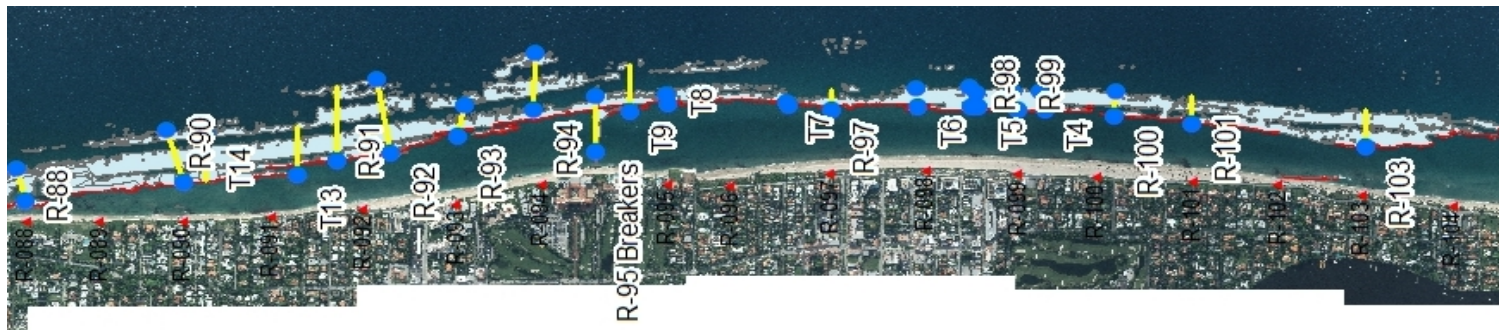




2014 Survey Timeline

Event	Date
July 2014 Aerial Imagery of Town of Palm Beach Shoreline	July 3, 2014
BMA Nearshore Hardbottom Edge Mapping- Palm Beach Inlet to Boynton Inlet	July 7, 2014 to August 6, 2014 and September 17, 2014
Georectified July 2014 Aerials Received	August 22, 2014
BMA Benthic Habitat Map Characterization Dives	September 9, 2014 to September 18, 2014
Midtown Regulatory Biological Monitoring Transect Extensions and Sediment Transect Installations	September 30, 2014 to October 22, 2014
Ground Truthing Differences between Aerials and Diver-mapped Hardbottom Edge	October 22, 2014
BMA Biological Monitoring Transect Installation	October 29, 2014 to October 30, 2014
BMA- QAQC Delineation of Hardbottom Features from July 2014 Aerials	November 20, 2014





2014 Survey Timeline

116 in situ characterization sites to quantitatively characterize and map hardbottom based on exposure and water depth

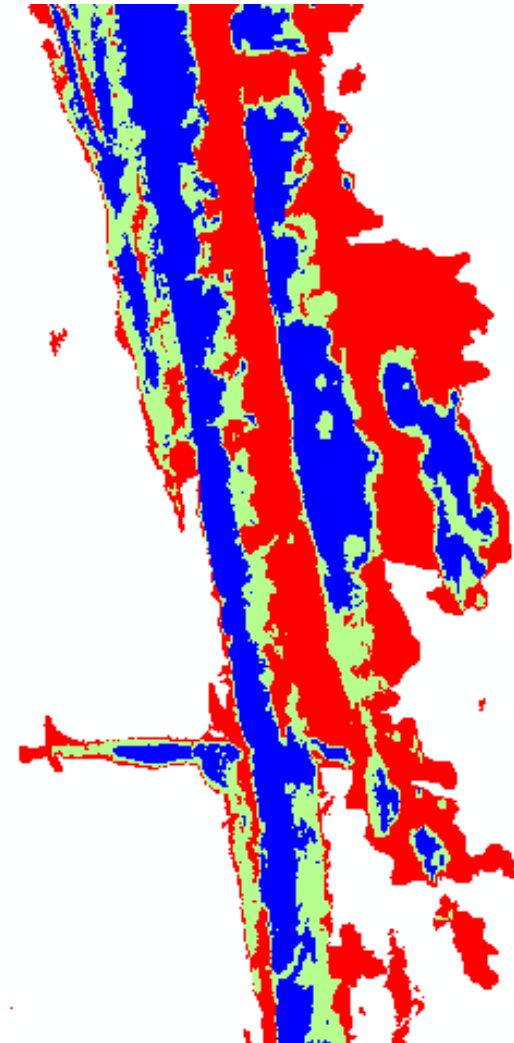
Depths (m) in NAVD88 Corrected	Sample Sites Visited
0-4 M	73
4-8 M	26
>8 M	17

Frequency of Exposure Category	Sample Sites Visited
Low (<30% exposed)	41
Medium (30-70% exposed)	38
High (>70% exposed)	32
Undefined	5



2014 Survey Timeline

Depth (m) x Frequency of Occurrence	Sample Sites Visited
Nearshore x Low	27
Nearshore x Medium	24
Nearshore x High	18
Intermediate x Low	10
Intermediate x Medium	7
Intermediate x High	8
Offshore x Low	4
Offshore x Medium	7
Offshore x High	6
Undefined	5





Nearshore Hardbottom Edge VS. Aerial Interpretation



**Diver mapping of nearshore hardbottom edge
vs. aerial interpretation**



Midtown Transects- regulatory assurance for impact prediction

Florida Department of Environmental Protection Proposed Transect Extensions based on Historic Hardbottom Exposure from Aerial Delineations

Midtown Regulatory Transects and BMA Extensions	Original Transect Length (m)	Eastward Extensions	Westward Extensions	Total Length of Transect with Extensions (m)	Date of Installation	Actual Installed Length of Transect based on In situ Exposed Hardbottom (m)
R-90	200	118	None	318	10/20/2014	282
R-91	200	145	64	409	10/3/2014	308
R-92	200	181	None	381	10/17/2014	325.6
R-93	200	112	None	312	10/17/2014	203
Breaker's	50	153	69	272	10/22/2014	245
R-97	200	-66	-27	107	10/22/2014	75.2
R-98	200	34	-9	225	10/20/2014	94
R-99	200	18	-35	183	10/20/2014	95
R-100	200	41	6	247	10/22/2014	117
R-101	200	-45	-45	110	10/22/2014	107.3

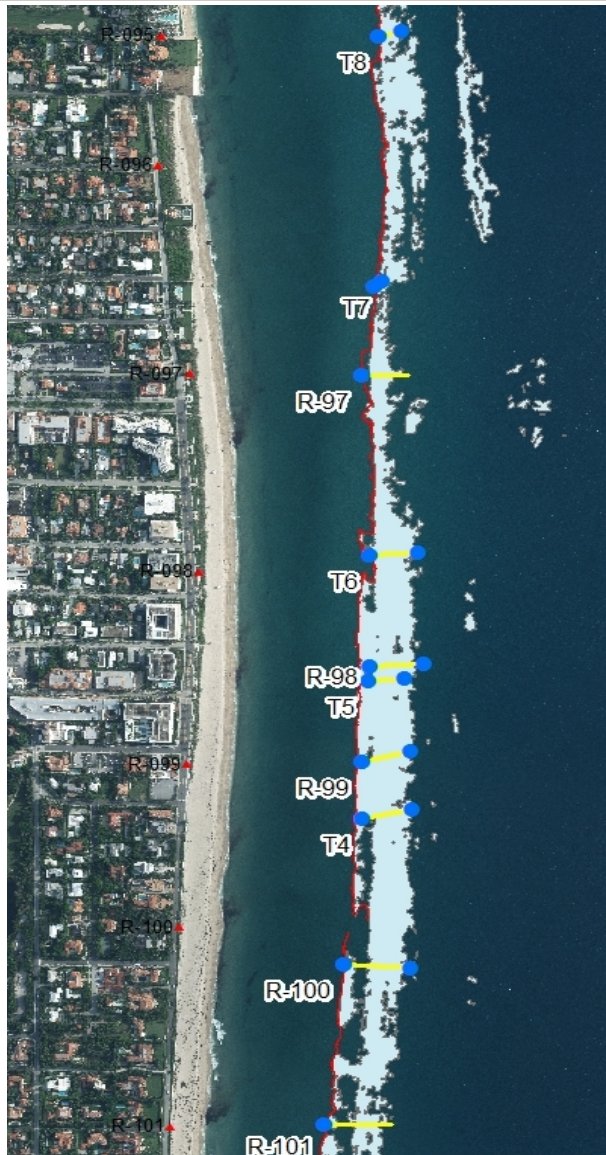


Midtown Transects- Regulatory Assurance for Impact Prediction

Midtown Regulatory Sediment Transect	Date of Installation	Installed Length of Transect (m) based on Exposed Hardbottom, Not to Exceed 200 m
T14	10/3/2014	200
T13	10/2/2014	200
T9	10/2/2014	194
T8	10/1/2014	56
T7	10/1/2014	62
T6	10/1/2014	83
T5	9/30/2014	78
T4	9/30/2014	90



Midtown Benthic and Sediment Transects

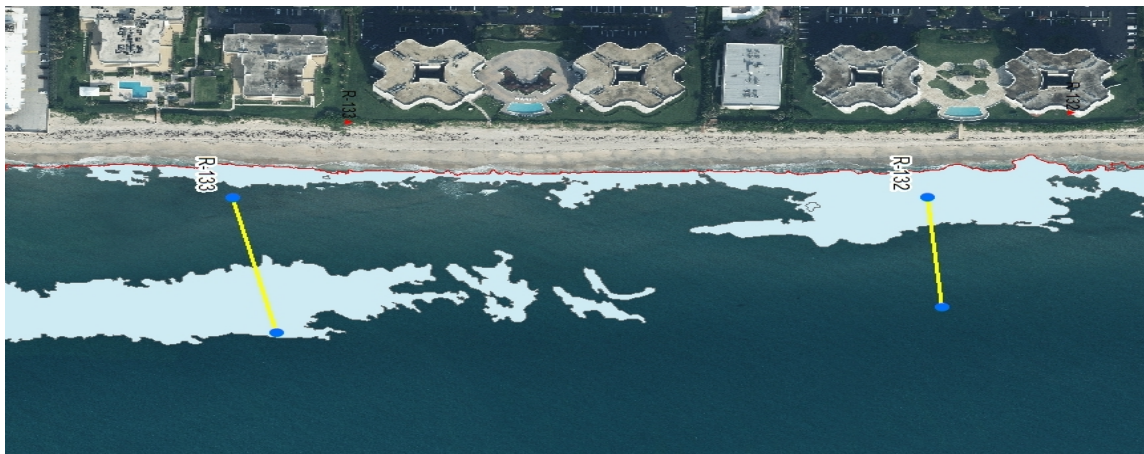


BMA Transects

BMA Biological Monitoring Transect	Date of Installation	Installed Length of Transect based on In situ Exposed Hardbottom (m)
R-88	10/30/2014	172
R-94	10/29/2014	281
R-103	10/29/2014	151
R-113	10/30/2014	2.2
R-115	10/30/2014	15.5
R-116	10/30/2014	29.5
R-132	10/30/2014	117
R-133	10/30/2014	143

BMA Biological Monitoring Transect Proposed (Summer 2015)

R-79
R-79 Offshore Station
R-82
R-97 Offshore Station
R-135+500
R-139
R142
R-145



14 transects and 2 offshore stations- evaluate variability of sand cover over ephemeral and persistent hardbottom