**	**T6 (28)**	**T6 (29)**	**T6 (30)**	**T6 (31)**	**T6 (32)**	**T6 (33)**	**T6 (34)**	**T6 (35)**	**T6 (36)**	**T6 (37)**	**T6 (38)**	**T6 (39)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**8**	**10**	**7**	**7**	**6**	**8**	**9**	**7**	**8**	**8**	**8**	**9**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.86	25.00	25.00	0.00	11.11	0.00
TURF, BARE (TB)	25.00	0.00	0.00	0.00	16.67	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	75.00	100.00	100.00	100.00	83.33	87.50	100.00	42.86	75.00	75.00	100.00	88.89	100.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	20.00	0.00	30.00	30.00	40.00	20.00	10.00	30.00	20.00	20.00	20.00	10.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T6 (40)**	**T6 (41)**	**T6 (42)**	**T6 (43)**	**T6 (44)**	**T6 (45)**	**T6 (46)**	**T6 (47)**	**T6 (48)**	**T6 (49)**	**T6 (50)**	**T6 (51)**	**T6 (52)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**10**	**8**	**9**	**8**	**9**	**7**	**7**	**9**	**8**	**8**	**9**	**10**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	0.00	20.00	12.50	22.22	0.00	0.00	0.00	14.29	44.44	25.00	0.00	55.56	80.00
TURF, BARE (TB)	0.00	20.00	0.00	0.00	37.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	100.00	60.00	87.50	77.78	62.50	100.00	100.00	85.71	55.56	75.00	100.00	44.44	20.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	30.00	0.00	20.00	10.00	20.00	10.00	30.00	30.00	10.00	20.00	20.00	10.00	0.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
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Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlesto

TRANSECT NAME	**T6 (53)**	**T6 (54)**	**T6 (55)**	**T6 (56)**	**T6 (57)**	**T6 (58)**	**T6 (59)**	**T6 (60)**	**T6 (61)**	**T6 (62)**	**T6 (63)**	**T6 (64)**	**T6 (65)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**9**	**8**	**7**	**6**	**8**	**7**	**8**	**6**	**8**	**9**	**7**	**9**	**9**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	22.22	0.00	0.00	33.33	62.50	0.00	0.00	16.67	0.00	55.56	71.43	44.44	55.56
TURF, BARE (TB)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	77.78	100.00	100.00	66.67	37.50	100.00	87.50	83.33	100.00	44.44	28.57	55.56	44.44
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	10.00	20.00	30.00	40.00	20.00	30.00	20.00	40.00	20.00	10.00	30.00	10.00	10.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T6 (66)**	**T6 (67)**	**T6 (68)**	**T6 (69)**	**T6 (70)**	**T6 (71)**	**T6 (72)**	**T6 (73)**	**T6 (74)**	**T6 (75)**	**T6 (76)**	**T6 (77)**	**T6 (78)**
Number of frames	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total points	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Total points (minus tape+wand+shadow)	**7**	**6**	**9**	**7**	**10**	**8**	**9**	**6**	**10**	**5**	**8**	**8**	**8**
MAJOR CATEGORY (% of transect)													
CORAL (C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FISH (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	28.57	83.33	55.56	0.00	0.00	0.00	22.22	0.00	10.00	0.00	75.00	100.00	50.00
TURF, BARE (TB)	14.29	0.00	0.00	71.43	10.00	37.50	11.11	0.00	0.00	0.00	0.00	0.00	0.00
SAND, SHELLHASH, RUBBLE (SSHR)	57.14	16.67	44.44	28.57	90.00	62.50	66.67	100.00	90.00	100.00	25.00	0.00	50.00
OTHER LIVE (O)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GORGONIANS (G)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TAPE, WAND, SHADOW (TWS)	30.00	40.00	10.00	30.00	0.00	20.00	10.00	40.00	0.00	50.00	20.00	20.00	20.00
Sum (excluding tape+shadow+wand)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Project: 16-1360 Charleston Post 45 Precor
Dataset name: Charleston CPCe Analysis
Location: Charleston, S.C.
Analysis by: K. Rogers and M. Robbart
Codefile: C:\CPCe_41_inst\Charleston_HB.
File/sheetname: P:\Jobs\16-1360 Charlestc

TRANSECT NAME	**T6 (79)**	**T6 (80)**			
Number of frames	**1**	**1**			
Total points	**10**	**10**			
Total points (minus tape+wand+shadow)	**8**	**8**			
MAJOR CATEGORY (% of transect)			**MEAN**	**STD. DEV.**	**STD. ERROR**
CORAL (C)	0.00	0.00	0.00	0.00	0.00
SPONGES (S)	0.00	0.00	0.18	1.60	0.18
FISH (F)	0.00	0.00	0.00	0.00	0.00
BRYOZOAN (BRY)	37.50	37.50	23.74	26.80	3.00
TURF, BARE (TB)	0.00	0.00	6.12	12.98	1.45
SAND, SHELLHASH, RUBBLE (SSHR)	62.50	62.50	69.65	26.30	2.94
OTHER LIVE (O)	0.00	0.00	0.16	1.40	0.16
GORGONIANS (G)	0.00	0.00	0.16	1.40	0.16
TAPE, WAND, SHADOW (TWS)	20.00	20.00	21.25	13.63	1.52
Sum (excluding tape+shadow+wand)	100.00	100.00			