

National Park Service
U.S. Department of the Interior

Northeast Temperate Network
Inventory and Monitoring Program
Northeast Region



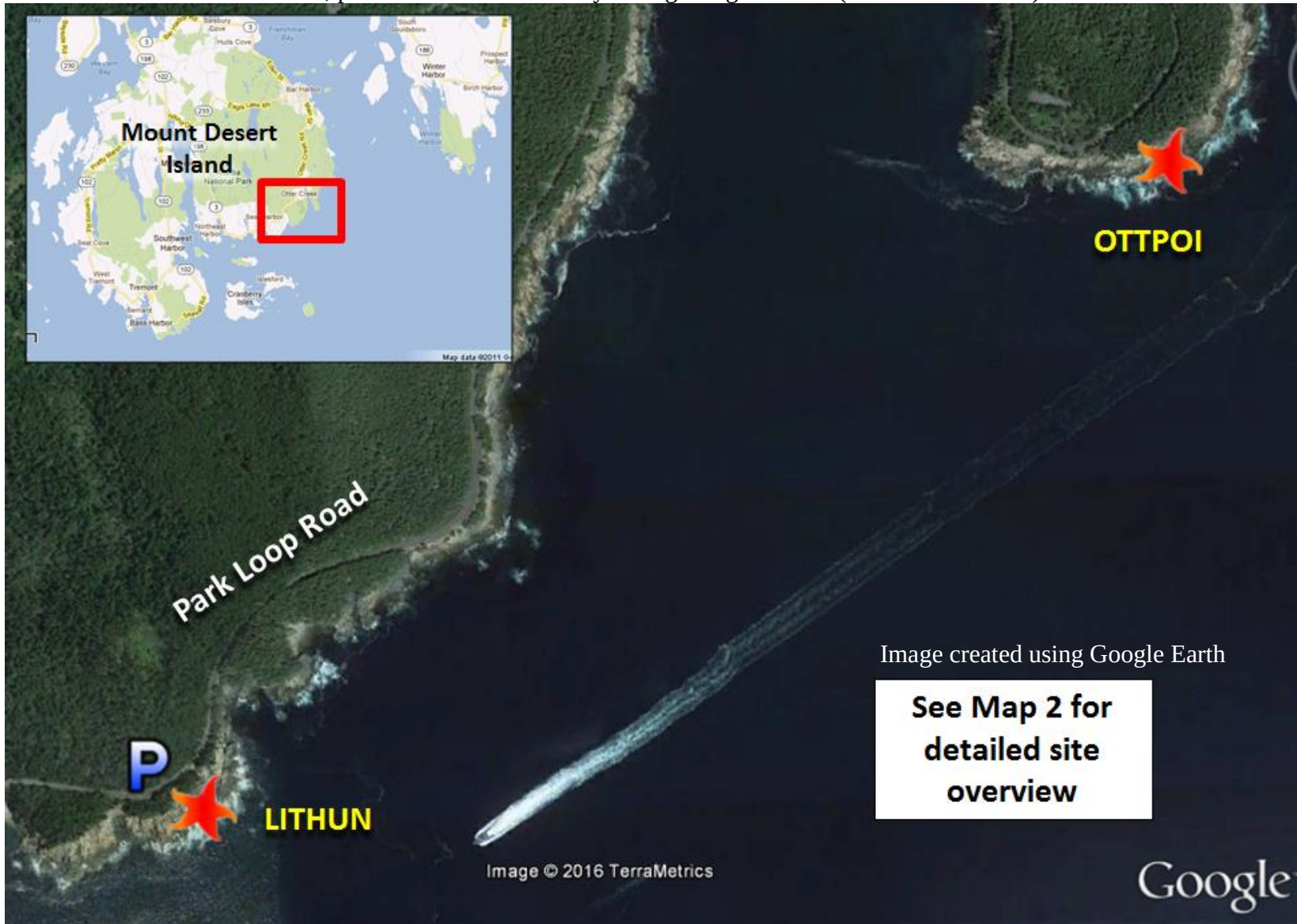
NOTE: This field guide prints on a mixture of 8.5” x 11” (maps and tables) and 11” x 17” (photo mosaics) pages. The photo mosaics were designed large so that they can be cut in half and mounted as left and right pages in a binder or sleeves.

Rocky Intertidal Monitoring Site Guide
Little Hunter (LITHUN), Acadia National Park

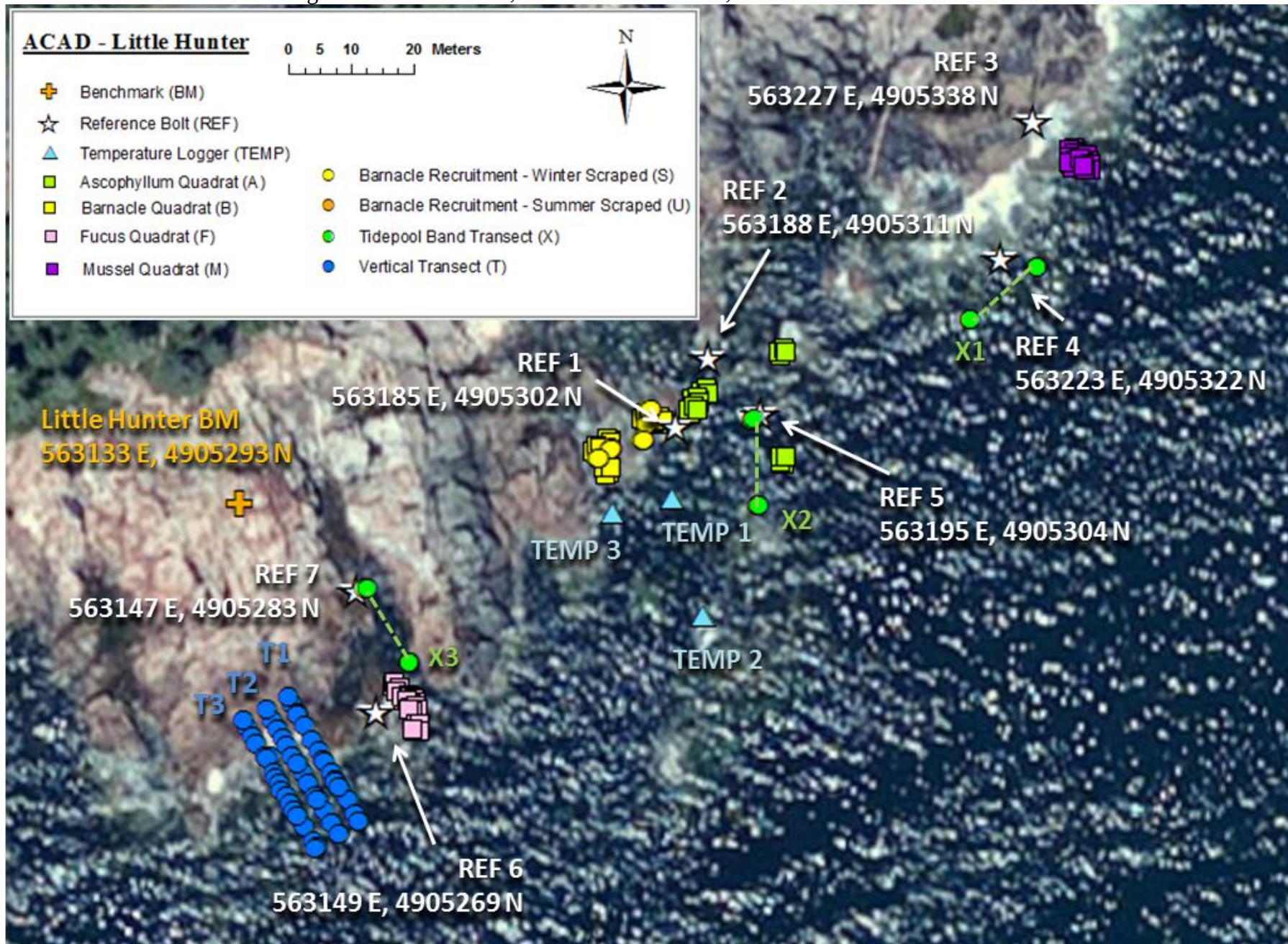
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Site Overview	-	1, 2	-	
Benchmark (BM)	1	3	1	
Reference Bolts (REF)	7	3, 4, 5, 6, 7	2,3,4,5,6,7,8	
<i>Ascophyllum</i> Quadrat (A)	5	5	2	
Barnacle Recruitment – Summer (U)	0	N/A	N/A	No summer scraping plots installed
Barnacle Recruitment – Winter (S)	5	5,6	3	
Barnacle Quadrat (B)	5	6	3	
<i>Fucus</i> Quadrat (F)	5	3, 4	4	
Red algae Quadrat (R)	0	N/A	N/A	No red algae quadrats installed.
Mussel Quadrat (M)	5	7	5	
Temperature Loggers (TEMP)	3	5, 6	11	
Tide Pool Band Transect (X)	3	5, 6, 7	6,7,8	
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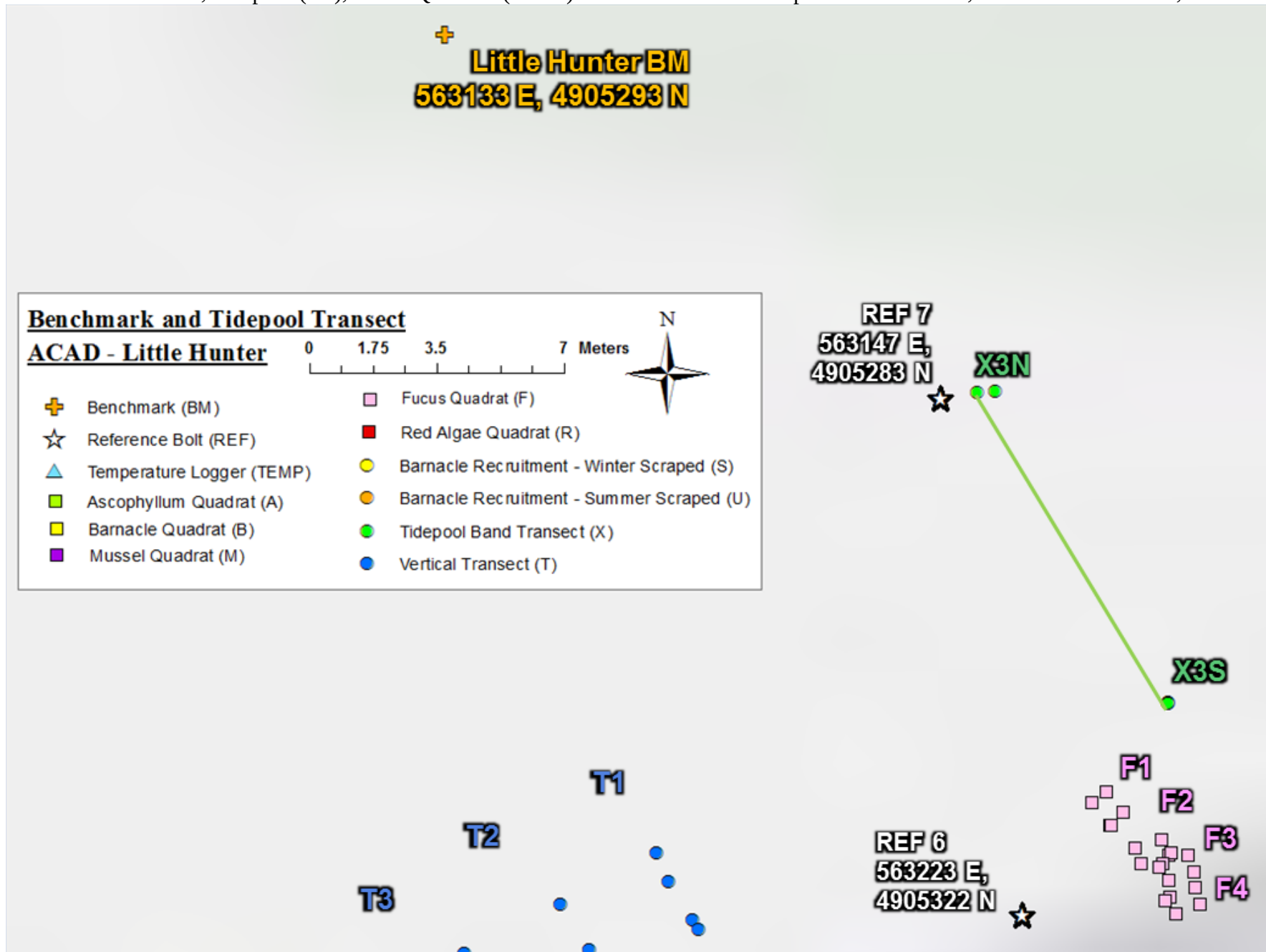
MAP 1 – Location of and instructions to locate the rocky intertidal monitoring site on Little Hunter, Acadia National Park, Maine. To reach the Little Hunter site from Acadia National Park headquarters, turn right at Eagle Lake Rd/ME-233. After 2.1 miles, turn right at Cromwell Harbor Rd (just before golf course). After 0.5 miles, turn right onto Kebo St. After 0.5 on Kebo turn left onto the Park Loop Road. After 3.5 miles you will come to NPS fee booths. Continue through the fee booths for 2.1 miles to pullout parking area on right (3 miles south of Otter Cliff Road junction). In order to access the entire site, plan to conduct the survey during a negative tide (relative to MLLW).



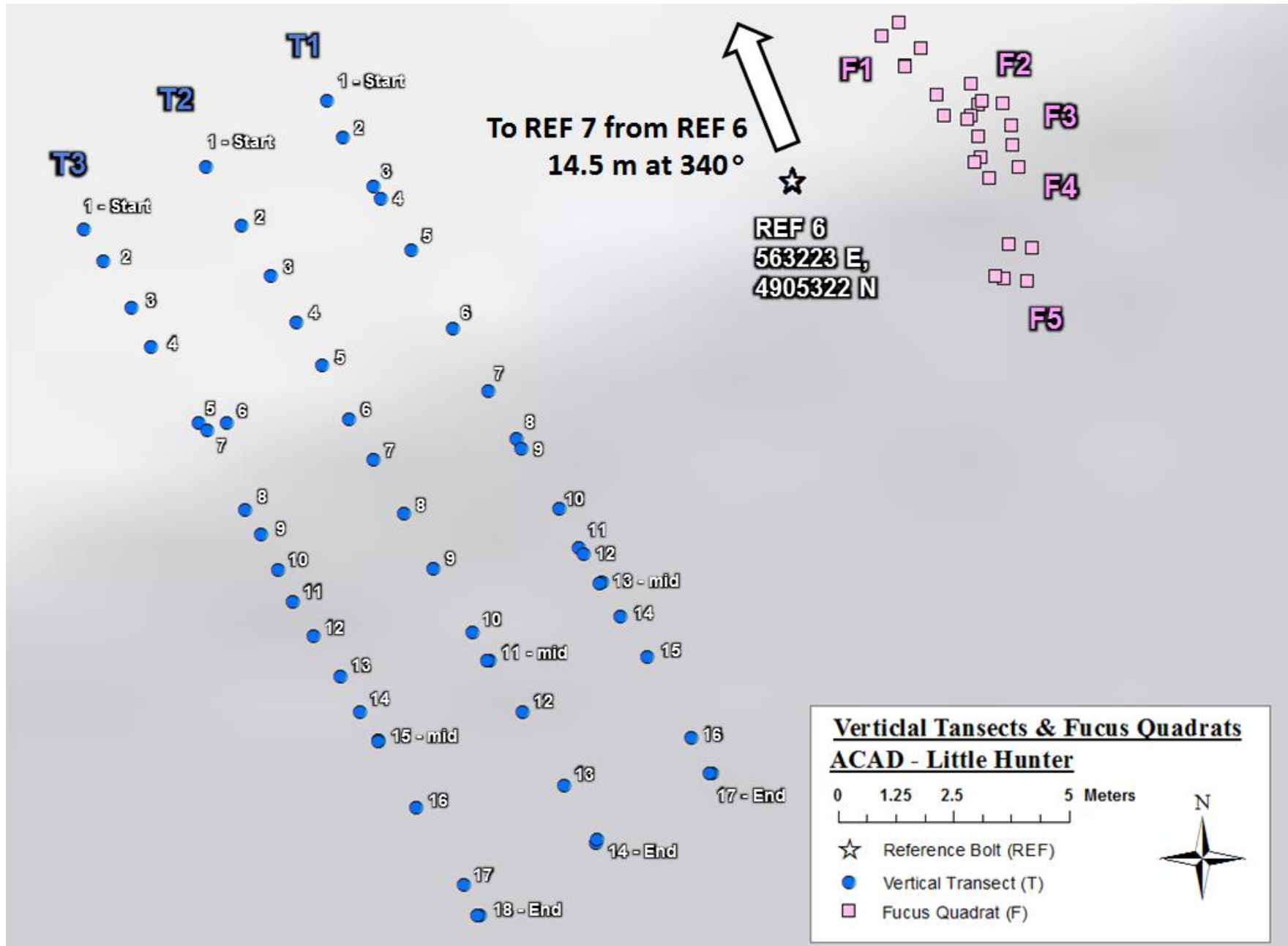
MAP 2 – Overview of monitoring site on Little Hunter, Acadia National Park, Maine.



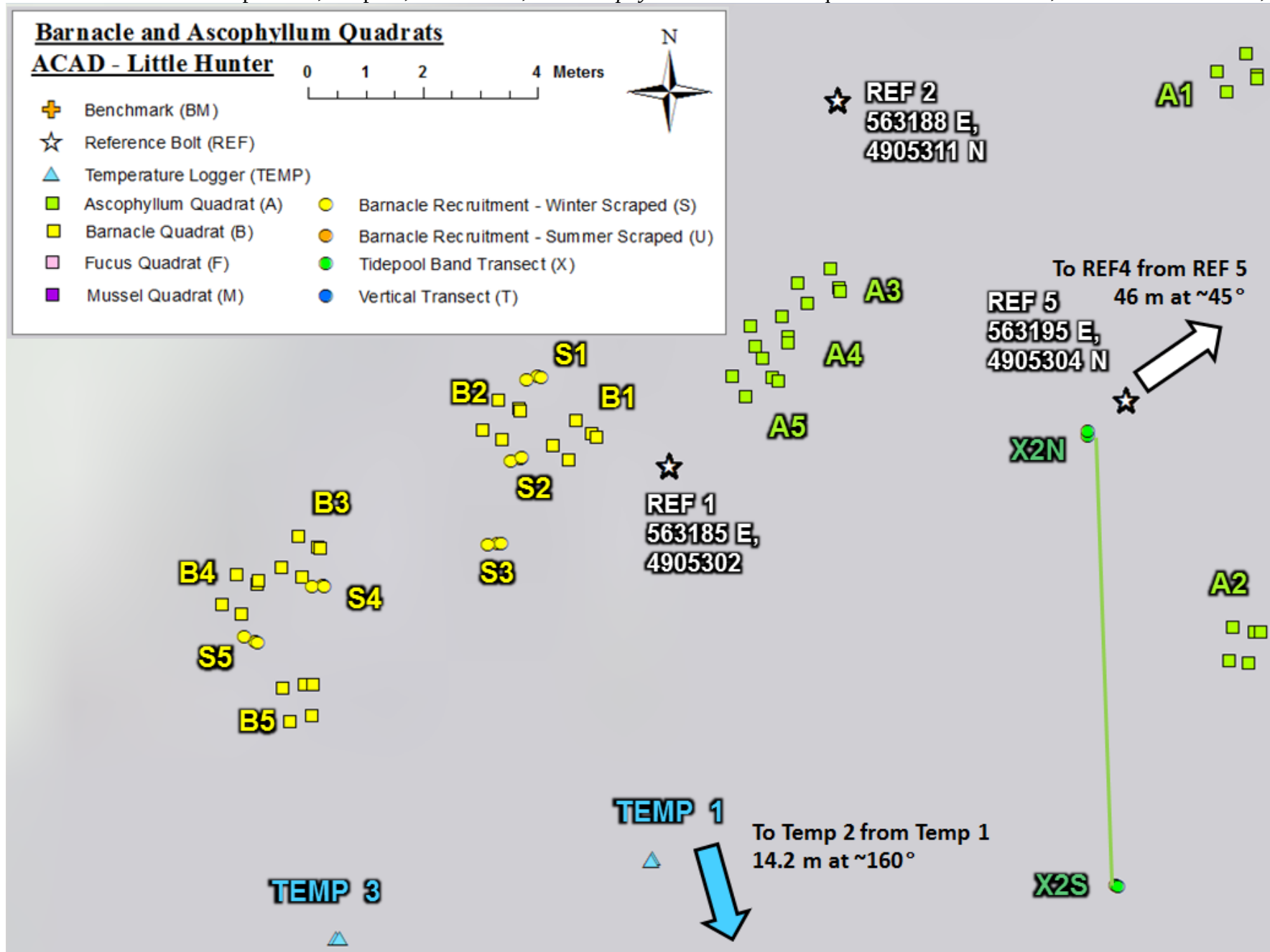
MAP 3 – Benchmark, tide pool (X3), Fucus Quadrats (F1-F4) and vertical transect tops on Little Hunter, Acadia National Park, Maine.



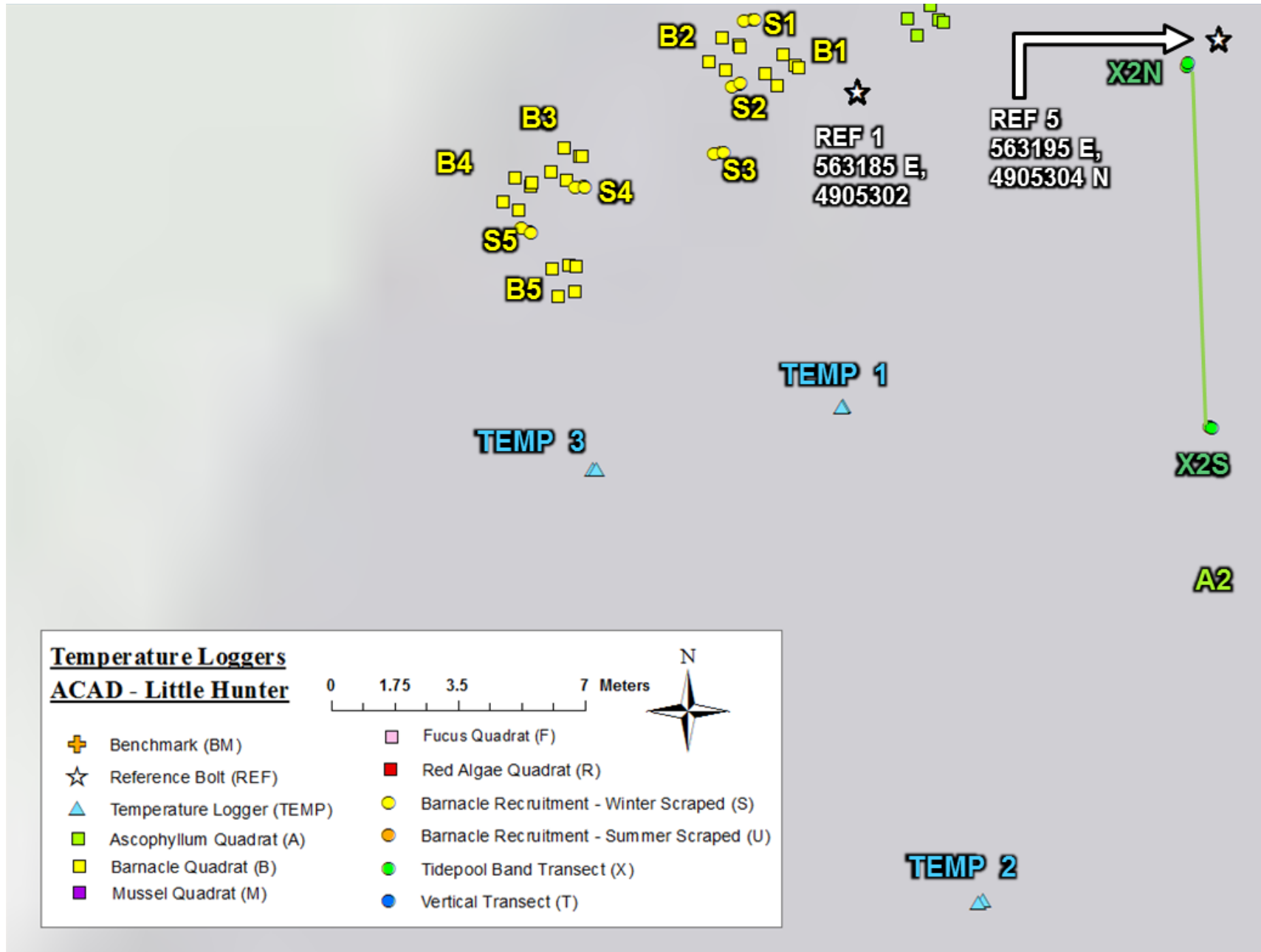
MAP 4 – Vertical transects and *Fucus* quadrats on Little Hunter, Acadia National Park, Maine.



MAP 5 – Location of temp tidbits, tidepool, recruitment, and *Ascophyllum* and barnacle quadrats on Little Hunter, Acadia National Park, Maine.



MAP 6 – Location of barnacle quadrats, recruitment sites, tidepool, and temp tidbits on Little Hunter, Acadia National Park, Maine.



MAP 7 – Location of mussel quadrats and tidepool on Little Hunter, Acadia National Park, Maine.

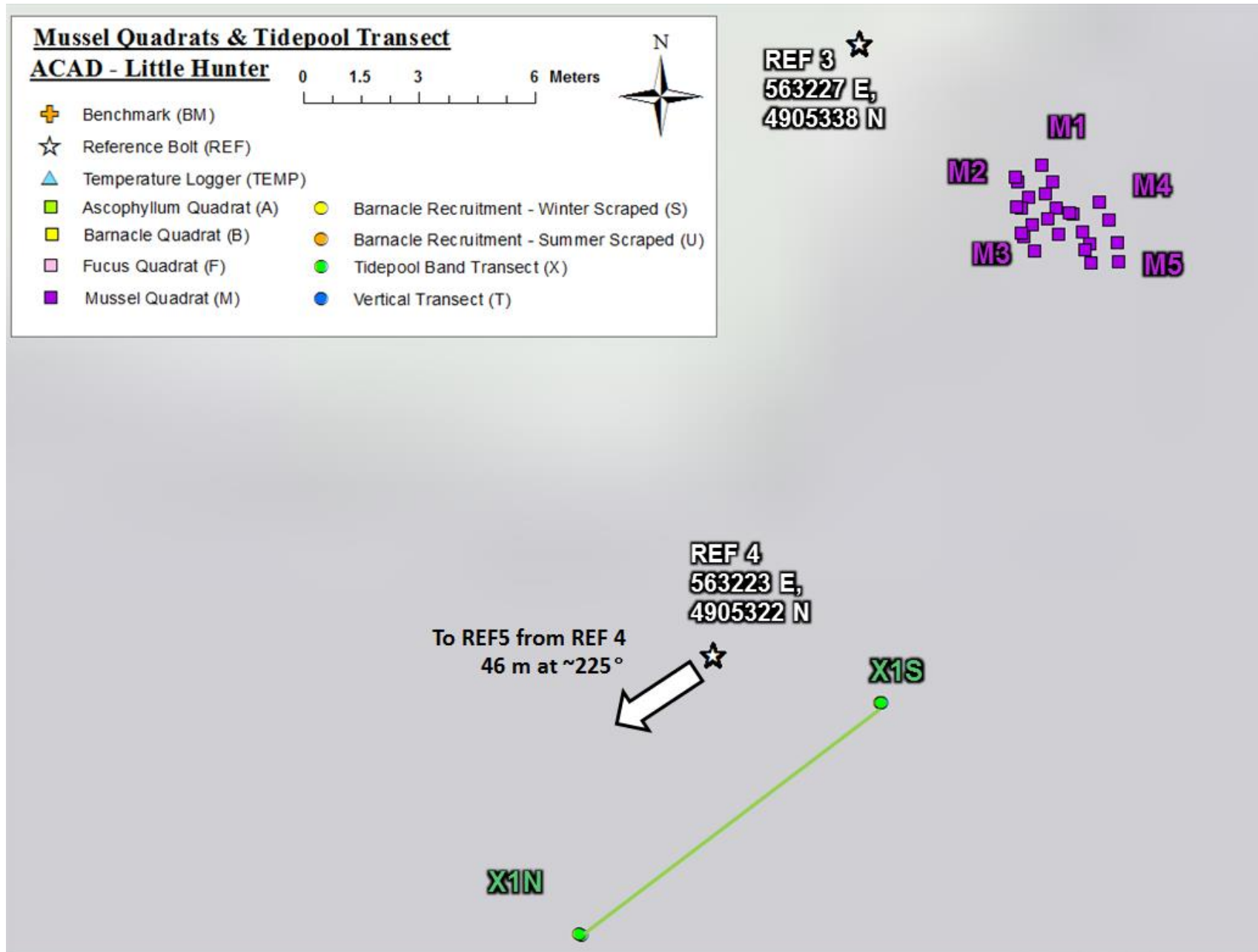


Photo 1: Location of rocky intertidal site benchmark at Little Hunter (LITHUN), Acadia National Park.



Little Hunter , ACAD benchmark is $\frac{1}{2}$ " a stainless steel bolt head and $1\frac{1}{2}$ " stainless steel washer stamped with the letters "BM" driven flush to the rock. Base station tripod should be centered on the bolt when set up.

LITHUN Benchmark Coordinates (from OPUS)

Northing (Y) [meters] 4905293.24

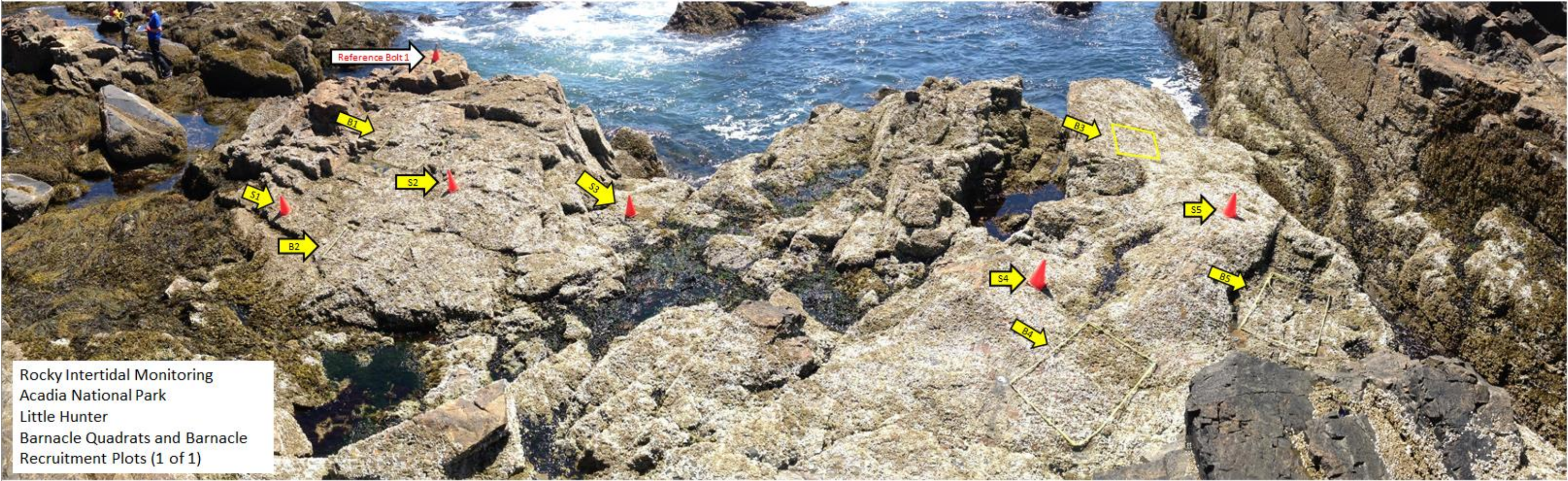
Easting (X) [meters] 563133.48

Elevation (NAVD88) = 10.362 m

PHOTO 2 – Location of *Ascophyllum* quadrats (A1-5) and reference bolt (REF2) on Little Hunter, Acadia National Park, Maine.

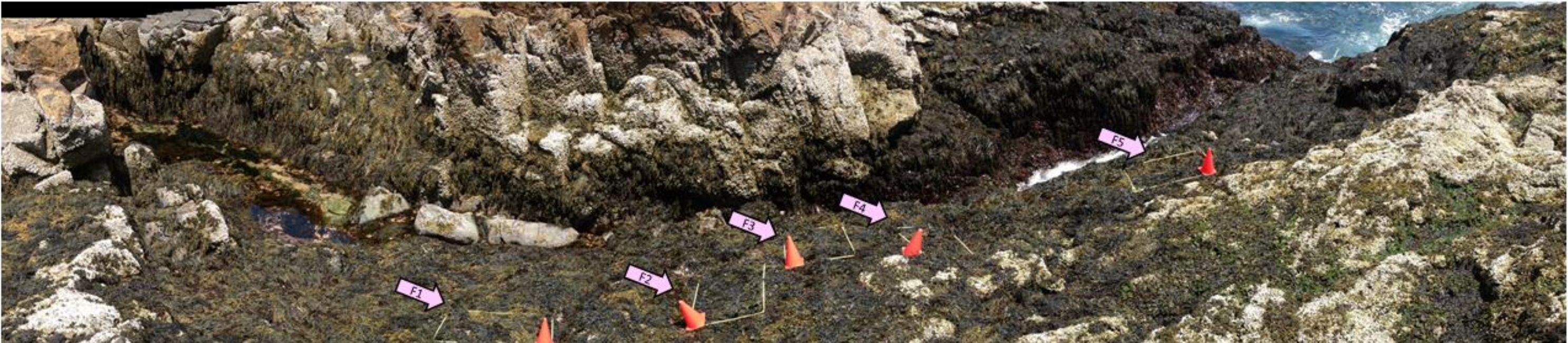


PHOTO 3 – Location of barnacle quadrats (B1-5), barnacle recruitment plots (S1-5; winter scraped) and reference bolt (REF 1) on Little Hunter, Acadia National Park, Maine.



Rocky Intertidal Monitoring
Acadia National Park
Little Hunter
Barnacle Quadrats and Barnacle
Recruitment Plots (1 of 1)

PHOTO 4 – Location of *Fucus* quadrats (F1-5) and reference bolt (REF 6) on Little Hunter, Acadia National Park, Maine.



Rocky Intertidal Monitoring
Acadia National Park
Little Hunter
Fucus Quadrats (1 of 1)

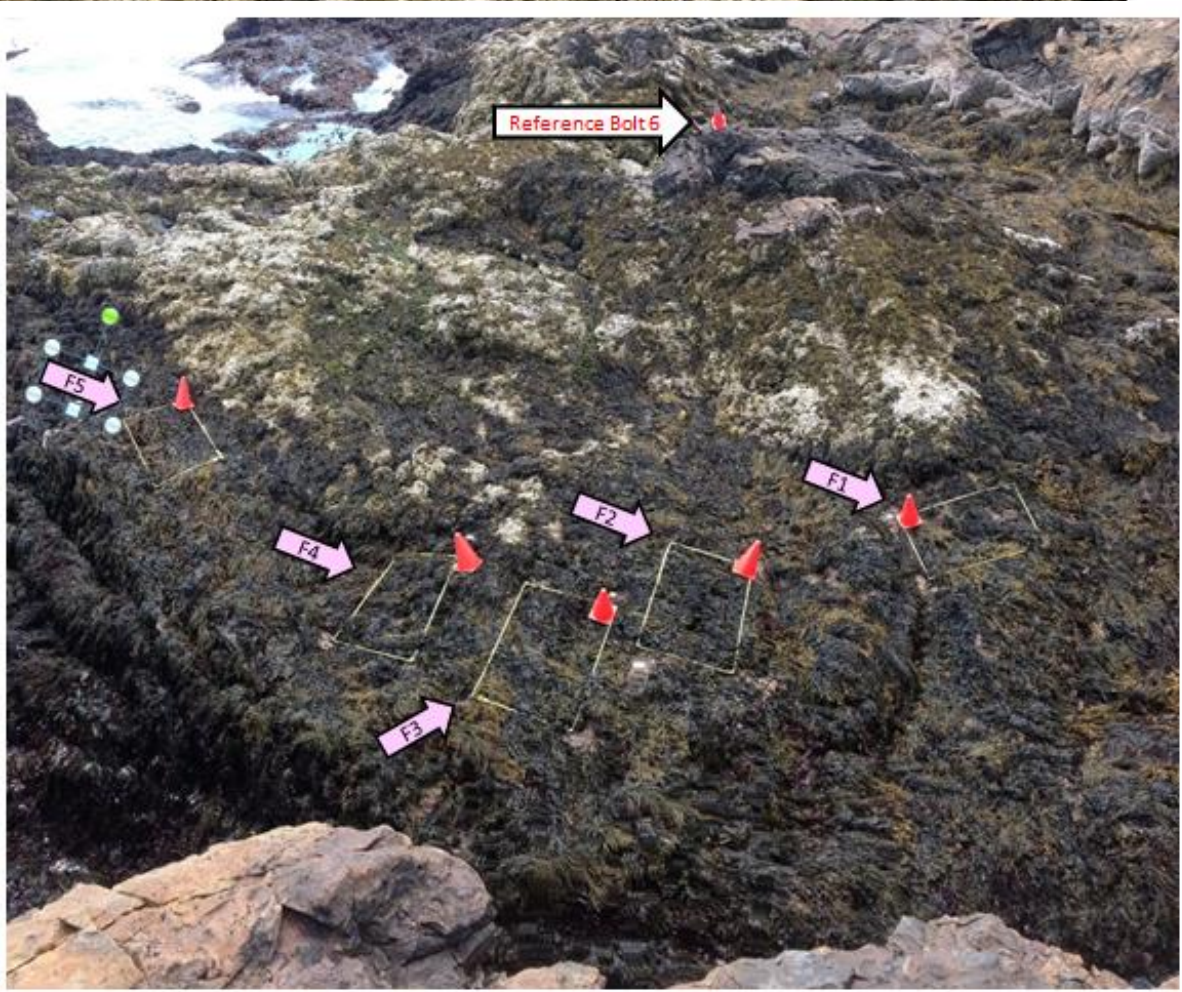


PHOTO 5 – Location of mussel quadrats (M1-5) and reference bolt (REF3) on Little Hunter, Acadia National Park, Maine.

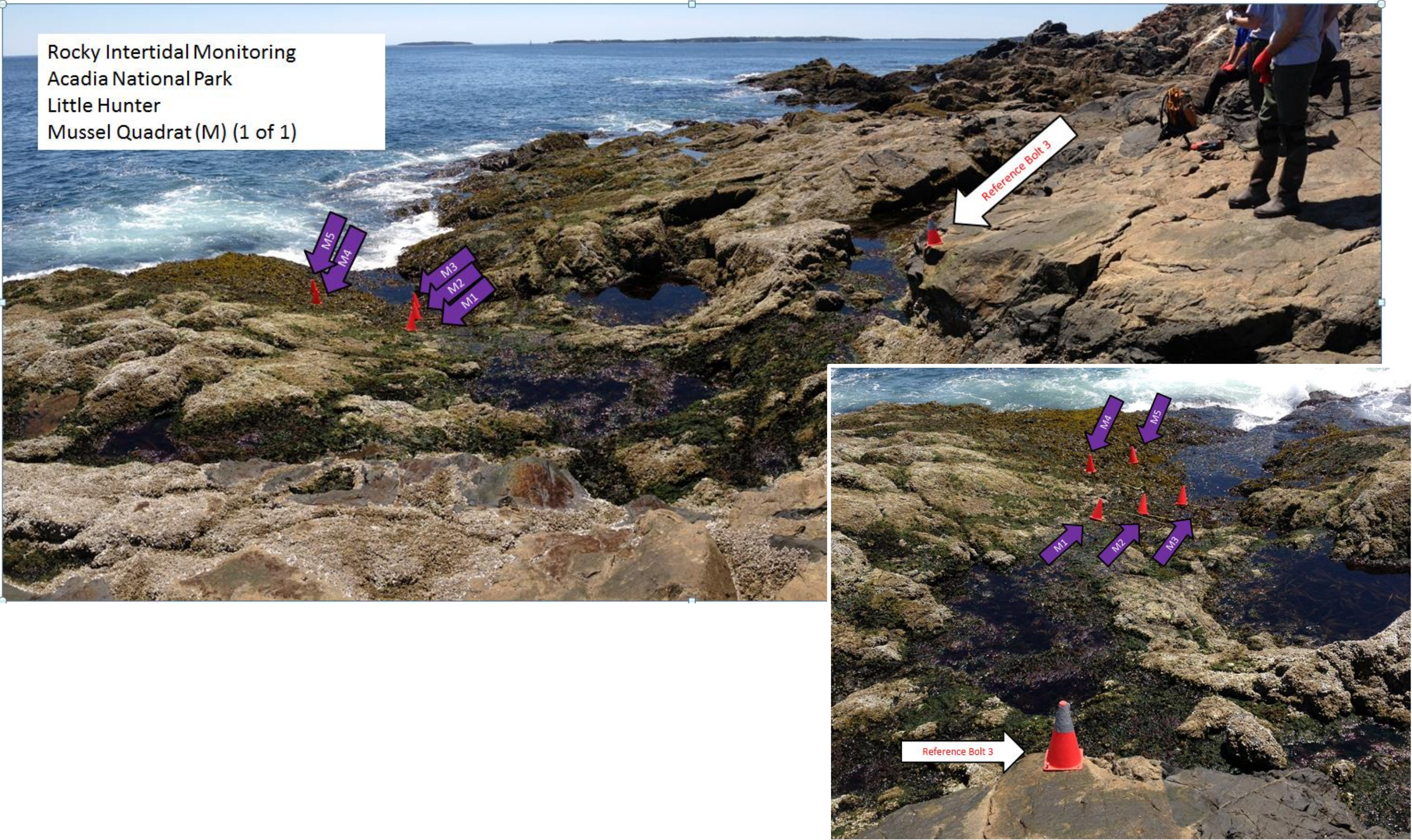


PHOTO 6 – Location of Tide Pool Transects (X1), and reference bolt (REF4) on Little Hunter, Acadia National Park, Maine.



Rocky Intertidal Monitoring
Acadia National Park
Little Hunter
Tide Pool Transects - X1 (1 of 2)

PHOTO 7 - Location of Tide Pool Transects (X2), and reference bolt (REF4) on Little Hunter, Acadia National Park, Maine.



PHOTO 8 - Location of Tide Pool Transects (X3), and reference bolt (REF7) on Little Hunter, Acadia National Park, Maine.



PHOTO 9 – Location of Vertical Transects (T1-3) on Little Hunter , Acadia National Park, Maine.



PHOTO 10 – Location of Vertical Transect end bolts (T1-3) on Little Hunter , Acadia National Park, Maine.



PHOTO 11 – Location of Temperature Loggers (TEMP1-3)on Little Hunter , Acadia National Park, Maine.



ROCKY INTERTIDAL PLOT COORDINATES FOR LITTLE HUNTER, ACAD

All coordinates are reported in Universal Transverse Mercator (UTM), NAD83 (CORS96) Zone 19N. Bolt numbers are for mapping and tabular purposes only since individual bolts are not always labeled in the field. Elevation data are reported in meters, NAVD88 (Geoid09) datum relative to the mean lower low water level (MLLW).

Label	Easting (UTM)	Northing (UTM)	MLLW (m)
Benchmark (BM)			
Little Hunter BM	563133.48	4905293.24	11.42
Reference Bolts (REF 1-7)			
REF 1	563184.65	4905302.44	3.00
REF 2	563188.33	4905310.54	2.44
REF 3	563226.59	4905338.24	3.35
REF 4	563222.78	4905322.23	2.17
REF 5	563194.64	4905303.90	1.44
REF 6	563149.36	4905268.90	3.25
REF 7	563147.13	4905283.18	4.19
<i>Ascophyllum</i> Quadarts (A1-5)			
A1 bolt 1	563197.48	4905311.12	1.84
A1 bolt 2	563196.83	4905310.74	1.74
A1 bolt 3	563196.60	4905311.19	1.80
A1 bolt 4	563197.24	4905311.57	1.85
A1 label	563197.49	4905311.03	1.78
A2 bolt 1	563197.42	4905298.78	0.66
A2 bolt 2	563197.29	4905298.10	0.61
A2 bolt 3	563196.86	4905298.14	0.48
A2 bolt 4	563196.96	4905298.88	0.50
A2 label	563197.55	4905298.76	0.68
A3 bolt 1	563188.35	4905306.39	1.35
A3 bolt 2	563187.66	4905306.05	1.32
A3 bolt 3	563187.46	4905306.49	1.25
A3 bolt 4	563188.17	4905306.81	1.22
A3 label	563188.39	4905306.30	1.30
A4 bolt 1	563187.24	4905305.30	1.46
A4 bolt 2	563186.54	4905305.09	1.52
A4 bolt 3	563186.41	4905305.55	1.38
A4 bolt 4	563187.10	4905305.77	1.35
A4 label	563187.25	4905305.19	1.46
A5 bolt 1	563186.90	4905304.41	1.57
A5 bolt 2	563186.32	4905303.99	1.60

Label	Easting (UTM)	Northing (UTM)	MLLW (m)
<i>Ascophyllum</i> Quadarts (A1-5) cont.			
A5 bolt 3	563186.04	4905304.45	1.62
A5 bolt 4	563186.68	4905304.82	1.55
A5 label	563187.03	4905304.34	1.53

Barnacle Recruitment - Winter (S1-5)			
S1 bolt 1	563181.79	4905304.43	2.13
S1 bolt 2	563181.56	4905304.37	2.08
S1 label	563181.86	4905304.40	2.12
S2 bolt 1	563181.43	4905302.62	2.41
S2 bolt 2	563181.21	4905302.56	2.36
S2 label	563181.46	4905302.65	2.37
S3 bolt 1	563180.93	4905300.74	2.06
S3 bolt 2	563180.72	4905300.71	2.06
S3 label	563180.99	4905300.73	2.05
S4 bolt 1	563177.10	4905299.81	2.41
S4 bolt 2	563176.87	4905299.79	2.33
S4 label	563177.15	4905299.79	2.39
S5 bolt 1	563175.63	4905298.55	2.30
S5 bolt 2	563175.39	4905298.66	2.24
S5 label	563175.68	4905298.54	2.28

Barnacle Quadrats (B1-5)			
B1 bolt 1	563182.95	4905303.15	2.57
B1 bolt 2	563182.44	4905302.59	2.60
B1 bolt 3	563182.10	4905302.91	2.43
B1 bolt 4	563182.60	4905303.45	2.37
B1 label	563183.05	4905303.08	2.58
B2 bolt 1	563181.38	4905303.73	2.14
B2 bolt 2	563181.01	4905303.04	2.22
B2 bolt 3	563180.57	4905303.25	2.15
B2 bolt 4	563180.91	4905303.90	2.05

ROCKY INTERTIDAL PLOT COORDINATES FOR LITTLE HUNTER, ACAD (continued)

Label	Easting (UTM)	Northing (UTM)	MLLW (m)
Barnacle Quadrats (B1-5) cont.			
B2 label	563181.41	4905303.66	2.13
B3 bolt 1	563176.97	4905300.65	2.30
B3 bolt 2	563176.63	4905300.00	2.24
B3 bolt 3	563176.20	4905300.20	2.12
B3 bolt 4	563176.56	4905300.88	2.14
B3 label	563177.04	4905300.63	2.30
B4 bolt 1	563175.64	4905299.83	2.03
B4 bolt 2	563175.30	4905299.17	1.99
B4 bolt 3	563174.88	4905299.39	1.83
B4 bolt 4	563175.21	4905300.05	1.88
B4 label	563175.68	4905299.91	1.99
B5 bolt 1	563176.69	4905297.62	2.42
B5 bolt 2	563176.85	4905296.91	2.44
B5 bolt 3	563176.38	4905296.78	2.30
B5 bolt 4	563176.21	4905297.52	2.29
B5 label	563176.88	4905297.62	2.46
Fucus Quadrats (F1-5)			
F1 bolt 1	563151.78	4905271.39	1.79
F1 bolt 2	563151.29	4905272.02	1.86
F1 bolt 3	563151.66	4905272.31	1.76
F1 bolt 4	563152.14	4905271.75	1.69
F1 label	563151.80	4905271.36	1.78
F2 bolt 1	563153.38	4905270.53	1.75
F2 bolt 2	563152.64	4905270.30	1.85
F2 bolt 3	563152.48	4905270.75	1.72
F2 bolt 4	563153.20	4905270.97	1.60
F2 label	563153.46	4905270.61	1.72
F3 bolt 1	563153.22	4905270.30	1.80
F3 bolt 2	563153.91	4905270.56	1.61
F3 bolt 3	563154.09	4905270.07	1.65
F3 bolt 4	563153.38	4905269.83	1.84
F3 label	563153.14	4905270.23	1.78
F4 bolt 1	563153.42	4905269.38	1.80
F4 bolt 2	563154.12	4905269.66	1.62
F4 bolt 3	563154.26	4905269.18	1.51
F4 bolt 4	563153.61	4905268.94	1.66
F4 label	563153.31	4905269.28	1.84

Label	Easting (UTM)	Northing (UTM)	MLLW (m)
Fucus Quadrats (F1-5) cont.			
F5 bolt 1	563153.94	4905266.77	1.91
F5 bolt 2	563154.04	4905267.51	1.82
F5 bolt 3	563154.54	4905267.45	1.75
F5 bolt 4	563154.44	4905266.71	1.88
F5 label	563153.73	4905266.82	1.98
Mussel Quadrats (M1-5)			
M1 bolt 1	563230.71	4905334.64	1.54
M1 bolt 2	563231.33	4905335.05	1.63
M1 bolt 3	563231.61	4905334.63	1.51
M1 bolt 4	563230.98	4905334.22	1.40
M1 label	563230.65	4905334.74	1.58
M2 bolt 1	563230.80	4905333.94	1.38
M2 bolt 2	563231.45	4905334.33	1.45
M2 bolt 3	563231.71	4905333.92	1.35
M2 bolt 4	563231.08	4905333.50	1.32
M2 label	563230.67	4905333.98	1.38
M3 bolt 1	563230.87	4905333.20	1.29
M3 bolt 2	563231.50	4905333.65	1.31
M3 bolt 3	563231.78	4905333.26	1.14
M3 bolt 4	563231.15	4905332.81	1.19
M3 label	563230.80	4905333.28	1.29
M4 bolt 1	563232.16	4905333.77	1.34
M4 bolt 2	563232.83	4905334.10	1.47
M4 bolt 3	563233.07	4905333.63	1.32
M4 bolt 4	563232.39	4905333.31	1.25
M4 label	563232.06	4905333.81	1.30
M5 bolt 1	563232.59	4905333.01	1.18
M5 bolt 2	563233.31	4905333.03	1.22
M5 bolt 3	563233.34	4905332.54	1.14
M5 bolt 4	563232.61	4905332.51	1.10
M5 label	563232.47	4905332.84	1.11
Temperature Loggers (TEMP1-3)			
TEMP 1	563184.29	4905293.74	-0.40
TEMP 2	563188.17	4905280.06	0.15
TEMP 3	563177.40	4905291.97	-0.11

ROCKY INTERTIDAL PLOT COORDINATES FOR LITTLE HUNTER, ACAD (continued)

Label	Easting (UTM)	Northing (UTM)	MLLW (m)
Tide Pool Band Transects (X1-3)			
X1n bolt	563219.37	4905314.89	1.22
X1n label	563219.32	4905314.91	1.18
X1s bolt	563227.15	4905320.98	1.58
X1s label	563227.20	4905320.99	1.57
X2n bolt	563193.80	4905303.11	0.86
X2n label	563193.81	4905303.23	0.93
X2s bolt	563194.41	4905293.16	-0.22
X2s label	563194.47	4905293.14	-0.22
X3n bolt	563148.13	4905283.36	2.59
X3n label	563148.62	4905283.38	2.50
X3s bolt	563153.39	4905274.79	1.54
X3s label	563153.41	4905274.75	1.52

Vertical Transects (T1-3)			
T1 start bolt	563139.29	4905270.61	4.31
T1 bolt 02	563139.65	4905269.83	3.89
T1 bolt 03	563140.30	4905268.76	3.23
T1 bolt 04	563140.45	4905268.50	2.93
T1 bolt 05	563141.12	4905267.39	3.13
T1 bolt 06	563142.03	4905265.69	2.72
T1 bolt 07	563142.80	4905264.34	2.64
T1 bolt 08	563143.39	4905263.31	2.79
T1 bolt 09	563143.50	4905263.10	2.49
T1 bolt 10	563144.33	4905261.80	2.36
T1 bolt 11	563144.75	4905260.96	2.02
T1 bolt 12	563144.86	4905260.82	1.52
T1 mid bolt	563145.21	4905260.20	1.23
T1 mid label	563145.26	4905260.21	1.18
T1 bolt 14	563145.66	4905259.47	0.75
T1 bolt 15	563146.22	4905258.61	0.25
T1 bolt 16	563147.18	4905256.86	0.35
T1 end bolt	563147.63	4905256.09	-0.25
T1 end label	563145.13	4905254.59	-0.28
T2 start bolt	563136.67	4905269.19	4.27
T2 bolt 02	563137.44	4905267.92	3.60
T2 bolt 03	563138.08	4905266.83	3.12
T2 bolt 04	563138.65	4905265.83	2.85
T2 bolt 05	563139.18	4905264.90	2.97

Label	Easting (UTM)	Northing (UTM)	MLLW (m)
Vertical Transects (T1-3) cont.			
T2 bolt 06	563139.77	4905263.74	2.27
T2 bolt 07	563140.31	4905262.87	1.82
T2 bolt 08	563140.98	4905261.71	2.12
T2 bolt 09	563141.60	4905260.51	2.08
T2 bolt 10	563142.46	4905259.12	1.79
T2 mid bolt	563142.81	4905258.52	1.32
T2 mid label	563142.76	4905258.53	1.29
T2 bolt 12	563143.54	4905257.40	0.53
T2 bolt 13	563144.44	4905255.83	-0.10
T2 end bolt	563145.15	4905254.64	-0.13
T3 start bolt	563134.02	4905267.84	4.12
T3 bolt 02	563134.45	4905267.15	3.70
T3 bolt 03	563135.05	4905266.13	3.35
T3 bolt 04	563135.50	4905265.29	3.13
T3 bolt 05	563136.52	4905263.65	3.32
T3 bolt 06	563137.14	4905263.66	2.46
T3 bolt 07	563136.72	4905263.49	2.25
T3 bolt 08	563137.52	4905261.78	1.88
T3 bolt 09	563137.86	4905261.25	1.55
T3 bolt 10	563138.24	4905260.47	1.61
T3 bolt 11	563138.55	4905259.79	2.12
T3 bolt 12	563139.01	4905259.05	1.84
T3 bolt 13	563139.59	4905258.18	2.00
T3 bolt 14	563140.02	4905257.40	1.43
T3 mid bolt	563140.40	4905256.80	1.07
T3 mid label	563140.40	4905256.78	1.05
T3 bolt 16	563141.23	4905255.35	0.08
T3 bolt 17	563142.27	4905253.67	-0.04
T3 end bolt	563142.62	4905253.03	0.27

