MOTE MARINE LABORATORY & AQUARIUM

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Bill Waddill
The Bay Park Conservancy, Inc.
662 No. Tamiami Trail
Sarasota, Florida 34236

November 13, 2020

Re: First Quarterly Report for The Bay Sarasota Project

Dear Mr. Waddill,

We present this letter report as the first quarterly progress report for the project activity for The Bay Sarasota (TBS) project environmental monitoring.

Delays in contract finalization into June 2020 resulted in delays of implementation of some of the project tasks. Nevertheless, water quality, sediment and benthic infaunal sampling, and a fisheries sampling were conducted in June. Obtaining the necessary components to install the salinity monitoring sonde was delayed due to the necessity of finalizing the contract agreement and setting up the project account numbers within Mote. Mote had to initiate a new request for system components to the vendor and there was an additional waiting period to obtain the refurbished components. Upon receipt the multimeter was then tested in the laboratory to insure proper operation.

The original positioning and securing design for the salinity / depth monitoring device, to be mounted on the boardwalk over the bayou, had to be modified. We learned from the construction manager, Jeff Lord, that the deck of the boardwalk was scheduled for demolition beginning in December 2020. Therefore we had to make an installation modification that would not project to the walkway railing and would only be attached to one of the pilings without protruding above the deck of the walkway. The modified installation was completed on November 6 and should provide a good record of conditions created by the rain storms and tide surge associated with Hurricane Eta which affected or area from ~November 10-12, 2020.

Task progress is summarized as follows. Figure 1 shows the project site and the zones and sampling areas for the following tasks.

Water Quality sampling.

Began in June and continued monthly with the baywide sampling program. Samples were collected at each of the WQ locations illustrated in Figure 1. Data are attached as an appendix.

Benthos and Sediment

Benthic samples were taken in June at the five stations of Figure 1. Samples have been rough sorted to major groups.

Sediment samples were taken on July 10, at each of the benthic locations, one day after the water quality sampling. Results of the particle size analysis and organic content are attached.

Oyster Survey

Pending – had to be rescheduled due to several weather related cancellations.

Fisheries Sampling

In June 2020 the first standardized finfish assessment was conducted. For this we performed a total of 30 seine hauls using a 9.1m x 3 m bag seine (3mm nylon mesh). At the project target site we conducted a total of 10 seine hauls where 5 hauls were pulled at fixed stations within the embayment and 5 hauls at fixed stations immediately outside of the embayment. Similarly, a total of 10 seine hauls were also conducted at the urbanized control site and 10 seine hauls at the naturalized control site and at each of these sites 5 hauls were pulled within the respective embayment, and 5 hauls outside of the respective embayment (See attached Table). For each seine haul, all catch species were identified and counted, and when available, a subset of 25 individuals for each species was measured for body length and kept for further laboratory analysis involving biomass and validation of species identification.

Fisheries Sampling Sites and Dates

Sampling Site	**Subsite**	**Sampling Date**	**Seine Reps**
The Bay, Sarasota	Embayment	26-Jun-20	5
	Outer	29-Jun-20	5
Urbanized Control, 10th Street	Embayment	29-Jun-20	5
	Outer	2-Jul-20	5
Naturalized Control, Phillippi	Embayment	30-Jun-20	5
	Outer	30-Jun-20	5
The Bay, Sarasota	Embayment	25-Aug-20	5
	Outer	25-Aug-20	5
Urbanized Control, 10th Street	Embayment	28-Aug-20	5
	Outer	28-Aug-20	5
Naturalized Control, Phillippi	Embayment	27-Aug-20	5
	Outer	27-Aug-20	5

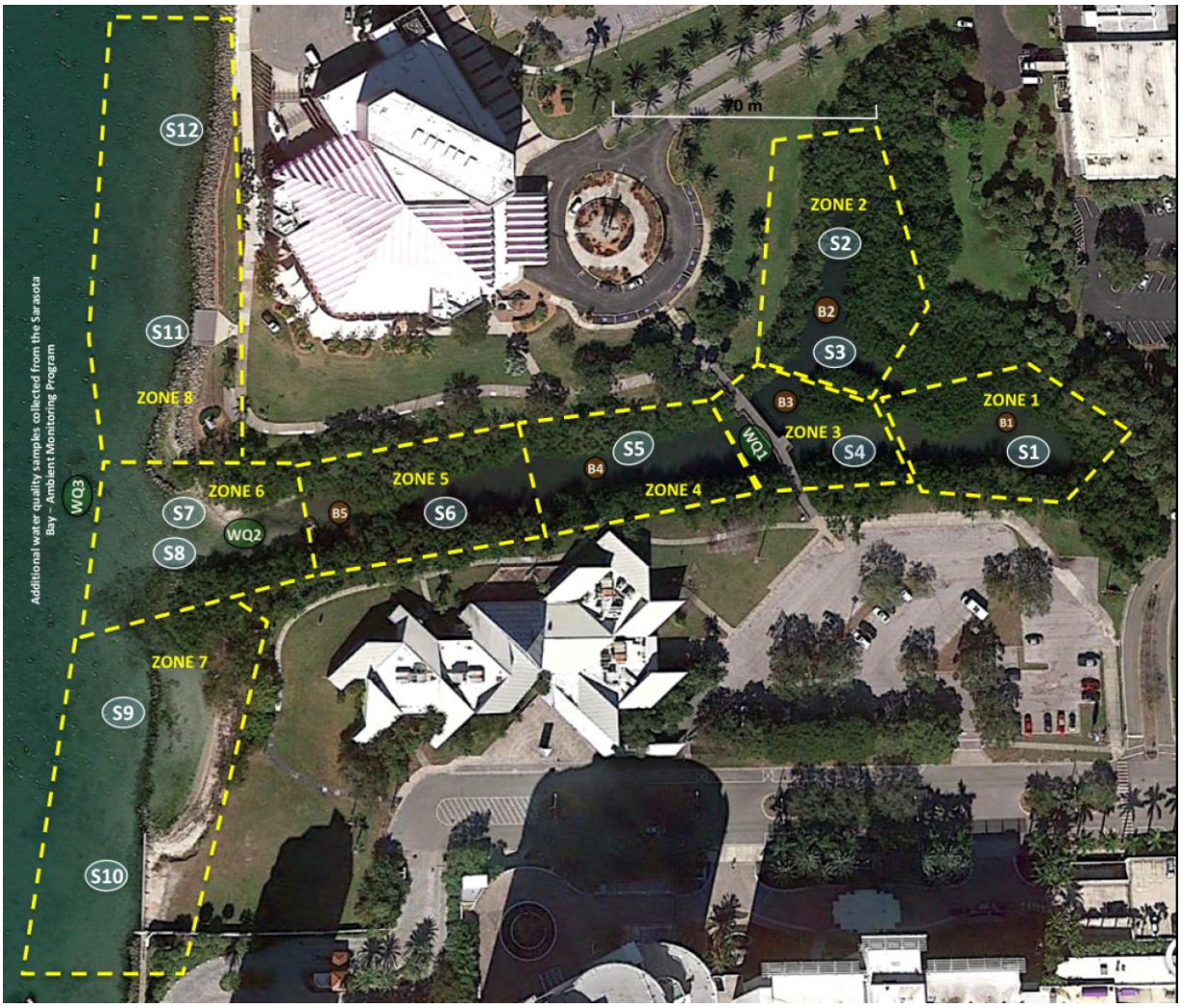

Figure 1. Project site map depicting benthic sampling (B1, B2,…) locations, water quality (WQ1,WQ2,…) locations, and seine (S1,S2,…)locations. Zones 1-5 define the "embayment" locations, and Zones 6-9 refer to "outside" locations

In August, the same sampling effort and regimen was conducted at TBS and at the urbanized and natural control sites. In August, the catch of each seine haul was processed as above in the field and in the laboratory.

Although at this time the catch data are not completely processed a note of interest was that TBS had the highest catch rates of high profile valuable sportfish juveniles such as snook, spotted sea trout and mangrove snapper and TBS appears to be an important nursery for many high-value species. Selected photos of seine catch contents are included below.

Observations - qualitative observations of site characteristics.
The entrance to the bayou from Sarasota Bay is relatively narrow and shallow. At relatively normal low tide there is not a fluid connection between the bay and the bayou as there is a sandy-shell bar across the entrance. This feature limits the tidal flux to some degree that is less than the normal tidal variation of Sarasota Bay. From the entrance heading east the canal deepens and contains a loosely consolidated thick (~0.5meter) layer of organic muck containing coarse plant debris mostly consisting of mangrove leaves and small branches.

There was a whiting event (see site photos) during some of the water quality sampling events near station S1. S1 is also an area where we have consistently seen higher nitrate-nitrogen (NO23-N) than in other sites. This site also consistently shows the lowest pH and the lowest dissolved oxygen. This data will be looked at in more detail as the number of samplings increases.

The high organic content of the sediment results in the production of hydrogen sulfide, with the characteristic rotten egg smell, which bubbles from the bottom when disturbed.

The mangrove fringe is well developed and mostly continuous consisting primarily of the red mangrove *Rhizophora mangle.* The easer oyster *Crassostrea virginica* appears to be present throughout the bayou attached to the mangrove prop roots and the occasional concrete rubble. The upside down jellyfish, *Cassiopea (frondosa?)* has been observed at the site. Native to the Florida Keys it typically inhabits warm quiet waters. The range has been expanding north from the Keys over the past 20 or more years and we believe this may be related to climate change and higher winter minimum temperatures along the west coast of Florida. The sting is mild and not a significant threat to most people.

If you have any questions provided in this report please contact me at your convenience.

Sincerely,

Jim Culter

Jim Culter
Senior Scientist

Appendix – Supplementary Images and Data

Site Photos

Seine haul conducted at the “outer” site at The Bay, Sarasota (TBS). Upper left insert photo shows a juvenile common snook captured nearby at the mouth of TBS and the insert picture below this shows several species captured in the seine including pigfish, mojarra, an anchovy amidst seaweed (or

Right photo shows anchovy catch near the mouth of The Bay, Sarasota project site. Over 17,000 individual anchovy were captured in this particular haul. Above left photo shows several upside-down jellyfish captured within The Bay, Sarasota project site. Bottom left photo includes needlefish (fish predators) amongst the abundant macroalgae species and mangrove root propagules.

View from west to east taken near entrance to Sarasota Bay at low tide.

View west to east of boardwalk.

Benthic Sampling – Petite PONAR grab.

Benthic Sampling – Typical sample in bucket.

Installation of conductivity, temperature, depth sonde (CTD) on boardwalk.

Pipe draining US41 near kayak launch.

Whiting event during some of the chemistry sampling days

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Water Quality and Sediment Data for The Bay Project, Sarasota

Water Quality - Summary Report

LIMS ID	Station	Sample Number	Date (mmddyy)	Time (EST)	Sample Depth m	NO23-N (EPA 353.3)		NH4-N (SM20 4500-NH3 G)		TKN (EPA 351.2)			Total N
						mg/l	Analysis Date	mg/l	Analysis Date	mg/l	Analysis Date	Digest Date	mg/l
2006001-001	S1	200516	6/3/2020	10:09	0.2M	U 0.005	06/10/20	0.019 I	06/10/20	0.5	06/18/20	6/16/2020	0.50
2006001-002	S2	200515	6/3/2020	9:58	0.2M	U 0.005	06/10/20	0.022	06/10/20	0.44	06/18/20	6/16/2020	0.44
2006001-003	S3	200517	6/3/2020	9:51	0.2M	U 0.005	06/10/20	0.021	06/10/20	0.41	06/18/20	6/16/2020	0.41
2006001-004	S4	200514	6/3/2020	9:35	0.2M	0.010 I	06/10/20	0.028	06/10/20	0.46	06/18/20	6/16/2020	0.47
2006001-005	S5	200513	6/3/2020	9:23	0.2M	0.007 I	06/10/20	0.027	06/10/20	0.45	06/18/20	6/16/2020	0.46
2006002-001	S6	200512	6/3/2020	11:31	1.0M	U 0.005	06/10/20	0.022	06/10/20	0.61	06/18/20	6/16/2020	0.61
2006003-017	EQP BLK1	200379	6/3/2020	9:00	-	U 0.005	06/10/20	U 0.005	06/10/20	U 0.05	06/11/20	6/8/2020	U0.05
2007001-001	S1	200601	7/8/2020	13:16	0.2M	0.010 I	07/14/20	0.012 I	07/14/20	0.66	07/22/20	7/20/2020	0.67
2007001-006	S1 REP	200600	7/8/2020	13:18	0.2M	0.006 I	07/14/20	0.011 I	07/14/20	0.56	07/22/20	7/20/2020	0.57
2007001-002	S2	200603	7/8/2020	13:07	0.2M	U 0.005	07/14/20	0.014 I	07/14/20	0.66	07/22/20	7/20/2020	0.66
2007001-003	S3	200598	7/8/2020	13:00	0.2M	U 0.005	07/14/20	0.012 I	07/14/20	0.52	07/22/20	7/20/2020	0.52
2007001-004	S4	200599	7/8/2020	12:46	0.2M	U 0.005	07/14/20	0.018 I	07/14/20	0.4	07/22/20	7/20/2020	0.40
2007001-005	S5	200597	7/8/2020	12:37	0.2M	0.007 I	07/14/20	0.029	07/14/20	0.49	07/22/20	7/20/2020	0.50
2007004-001	S6	200602	7/8/2020	12:31	0.85M	U 0.005	07/14/20	0.011 I	07/14/20	0.36	07/22/20	7/20/2020	0.36
2007003-017	EQP BLK1	200468	7/8/2020	9:14	-	U 0.005	07/14/20	U 0.005	07/14/20	U 0.05	07/22/20	7/20/2020	U0.05
2007001-007	FLD BLK	200604	7/8/2020	11:59	-	U 0.005	07/14/20	U 0.005	07/14/20	U 0.05	07/22/20	7/20/2020	U0.05
2008007-001	S1	200609	8/12/2020	10:01	0.2M	0.09	08/20/20	0.017 I	08/20/20	0.63 G	08/25/20	8/17/2020	0.72
2008007-006	S1 REP	200605	8/12/2020	10:06	0.2M	0.05	08/20/20	0.021	08/20/20	0.58 G	08/25/20	8/17/2020	0.63
2008007-002	S2	200606	8/12/2020	9:48	0.2M	U 0.005	08/20/20	0.018 I	08/20/20	0.65 G	08/25/20	8/17/2020	0.65
2008007-003	S3	200612	8/12/2020	9:39	0.2M	0.058	08/20/20	0.062	08/20/20	0.63 G	08/25/20	8/17/2020	0.69
2008007-004	S4	200611	8/12/2020	9:24	0.2M	0.005 I	08/20/20	0.017 I	08/20/20	0.57 G	08/25/20	8/17/2020	0.58
2008007-005	S5	200610	8/12/2020	9:10	0.2M	U 0.005	08/20/20	0.019 I	08/20/20	0.6	08/25/20	8/17/2020	0.60
2008011-001	S6	200607	8/12/2020	9:09	0.6M	0.005 I	08/20/20	0.031	08/20/20	0.57	08/25/20	8/17/2020	0.58
2008009-017	EQP BLK1	200637	8/12/2020	9:00	-	U 0.005	08/20/20	U 0.005	08/20/20	U 0.05	08/25/20	8/18/2020	U0.05
2008007-007	FLD BLK	200608	8/12/2020	8:40	-	U 0.005	08/20/20	U 0.005	08/20/20	0.07 I	08/25/20	8/17/2020	0.07
2009005-001	S1	200618	9/9/2020	12:44	0.2M	0.065	09/14/20	0.048	09/14/20	0.6	09/24/20	9/22/2020	0.67
2009005-006	S1 REP	200615	9/9/2020	12:50	0.2M	0.081	09/14/20	0.058	09/14/20	0.61	09/24/20	9/22/2020	0.69
2009005-002	S2	200616	9/9/2020	12:31	0.2M	0.012 I	09/14/20	0.022	09/14/20	0.63	09/24/20	9/22/2020	0.64
2009005-003	S3	200613	9/9/2020	12:24	0.2M	0.010 I	09/14/20	0.014 I	09/14/20	0.65	09/24/20	9/22/2020	0.66
2009005-004	S4	200620	9/9/2020	12:09	0.2M	0.016 I	09/14/20	0.022	09/14/20	0.6	09/24/20	9/22/2020	0.62
2009005-005	S5	200617	9/9/2020	12:01	0.2M	0.027	09/14/20	0.029	09/14/20	0.61	09/24/20	9/22/2020	0.64
2009008-001	S6	200614	9/9/2020	9:04	1.0M	U 0.005	09/14/20	0.023	09/14/20	0.35	09/24/20	9/22/2020	0.35
2009007-017	EQP BLK1	200816	9/9/2020	8:55	-	U 0.005	09/14/20	U 0.005	09/14/20	U 0.05	09/24/20	9/22/2020	U0.05
2009005-007	FLD BLK	200619	9/9/2020	11:10	-	U 0.005	09/14/20	U 0.005	09/14/20	U 0.05	09/24/20	9/22/2020	U0.05

na - No data available
U - Value less than method detection limit (MDL)
I - Value between MDL and Practical quantitation limit (PQL)
Q - Holding time exceeded
J - Estimated value
G - Analyte was => MDL in sample and blank; blank was > 10% of the sample

Water Quality and Sediment Data for The Bay Project, Sarasota

Water Quality - Summary Report

LIMS ID	Station	Sample Number	Date (mmddyy)	Time (EST)	Orthophosphate as P (SM 4500-P F)			Total P (EPA 365.4)			Biochemical Oxygen Demand, 5 Day (SM 5210B)		
					mg/L	Analysis Date	Analysis Time	mg/l	Analysis Date	Digest Date	mg/L	Analysis date	Analysis time
2006001-001	S1	200516	6/3/2020	10:09	0.029	06/04/20	10:04	0.05 I	06/11/20	06/08/20	1.4 I	06/04/20	8:30
2006001-002	S2	200515	6/3/2020	9:58	0.032	06/04/20	10:02	U 0.05	06/11/20	06/08/20	1.0 I	06/04/20	7:48
2006001-003	S3	200517	6/3/2020	9:51	0.026	06/04/20	10:05	U 0.05	06/11/20	06/08/20	0.7 I	06/04/20	7:45
2006001-004	S4	200514	6/3/2020	9:35	0.033	06/04/20	10:01	0.06 I	06/11/20	06/08/20	0.8 I	06/04/20	7:43
2006001-005	S5	200513	6/3/2020	9:23	0.027	06/04/20	9:59	0.06 I	06/11/20	06/08/20	0.8 I	06/04/20	7:29
2006002-001	S6	200512	6/3/2020	11:31	0.013 I	06/04/20	9:58	0.05 I	06/11/20	06/08/20	0.7 I	06/04/20	9:26
2006003-017	EQP BLK1	200379	6/3/2020	9:00	U 0.005	06/04/20	8:31	U 0.05	06/11/20	06/08/20	U 0.5	06/04/20	7:26
2007001-001	S1	200601	7/8/2020	13:16	0.062	07/09/20	11:38	0.17 I	07/22/20	07/20/20	1.9 I	07/09/20	12:51
2007001-006	S1 REP	200600	7/8/2020	13:18	0.112	07/09/20	11:37	0.13 I	07/22/20	07/20/20	1.9 I	07/09/20	12:54
2007001-002	S2	200603	7/8/2020	13:07	0.085	07/09/20	11:41	0.16 I	07/22/20	07/20/20	2.2	07/09/20	12:33
2007001-003	S3	200598	7/8/2020	13:00	0.048	07/09/20	11:34	0.13 I	07/22/20	07/20/20	1.2 I	07/09/20	12:31
2007001-004	S4	200599	7/8/2020	12:46	0.023	07/09/20	11:35	0.09 I	07/22/20	07/20/20	1.3 I	07/09/20	12:23
2007001-005	S5	200597	7/8/2020	12:37	0.022	07/09/20	11:32	0.14 I	07/22/20	07/20/20	1.2 I	07/09/20	11:06
2007004-001	S6	200602	7/8/2020	12:31	0.015 I	07/09/20	12:31	0.10 I	07/22/20	07/20/20	1.1 I	07/09/20	10:59
2007003-017	EQP BLK1	200468	7/8/2020	9:14	U 0.005	07/09/20	9:13	U 0.05	07/22/20	07/20/20	U 0.5	07/09/20	7:57
2007001-007	FLD BLK	200604	7/8/2020	11:59	U 0.005	07/09/20	9:20	U 0.05	07/22/20	07/20/20	U 0.5	07/09/20	10:35
2008007-001	S1	200609	8/12/2020	10:01	0.099	08/13/20	10:39	0.22	08/25/20	08/17/20	2.6	08/13/20	8:38
2008007-006	S1 REP	200605	8/12/2020	10:06	0.071	08/13/20	10:23	0.19 I	08/25/20	08/17/20	2.6	08/13/20	8:50
2008007-002	S2	200606	8/12/2020	9:48	0.044	08/13/20	10:26	0.13 I	08/25/20	08/17/20	2.8	08/13/20	8:31
2008007-003	S3	200612	8/12/2020	9:39	0.089	08/13/20	10:44	0.22	08/25/20	08/17/20	2.5	08/13/20	8:28
2008007-004	S4	200611	8/12/2020	9:24	0.06	08/13/20	10:43	0.13 I	08/25/20	08/17/20	2.2	08/13/20	8:20
2008007-005	S5	200610	8/12/2020	9:10	0.049	08/13/20	10:41	0.14 I	08/25/20	08/17/20	2.5	08/13/20	8:08
2008011-001	S6	200607	8/12/2020	9:09	0.031	08/13/20	10:38	0.11 I	08/25/20	08/17/20	1.8 I	08/13/20	8:05
2008009-017	EQP BLK1	200637	8/12/2020	9:00	U 0.005	08/13/20	10:13	U 0.05	08/25/20	08/18/20	U 0.5	08/13/20	8:01
2008007-007	FLD BLK	200608	8/12/2020	8:40	U 0.005	08/13/20	10:11	U 0.05	08/25/20	08/17/20	U 0.5	08/13/20	7:56
2009005-001	S1	200618	9/9/2020	12:44	0.176	09/10/20	10:36	0.21	09/24/20	09/22/20	1.6 I	09/10/20	10:17
2009005-006	S1 REP	200615	9/9/2020	12:50	0.183	09/10/20	10:33	0.24	09/24/20	09/22/20	1.6 I	09/10/20	10:22
2009005-002	S2	200616	9/9/2020	12:31	0.146	09/10/20	10:34	0.21	09/24/20	09/22/20	1.7 I	09/10/20	10:06
2009005-003	S3	200613	9/9/2020	12:24	0.111	09/10/20	10:19	0.19 I	09/24/20	09/22/20	1.4 I	09/10/20	10:04
2009005-004	S4	200620	9/9/2020	12:09	0.099	09/10/20	10:37	0.18 I	09/24/20	09/22/20	1.4 I	09/10/20	9:53
2009005-005	S5	200617	9/9/2020	12:01	0.098	09/10/20	10:50	0.19 I	09/24/20	09/22/20	1.4 I	09/10/20	9:52
2009008-001	S6	200614	9/9/2020	9:04	0.017 I	09/10/20	10:31	0.07 I	09/24/20	09/22/20	0.7 I	09/10/20	8:14
2009007-017	EQP BLK1	200816	9/9/2020	8:55	U 0.005	09/10/20	10:09	U 0.05	09/24/20	09/22/20	U 0.5	09/10/20	8:07
2009005-007	FLD BLK	200619	9/9/2020	11:10	U 0.005	09/10/20	10:06	U 0.05	09/24/20	09/22/20	U 0.5	09/10/20	9:12

na - No data available
U - Value less than method detection limit (MDL)
I - Value between MDL and Practical quantitation limit (PQL)
Q - Holding time exceeded
J - Estimated value
G - Analyte was => MDL in sample and blank; blank was > 10% of the sample

Water Quality and Sediment Data for The Bay Project, Sarasota

Water Quality - Summary Report

LIMS ID	Station	Sample Number	Date (mmddyy)	Time (EST)	Turbidity (SM 2130 B)			Color -True (SM 2120 C)			Chlorophyll a - Pheo Corrected (EPA 445.0)			
					NTU	Analysis Date	Analysis Time	PCU	Analysis Date	Analysis Time	mg/m3	Analysis Date	Filtration Date	Filtration Time
2006001-001	S1	200516	6/3/2020	10:09	4.6	06/04/20	9:41	6	6/4/2020	12:35	9.32	06/11/20	06/04/20	9:01
2006001-002	S2	200515	6/3/2020	9:58	1.6	06/04/20	9:07	11	6/4/2020	11:02	9.42	06/11/20	06/04/20	8:49
2006001-003	S3	200517	6/3/2020	9:51	2.5	06/04/20	9:05	7	6/4/2020	10:58	5.79	06/11/20	06/04/20	8:36
2006001-004	S4	200514	6/3/2020	9:35	1.8	06/04/20	9:03	8	6/4/2020	10:55	4.58	06/11/20	06/04/20	8:26
2006001-005	S5	200513	6/3/2020	9:23	2.7	06/04/20	8:49	7	6/4/2020	10:46	5.33	06/11/20	06/04/20	8:26
2006002-001	S6	200512	6/3/2020	11:31	3.6	06/04/20	10:28	3 I	6/4/2020	14:28	7.15	06/11/20	06/04/20	11:22
2006003-017	EQP BLK1	200379	6/3/2020	9:00	U 0.2	06/04/20	8:46	U 1	6/4/2020	10:42	U 0.05	06/11/20	06/04/20	8:12
2007001-001	S1	200601	7/8/2020	13:16	3.6	07/09/20	13:41	20	7/9/2020	15:48	7.08	07/14/20	07/09/20	12:29
2007001-006	S1 REP	200600	7/8/2020	13:18	3.4	07/09/20	13:42	20	7/9/2020	15:54	11.63	07/14/20	07/09/20	12:29
2007001-002	S2	200603	7/8/2020	13:07	2.3	07/09/20	13:37	26	7/9/2020	15:36	9.47	07/14/20	07/09/20	12:17
2007001-003	S3	200598	7/8/2020	13:00	4.1	07/09/20	13:36	18 G	7/9/2020	15:32	8.92	07/14/20	07/09/20	12:05
2007001-004	S4	200599	7/8/2020	12:46	5	07/09/20	13:21	11 G	7/9/2020	15:17	8.9	07/14/20	07/09/20	12:05
2007001-005	S5	200597	7/8/2020	12:37	4.2	07/09/20	13:19	5 G	7/9/2020	14:59	5.62	07/14/20	07/09/20	11:21
2007004-001	S6	200602	7/8/2020	12:31	4.1	07/09/20	13:14	7	7/9/2020	14:44	6.49	07/14/20	07/09/20	11:04
2007003-017	EQP BLK1	200468	7/8/2020	9:14	U 0.2	07/09/20	9:14	U 1	7/9/2020	10:01	U 0.05	07/14/20	07/09/20	8:19
2007001-007	FLD BLK	200604	7/8/2020	11:59	U 0.2	07/09/20	12:30	2 I	7/9/2020	14:15	U 0.05	07/14/20	07/09/20	10:35
2008007-001	S1	200609	8/12/2020	10:01	12	08/13/20	14:44	19	8/13/2020	7:26	6.4	08/26/20	08/13/20	8:21
2008007-006	S1 REP	200605	8/12/2020	10:06	13	08/13/20	14:52	20	8/13/2020	7:35	6.13	08/26/20	08/13/20	8:33
2008007-002	S2	200606	8/12/2020	9:48	9.9	08/13/20	14:38	13	8/13/2020	7:21	9.94	08/26/20	08/13/20	8:09
2008007-003	S3	200612	8/12/2020	9:39	8.7	08/13/20	14:37	14	8/13/2020	7:19	5.69	08/26/20	08/13/20	8:09
2008007-004	S4	200611	8/12/2020	9:24	7.2	08/13/20	14:35	12	8/13/2020	7:16	38.76	08/26/20	08/13/20	8:09
2008007-005	S5	200610	8/12/2020	9:10	7.4	08/13/20	14:24	14	8/13/2020	7:05	16.75	08/26/20	08/13/20	7:58
2008011-001	S6	200607	8/12/2020	9:09	4.5	08/13/20	14:22	7	8/13/2020	7:02	15.76	08/26/20	08/13/20	7:39
2008009-017	EQP BLK1	200637	8/12/2020	9:00	U 0.2	08/13/20	14:20	U 1	8/13/2020	7:00	U 0.05	08/26/20	08/13/20	7:58
2008007-007	FLD BLK	200608	8/12/2020	8:40	U 0.2	08/13/20	14:17	U 1	8/13/2020	6:59	U 0.05	08/26/20	08/13/20	7:39
2009005-001	S1	200618	9/9/2020	12:44	3	09/10/20	15:02	33	9/10/2020	12:36	9.91	09/17/20	09/10/20	11:25
2009005-006	S1 REP	200615	9/9/2020	12:50	3.4	09/10/20	15:14	30	9/10/2020	12:40	5.97	09/17/20	09/10/20	11:25
2009005-002	S2	200616	9/9/2020	12:31	3.4	09/10/20	14:58	37	9/10/2020	10:27	5.11	09/17/20	09/10/20	11:11
2009005-003	S3	200613	9/9/2020	12:24	3.3	09/10/20	14:57	27	9/10/2020	10:25	4.3	09/17/20	09/10/20	10:58
2009005-004	S4	200620	9/9/2020	12:09	4.2	09/10/20	14:49	24	9/10/2020	10:15	5.8	09/17/20	09/10/20	10:46
2009005-005	S5	200617	9/9/2020	12:01	4.5	09/10/20	14:48	27	9/10/2020	10:13	12.37	09/17/20	09/10/20	10:46
2009008-001	S6	200614	9/9/2020	9:04	3.6	09/10/20	13:39	5	9/10/2020	7:24	6.88	09/17/20	09/10/20	8:22
2009007-017	EQP BLK1	200816	9/9/2020	8:55	U 0.2	09/10/20	13:35	U 1	9/10/2020	7:36	U 0.05	09/17/20	09/10/20	7:55
2009005-007	FLD BLK	200619	9/9/2020	11:10	U 0.2	09/10/20	14:34	U 1	9/10/2020	9:30	U 0.05	09/17/20	09/10/20	10:10

na - No data available

U - Value less than method detection limit (MDL)

I - Value between MDL and Practical quantitation limit (PQL)

Q - Holding time exceeded

J - Estimated value

G - Analyte was => MDL in sample and blank; blank was > 10% of the sample

Water Quality and Sediment Data for The Bay Project, Sarasota

***In situ* Profile**

LIMS ID	Station	Date (mmddyy)	Time (EST)	Overall Depth (m)	Sample Depth (m)	Relative Depth	Salinity (PSU)	Specific Conductance (mmhos/cm)	Temperature (Deg C)	pH (SU)	Dissolved Oxygen (mg/l)	D.O. Percent Saturation (%)	Secchi Depth (m)	Attenuation Coefficient (m-1)	WQ Sample Number
2006001-00	S1	6/3/2020	10:09	0.7	0.2	S	36	54.4	29.5	7.71	2.08	33	NA		200516
2006001-00	S2	6/3/2020	9:58	1	0.2	S	36.1	54.5	29.2	7.75	2.42	38	S 1.0		200515
2006001-00	S3	6/3/2020	9:51	0.9	0.2	S	36	54.3	29.1	7.76	3.05	48	NA		200517
2006001-00	S4	6/3/2020	9:35	1	0.2	S	35.4	53.5	28.6	7.8	3.41	54	NA		200514
2006001-00	S5	6/3/2020	9:22	0.6	0.2	S	36.2	54.6	29.1	7.87	4.83	77	S 0.6		200513
2006002-00	S6	6/3/2020	11:31	1.2	0.2	S	35.5	53.6	29.4	8.04	5.88	94			
2006002-00	S6	6/3/2020	11:32	1.2	1	M	35.7	53.8	29.3	8.03	5.57	89	1.6	0.54	200512
2006002-00	S6	6/3/2020	11:33	1.2	1.8	B	35.7	53.8	29.3	8.03	5.5	88			
2007001-00	S1	7/8/2020	13:16	0.7	0.2	S	34.6	52.4	33.1	7.99	5.84	98	0.68		200601
2007001-00	S2	7/8/2020	13:07	1	0.2	S	34.6	52.4	33	7.97	5.21	87	0.8		200603
2007001-00	S3	7/8/2020	13:00	0.9	0.2	S	33.1	50.6	33	7.85	3.98	66	0.95		200598
2007001-00	S4	7/8/2020	12:45	1	0.2	S	34.8	52.7	32.6	7.93	5.13	86	0.9		200599
2007001-00	S5	7/8/2020	12:36	0.6	0.2	S	35.1	53.1	32.2	7.95	6.32	105	S 0.6		200597
2007004-00	S6	7/8/2020	12:31	1.2	0.2	S	34.3	52	32.2	8.11	6.53	108			
2007004-00	S6	7/8/2020	12:33	1.2	0.8	M	34.3	52	32.2	8.11	6.53	108	S 1.2	0.68	200602
2007004-00	S6	7/8/2020	12:34	1.2	1.5	B	34.3	52	32.2	8.11	6.52	108			
2008007-00	S1	8/12/2020	10:01	0.7	0.2	S	33.7	51.3	30.8	7.43	0.3	5	NA		200609
2008007-00	S2	8/12/2020	9:48	1	0.2	S	33.6	51.1	30.8	7.52	0.37	6	NA		200606
2008007-00	S3	8/12/2020	9:39	0.9	0.2	S	33.7	51.2	31	7.52	0.5	8	NA		200612
2008007-00	S4	8/12/2020	9:23	1	0.2	S	33.8	51.3	30.8	7.52	2.09	34	NA		200611
2008007-00	S5	8/12/2020	9:11	0.6	0.2	S	33.7	51.1	30.6	7.51	0.31	5	S 0.6		200610
2008011-00	S6	8/12/2020	9:10	1.2	0.2	S	34.7	52.6	31.6	7.76	2.12	35			
2008011-00	S6	8/12/2020	9:10	1.2	0.6	M	35.3	53.4	31.5	7.85	3.3	54	S 1.2	1	200607
2008011-00	S6	8/12/2020	9:11	1.2	1	B	35.3	53.4	31.4	7.86	3.35	55			
2009005-00	S1	9/9/2020	12:43	0.7	0.2	S	31.2	47.8	32.7	7.78	2.12	35	S 0.7		200618
2009005-00	S2	9/9/2020	12:31	1	0.2	S	32	48.8	32.3	7.75	2.06	34	0.85		200616
2009005-00	S3	9/9/2020	12:24	0.9	0.2	S	27.1	42.2	32.1	7.59	3.44	54	0.8		200613
2009005-00	S4	9/9/2020	12:09	1	0.2	S	31.5	48.2	32.3	7.76	2.36	38	S 1.0		200620
2009005-00	S5	9/9/2020	12:01	0.6	0.2	S	23.7	37.4	31.5	7.94	4.46	69	S 0.6		200617
2009008-00	S6	9/9/2020	9:04	1.2	0.2	S	33.4	50.8	31	7.93	4.63	75			
2009008-00	S6	9/9/2020	9:05	1.2	1	M	33.6	51.1	31	7.95	4.69	76	1.4	1.16	200614
2009008-00	S6	9/9/2020	9:06	1.2	1.9	B	33.6	51.1	31	7.95	4.67	75			

NA- No data available

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Water Quality and Sediment Data for The Bay Project, Sarasota

Station Locations & Weather

LIMS ID	Station	Date	Time	Ideal Station Location		Actual Station Location		Wind Velocity	Wind Direction	Wave Height	Cloud Cover
				Latitude	Longitude	Latitude	Longitude				
		(mmddyy)	(EST)	(degrees)	(degrees)	(degrees)	(degrees)	(mph)	(DegM)	(ft)	(%)
2006001-001	S1	6/3/2020	10:09	27.34215	-82.54875	27.34215	-82.54875	Calm		0	100
2006001-002	S2	6/3/2020	9:58	27.34253	-82.54920	27.34253	-82.5492	Calm		0	100
2006001-003	S3	6/3/2020	9:51	27.34212	-82.54938	27.34212	-82.54938	Calm		0	100
2006001-004	S4	6/3/2020	9:35	27.34208	-82.55003	27.34208	-82.55003	Calm		0	100
2006001-005	S5	6/3/2020	9:23	27.34197	-82.55070	27.34197	-82.5507	Calm		0	100
2006002-001	S6	6/3/2020	11:31	27.34177	-82.55134	27.34177	-82.55134	5	90	0	100
2007001-001	S1	7/8/2020	13:16	27.34215	-82.54875	27.34213	-82.54876	Calm		0	30
2007001-002	S2	7/8/2020	13:07	27.34253	-82.54920	27.34249	-82.54922	Calm		0	30
2007001-003	S3	7/8/2020	13:00	27.34212	-82.54938	27.34218	-82.54935	Calm		0	30
2007001-004	S4	7/8/2020	12:46	27.34208	-82.55003	27.34203	-82.55007	Calm		0	30
2007001-005	S5	7/8/2020	12:37	27.34197	-82.55070	27.34102	-82.55035	10	270	0.5	30
2007004-001	S6	7/8/2020	12:31	27.34177	-82.55134	27.34185	-82.55128	15	330	2	50
2008007-001	S1	8/12/2020	10:01	27.34215	-82.54875	27.34219	-82.54876	Calm		0	10
2008007-002	S2	8/12/2020	9:48	27.34253	-82.54920	27.34235	-82.54927	Calm		0	10
2008007-003	S3	8/12/2020	9:39	27.34212	-82.54938	27.34216	-82.54929	Calm		0	10
2008007-004	S4	8/12/2020	9:24	27.34208	-82.55003	27.34207	-82.54984	Calm		0	10
2008007-005	S5	8/12/2020	9:10	27.34197	-82.55070	27.34199	-82.55054	Calm		0	10
2008011-001	S6	8/12/2020	9:09	27.34177	-82.55134	27.34194	-82.55119	Calm		0	10
2009005-001	S1	9/9/2020	12:44	27.34215	-82.54875	27.34214	-82.54879	Calm		0	80
2009005-002	S2	9/9/2020	12:31	27.34253	-82.54920	27.3425	-82.54921	Calm		0	50
2009005-003	S3	9/9/2020	12:24	27.34212	-82.54938	27.34217	-82.54932	Calm		0	60
2009005-004	S4	9/9/2020	12:09	27.34208	-82.55003	27.34209	-82.54995	Calm		0	70
2009005-005	S5	9/9/2020	12:01	27.34197	-82.55070	27.34191	-82.55028	Calm		0	90
2009008-001	S6	9/9/2020	9:04	27.34177	-82.55134	27.34204	-82.55135	Calm		0	100

NA - No data available

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Water Quality, Sediment, Fisheries and Benthos of the Wetlands of The Bay Project, Sarasota

Sediment Analysis

FracID	Station	Date Collected	Sample Number	Phosphorus, Total			Nitrogen, Kjeldahl, Total		
				mg/Kg-dry	Analysis Date	Digest Date	mg/Kg-dry	Analysis Date	Digest Date
2007010-001	Zone 1	7/10/2020	200579	2290	7/16/2020	7/13/2020	4710	7/16/2020	7/13/2020
2007010-002	Zone 2	7/10/2020	200580	3080	7/16/2020	7/13/2020	1920	7/16/2020	7/13/2020
2007010-003	Zone 3	7/10/2020	200583	2640	7/16/2020	7/13/2020	4520	7/16/2020	7/13/2020
2007010-004	Zone 4	7/10/2020	200581	2430	7/16/2020	7/13/2020	5970	7/16/2020	7/13/2020
2007010-005	Zone 5	7/10/2020	200584	1710	7/16/2020	7/13/2020	2940	7/16/2020	7/13/2020

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Sediment Analysis

Station	Date Collected	Sample Number	Sediment Properties: Fixed and Volatile Solids			
			Analysis Date	% Moisture	% Solids	% Organics
Zone 1	7/10/2020	200579	7/16/2020	72.4	27.6	18.5
Zone 2	7/10/2020	200580	7/16/2020	49.9	50.1	10.4
Zone 3	7/10/2020	200583	7/16/2020	71.7	28.3	20.8
Zone 4	7/10/2020	200581	7/16/2020	78.2	21.8	24.1
Zone 5	7/10/2020	200584	7/16/2020	66.3	33.7	16.8

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Sediment Analysis

Station	Date Collected	Sample Number	Sediment Properties: Grain Size Analyses					Sediment Properties: Grain Size Analyses				
			Analysis Date	%Clay	%Sand	%Silt	Kurtosis	Mean	Median	Mode	Skewness	StdDev
Zone 1	7/10/2020	200579	7/24/2020	2.8	46	51.2	-0.46	66.4	52.2	34.6	0.06	5.02
Zone 2	7/10/2020	200580	7/24/2020	4.8	34.7	60.5	-0.26	37.1	30.4	18	0.16	4.55
Zone 3	7/10/2020	200583	7/24/2020	4.1	36.6	59.3	-0.29	41.1	34.4	28.7	0.06	4.43
Zone 4	7/10/2020	200581	7/24/2020	3.3	46.8	49.9	-0.38	62	53.7	34.6	-0.01	4.99
Zone 5	7/10/2020	200584	7/24/2020	3.1	62.6	34.4	-0.74	120	136	1910	-0.35	6.37

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Sediment Analysis

Station	Date Collected	Sample Number	Sediment Grain Size Analyses: % of total Sediment Volume Distribution						
			Vol% 0-0.49 um	Vol% 0.49-0.69 um	Vol% 0.69-0.98 um	Vol% 0.98-1.38 um	Vol% 1.38-1.95 um	Vol% 1.95-2.76 um	Vol% 2.76-3.91 um
Zone 1	7/10/2020	200579	0.07	0.23	0.36	0.39	0.4	0.5	0.8
Zone 2	7/10/2020	200580	0.11	0.36	0.53	0.56	0.61	0.9	1.7
Zone 3	7/10/2020	200583	0.1	0.33	0.5	0.52	0.54	0.8	1.4
Zone 4	7/10/2020	200581	0.08	0.28	0.42	0.45	0.45	0.6	1
Zone 5	7/10/2020	200584	0.07	0.25	0.38	0.4	0.43	0.6	1

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Sediment Analysis

Station	Date Collected	Sample Number	Sediment Grain Size Analyses: % of total Sediment Volume Distribution						
			Vol% 3.91-5.52 um	Vol% 5.52-7.81 um	Vol% 7.81-11.0 um	Vol% 11.0-15.6 um	Vol% 15.6-22.1 um	Vol% 22.1-31.0 um	Vol% 31.0-44.0 um
Zone 1	7/10/2020	200579	1.6	2.8	4.3	6.3	8.2	9.5	10.2
Zone 2	7/10/2020	200580	3.2	5.4	7.6	9.7	10.2	9.6	8.7
Zone 3	7/10/2020	200583	2.6	4.5	6.7	8.9	10	10.1	9.6
Zone 4	7/10/2020	200581	1.9	3.2	4.8	6.6	7.7	8.5	9.3
Zone 5	7/10/2020	200584	1.7	2.7	3.8	4.8	5.1	5.3	5.7

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Sediment Analysis

Station	Date Collected	Sample Number	Sediment Grain Size Analyses: % of total Sediment Volume Distribution						
			Vol% 44.0-62.5 um	Vol% 62.5-88.0 um	Vol% 88.0-125 um	Vol% 125-177 um	Vol% 177-250 um	Vol% 250-350 um	Vol% 350-500 um
Zone 1	7/10/2020	200579	8.4	6.3	5.4	4.6	4.8	5.5	6
Zone 2	7/10/2020	200580	6.1	4.6	5.4	6.8	6.6	3.9	2.4
Zone 3	7/10/2020	200583	6.9	5.1	5.2	6.2	6.8	4.9	3.5
Zone 4	7/10/2020	200581	7.8	6.4	6.2	6.1	6.4	5.4	4.7
Zone 5	7/10/2020	200584	5.2	5.2	5.9	6	5.6	4.9	5.9

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Sediment Analysis

Station	Date Collected	Sample Number	Sediment Grain Size Analyses: % of total Sediment Volume Distribution					
			Vol% 500-710 um	Vol% 710-1000 um	Vol% 1000-1410 um	Vol% 1410-2000 um	Vol% 2000-2830 um	>2mm material
Zone 1	7/10/2020	200579	4.6	3.3	2.9	2.6	U0.2	1
Zone 2	7/10/2020	200580	1.8	1.3	1.4	0.5	U0.2	1
Zone 3	7/10/2020	200583	2.2	1.3	1.1	0.3	U0.2	1
Zone 4	7/10/2020	200581	3.9	3	2.6	2.1	U0.2	1
Zone 5	7/10/2020	200584	6.8	7	7.4	7.9	U0.2	2