

Appalachian Trail Research Study, 2016 trail data summary from the southern one-third of the A.T.

Research funded by the USDI National Park Service, Appalachian Trail Park Office, Recreation Fee Project; Administered by the Appalachian Trail Conservancy. Co-Investigators: Dr. Jeffrey Marion (U.S. Geological Survey, jmarion@vt.edu, 540-231-6603) and Dr. Jeremy Wimpey (Applied Trails Research, appliedtrailsresearch@gmail.com, 443-629-2630), with graduate students Johanna Arredondo and Fletcher Meadema, Virginia Tech College of Natural Resources and Environment.

This research is sampling approximately 10% of the Appalachian Trail in 63 5k segments, within which conditions of the A.T. tread, recreation sites (shelters, campsites, day-use sites), and informal trails will be assessed. Preliminary data summarized in the following tables are from 1050 representative trail transects measured across the sampled 21 5k segments for the southern third of the A.T. The 1st year of research (2015) conducted field assessments from the NY/CT border to Katahdin and the 2nd year of research (2016) assessed the trail from Blacksburg, VA to Springer Mtn. Georgia. The middle third of the trail will be assessed in 2017 with analyses and report and journal paper writing to continue into 2018. A.T. trail and recreation/camp site conditions for each area will be described and summarized for comparison to other portions of the A.T. Statistical modeling and testing will be conducted to identify and evaluate the relative influence of environmental, design/maintenance, and topographic factors that can be manipulated to increase trail and recreation site sustainability and improve Leave No Trace educational practices. We will be developing some Best Management Practices for trail design/relocations, annual trail and recreation/camp site maintenance, and LNT education. This information will be communicated by study reports, journal papers, and club presentations and workshops. APPA and ATC staff will utilize study findings in revising the A.T. Comprehensive Plan, addressing carrying capacity and visitor use management issues, and in managing group, commercial, and special event uses that require such data to address resource protection decisions.

Trail Sustainability Ratings based on Trail Grade & TSA ¹					
		Trail Slope Alignment Angle (TSA)			
		0-22°	23-45°	46-68°	69-90°
Trail Grade	<=2%	Neutral Rating			
	3-10%	Good Rating			
	11-20%	Poor Rating			
	>20%	Very Poor Rating			

1 – See Marion, Jeffrey L., & Jeremy Wimpey. 2017. Assessing the influence of sustainable trail design and maintenance on soil loss. *J. of Environmental Mgmt.* 189:46-57 for further explanations, available from jmarion@vt.edu.

ALL (N=1037) *Roads, sidewalks omitted						
Inventory Indicators		Trail Slope Alignment Angle				Totals
		0-22°	23-45°	46-68°	69-90°	
Trail Grade	<=2%	2.4	1.5	2.7	7.8	14.5
	3-10%	7.1	4.0	13.0	23.8	47.9
	11-20%	6.9	3.7	8.4	10.1	29.1
	>20%	2.6	1.7	2.9	1.3	8.5
	Totals	19.1	10.9	27.0	43.0	100.0
Trail Grade: Mean=9.9% Median= 8.75% Range= -19.44 - 57.74						
*Negative values due to transect being at local high						
TSA: Mean= 55.4 Median= 65.0 Range= 0-90						
%Rock: Mean=14.2% Median= 5% Range= 0-100						
VIRGINIA (N=339)						
Inventory Indicators		Trail Slope Alignment Angle				

		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	1.2	2.7	2.7	8.6	15.0
Grade	3-10%	4.4	5.6	17.7	27.1	54.9
	11-20%	3.5	2.9	9.1	8.6	24.2
	>20%	2.4	2.1	1.2	0.3	5.9
Totals		11.5	13.3	30.7	44.5	100.0
Trail Grade: Mean= 8.9% Median= 7.0% Range= -1.8-28.7%						
TSA: Mean= 59.7 Median= 66 Range= 0-90						
%Rock: Mean=14.7% Median=5% Range= 0-100						
NORTH CAROLINA (N=298)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	2.0	0.3	1.3	4.4	8.1
Grade	3-10%	6.7	2.7	13.4	25.8	48.7
	11-20%	7.4	3.0	7.7	15.8	33.9
	>20%	3.0	1.0	3.0	2.3	9.4
Totals		19.1	7.0	25.5	48.3	100.0
Trail Grade: Mean= 11.0% Median= 10.5% Range= -19.44-48.77%						
TSA: Mean= 57.5 Median= 68 Range= 0-90						
%Rock: Mean= 13.1% Median= 0% Range= 0-100%						
TENNESSEE (N=251)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	2.8	1.6	3.2	12.0	19.5
Grade	3-10%	12.0	2.8	6.8	20.7	42.2
	11-20%	9.2	4.0	8.0	8.8	29.9
	>20%	2.0	1.2	3.6	1.6	8.4
Totals		25.9	9.6	21.5	43.0	100.0
Trail Grade: Mean= 9.8% Median= 8.8% Range= -15.8-57.7%						
TSA: Mean= 51.8 Median= 63 Range= 0-90						
%Rock: Mean= 16.8% Median= 5% Range= 0-85%						
GEORGIA (N=149)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	5.4	1.3	4.7	6.0	17.4
Grade	3-10%	6.0	4.7	12.1	17.4	40.3
	11-20%	10.1	6.0	8.7	4.7	29.5
	>20%	3.4	3.4	5.4	0.7	12.8
Totals		24.8	15.4	30.9	28.9	100.0
Trail Grade: Mean= 10.2% Median= 8.8% Range= -15.8 - 40.4%						
TSA: Mean= 47.4 Median= 57 Range= 0-90						
%Rock: Mean= 12.0% Median= 5% Range= 0-70%						

Table x. Cross Tabulation of trail grade and trail slope alignment inventory indicators. Roads and sidewalks omitted (N=13).

RATC (Roanoke Appalachian Trail Club) (N=150)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	0.0	2.7	2.0	11.3	16.0
Grade	3-10%	2.0	4.7	18.7	31.3	56.7

11-20%	2.0	2.0	9.3	8.7	22.0	
>20%	2.0	0.7	2.0	0.7	5.3	
Totals	6.0	10.0	32.0	52.0	100.0	
Trail Grade: Mean=8.6 Median=7.0 Range= -1.8-28.7						
TSA: Mean=65.6 Median=70.5 Range= 0-90						
%Rock: Mean=22.7 Median=12.5 Range= 0-95						
OCVT (Outdoor Club at Virginia Tech) (N=50)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	4.0	0.0	0.0	18.0	22.0
Grade	3-10%	8.0	10.0	12.0	20.0	50.0
	11-20%	10.0	4.0	6.0	2.0	22.0
	>20%	0.0	6.0	0.0	0.0	6.0
Totals		22.0	20.0	18.0	40.0	100.0
Trail Grade: Mean= 8.0 Median=7.0 Range= -1.8-28.7						
TSA: Mean=49.8 Median=54.5 Range= 0-88						
%Rock: Mean=2.6 Median=0 Range= 0-50						
PATH (Piedmont Appalachian Trail Hikers) (N=43)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	2.3	7.0	4.7	2.3	16.3
Grade	3-10%	7.0	7.0	27.9	20.9	62.8
	11-20%	2.3	4.7	9.3	2.3	18.6
	>20%	2.3	0.0	0.0	0.0	2.3
Totals		14.0	18.6	41.9	25.6	100.0
Trail Grade: Mean= 8.0 Median=7.0 Range= 1.8-23.1						
TSA: Mean=53.5 Median=59 Range= 0-90						
%Rock: Mean=1.7 Median=0 Range= 0-50						
MRATC (Mount Rodgers Appalachian Trail Club) (N=96)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	1.0	2.1	4.2	2.1	9.4
Grade	3-10%	5.2	4.2	14.6	27.1	51.0
	11-20%	3.1	3.1	10.4	14.6	31.3
	>20%	4.2	3.1	1.0	0.0	8.3
Totals		13.5	12.5	30.2	43.8	100.0
Trail Grade: Mean=10.4 Median=9.6 Range= 1.75-26.8						
TSA: Mean=58.3 Median=66.5 Range=0-90						
%Rock: Mean=12.8 Median=5 Range=0-100						
TEHCC (Tennessee Eastman Hiking and Canoeing Club) (N=199)						
Inventory Indicators		Trail Slope Alignment Angle				
		0-22°	23-45°	46-68°	69-90°	Totals
Trail	0-2%	2.5	0.5	4.0	12.6	19.6
Grade	3-10%	8.0	3.0	7.0	23.1	41.2
	11-20%	9.5	3.5	6.5	9.0	28.6
	>20%	2.5	1.5	4.5	2.0	10.6
Totals		22.6	8.5	22.1	46.7	100.0
Trail Grade: Mean=10.4 Median=8.8 Range= -7.0-57.7						
TSA: Mean=54.6 Median=66 Range= 0-90						
%Rock: Mean=13.5 Median=0 Range= 0-95						

CMC (Carolina Mountain Club) (N=150)						
Inventory Indictors		Trail Slope Alignment Angle				Totals
		0-22°	23-45°	46-68°	69-90°	
Trail	0-2%	0.0	1.3	1.3	4.0	6.7
Grade	3-10%	9.3	1.3	8.7	24.0	43.3
	11-20%	8.7	4.0	12.7	14.7	40.0
	>20%	2.0	1.3	4.7	2.0	10.0
Totals		20.0	8.0	27.3	44.7	100.0
Trail Grade: Mean= 11.5 Median=11.4 Range= -19.4 - 32.5 TSA: Mean=55.0 Median=64 Range= 0-90 %Rock: Mean=11.8 Median=0 Range= 0-100						
SMHC (Smoky Mountain Hiking Club) (N=100)						
Inventory Indictors		Trail Slope Alignment Angle				Totals
		0-22°	23-45°	46-68°	69-90°	
Trail	0-2%	4.0	2.0	1.0	6.0	13.0
Grade	3-10%	10.0	4.0	16.0	22.0	52.0
	11-20%	5.0	4.0	7.0	13.0	29.0
	>20%	1.0	1.0	1.0	3.0	6.0
Totals		20.0	11.0	25.0	44.0	100.0
Trail Grade: Mean= 8.9 Median= 8.8 Range= -15.8 - 34.4 TSA: Mean=55.3 Median=67 Range= 0-90 %Rock: Mean=27.4 Median=17.5 Range= 0-100						
NHC (Nantahala Hiking Club) (N=100)						
Inventory Indictors		Trail Slope Alignment Angle				Totals
		0-22°	23-45°	46-68°	69-90°	
Trail	0-2%	4.0	0.0	1.0	6.0	11.0
Grade	3-10%	10.0	3.0	14.0	25.0	52.0
	11-20%	8.0	2.0	4.0	16.0	30.0
	>20%	5.0	0.0	1.0	1.0	7.0
Totals		27.0	5.0	20.0	48.0	100.0
Trail Grade: Mean= 10.4 Median=10.5 Range= -5.2 - 48.8 TSA: Mean=55.0 Median=67.5 Range= 0-90 %Rock: Mean=9.1 Median=0 Range= 0-75						
GAHC (Georgia Appalachian Hiking Club) (N=149)						
Inventory Indictors		Trail Slope Alignment Angle				Totals
		0-22°	23-45°	46-68°	69-90°	
Trail	0-2%	5.4	1.3	4.7	6.0	17.4
Grade	3-10%	6.0	4.7	12.1	17.4	40.3
	11-20%	10.1	6.0	8.7	4.7	29.5
	>20%	3.4	3.4	5.4	0.7	12.8
Totals		24.8	15.4	30.9	28.9	100.0
Trail Grade: Mean= 10.2 Median=8.8 Range= -15.8 - 40.4 TSA: Mean=47.4 Median=57 Range=0-90 %Rock: Mean=12.0 Median=5 Range=0-70						

Trail Sustainability Ratings					
		Good	Neutral	Poor	Very Poor
	ALL	40.8%	14.5%	29.3%	15.4%
State	VA	50.5	15	25	9.5
	NC	42	8.1	33.2	16.7
	TN	30.2	19.5	32.8	17.6
	GA	34.3	17.4	25.4	23
Club	RATC	54.7	16	22	7.3
	OCVT	42	22	20	16
	PATH	55.8	16.3	23.3	4.6
	MRATC	45.8	9.4	33.4	11.4
	TEHCC	33.2	19.6	27.1	20.1
	CMC	34	6.7	40.6	18.7
	SMHC	42	13	34	11
	NHC	42	11	32	15
	GAHC	34.3	17.4	25.4	22.9

ALL			VA		NC		TN		GA	
Indicator	N	Percent	N	%	N	%	N	%	N	%
Trail Width (in)										
0-6	0	0	0	0	0	0	0	0	0	0
6.01-12	12	1.2	1	0.3	8	2.7	3	1.2	0	0
12.01-18	282	27.4	80	23.8	93	31.5	94	37.9	15	10.1
18.01-24	430	41.8	124	36.9	140	47.5	85	34.3	81	54.4
24.01-30	174	16.9	71	21.1	43	14.6	28	11.3	32	21.5
30.01-36	54	5.3	25	7.4	6	2.0	10	4.0	13	8.7
36.01-42	33	3.2	18	5.4	3	1.0	10	4.0	2	1.3
42.01-48	18	1.8	7	2.1	0	0	8	3.2	3	2.0
>48	25	2.4	10	3.0	2	0.7	10	4.0	3	2.0
Totals	1028	100	336	100.0	295	100.0	248	100.0	149	100.0
Mean: 22.9			Mean: 24.4		Mean: 20.4		Mean: 23.1		Mean: 24.1	
Median: 20.9			Median: 22.0		Median: 20.1		Median: 19.3		Median: 22.2	
Range: 9.8-104.9			Range: 11.8-75.2		Range: 10.2-66.5		Range: 9.8-104.9		Range: 13.4-62.4	
Maximum Incision (in)										
0	0	0	0	0	0	0	0	0	0	0
0.1-1.0	86	8.4	40	11.9	14	4.7	27	10.9	5	3.4
1.01-2.0	374	36.4	141	42.0	80	27.1	109	44.0	44	29.5
2.01-3.0	245	23.8	68	20.2	78	26.4	52	21.0	47	31.5
3.01-4.0	152	14.8	47	14.0	59	20.0	23	9.3	23	15.4
4.01-5	67	6.5	24	7.1	19	6.4	8	3.2	16	10.7
>5	104	10.1	16	4.8	45	15.3	29	11.7	14	9.4
Totals	1028	100.0	336	100.0	295	100.0	248	100.0	149	100.0
Mean: 2.8			Mean: 2.4		Mean: 3.3		Mean: 2.7		Mean: 2.9	
Median: 2.2			Median: 2.0		Median: 2.8		Median: 2.0		Median: 2.6	
Range: 0.4-23.6			Range: 0.4-23.6		Range: 0.6-16.3		Range: 0.6-14.0		Range: 0.8-12.4	
Cross Sectional Area Soil Loss (in²)										
0	0	0	0	0	0	0	0	0	0	0
0.01-25	288	28.0	118	35.1	66	22.4	89	35.9	16	10.7
25.01-50	354	34.4	123	36.6	92	31.2	81	32.7	57	38.3
50.01-75	167	16.3	38	11.3	67	22.7	25	10.1	37	24.8
75.01-100	84	8.2	30	8.9	24	8.1	17	6.9	13	8.7
>100	135	13.1	27	8.0	46	15.6	36	14.5	26	17.4
Totals	1028	100.0	336	100.0	295	100.0	248	100.0	149	100.0
Mean: 54.1			Mean: 44.5		Mean: 60.9		Mean: 53.1		Mean: 63.8	
Median: 39.1			Median: 32.6		Median: 48.1		Median: 31.8		Median: 52.3	
Range: 0.4-424.3			Range: 0.4-220.9		Range: 4.7-424.3		Range: 5.4-412.7		Range: 12.4-289.9	
Mean Trail Depth (in)										
0	0	0	0	0	0	0	0	0	0	0
0.01-0.5	35	3.4	22	6.5	4	1.4	8	3.2	1	0.7
0.51-1.0	188	18.3	88	26.2	38	12.9	52	21.0	10	6.7
1.01-1.5	235	22.9	89	26.5	47	15.9	71	38.6	28	18.8
1.51-2.0	166	16.1	42	12.5	46	15.6	47	19.0	31	20.8
2.01-2.5	135	13.1	45	13.4	47	15.9	18	7.3	25	16.8
2.51-3.0	91	8.9	20	6.0	37	12.5	12	4.8	22	14.8
3.01-3.5	46	4.5	16	4.8	14	4.7	6	2.4	10	6.7
3.51-4.0	34	3.3	6	1.8	13	4.4	7	2.8	8	5.4
>4.0	98	9.5	8	2.4	49	16.6	27	10.9	14	9.4
Totals	1028	100.0	336	100.0	295	100.0	248	100.0	149	100.0
Mean: 2.1			Mean: 1.6		Mean: 2.7		Mean: 2.1		Mean: 2.4	
Median: 1.7			Median: 1.3		Median: 2.2		Median: 1.5		Median: 2.0	
Range: 0 – 15.8			Range: 0-6.8		Range: 0.2-15.8		Range: 0.2-13.0		Range: 0.5-11.8	

RATC			OCVT		PATH		MRATC		TEHCC		CMC	
Indicator	N	Percent	N	%	N	%	N	%	N	%	N	%
Trail Width (in)												
0-6	0	0	0	0	0	0	0	0	0	0	0	0
6.01-12	1	0.7	0	0	0	0	0	0	9	4.6	1	0.7
12.01-18	25	16.7	11	22.0	36	87.8	8	8.4	71	36.6	53	35.6
18.01-24	61	40.7	30	60.0	2	4.9	31	32.6	65	33.5	67	45.0
24.01-30	33	22.0	7	14.0	1	2.4	30	31.6	16	8.2	22	14.8
30.01-36	12	8.0	1	2.0	1	2.4	11	11.6	7	3.6	5	3.4
36.01-42	9	6.0	1	2.0	0	0	8	8.4	8	4.1	1	0.7
42.01-48	3	2.0	0	0	0	0	4	4.2	8	4.1	0	0
>48	6	4.0	0	0	1	2.4	3	3.2	10	5.2	0	0
Totals	150	100.0	50	100.0	41	100.0	95	100.0	194	100.0	149	100.0
Mean: 25.4			Mean: 20.8		Mean: 16.8		Mean: 27.8		Mean: 23.1		Mean: 20.5	
Median: 22.7			Median: 19.9		Median: 14.8		Median: 25.8		Median: 18.8		Median: 20.3	
Range: 11.8-63.8			Range: 15.6-37.8		Range: 12.0-65.7		Range: 15.7-75.2		Range: 9.8-104.9		Range: 10.8-40.0	
Maximum Incision (in)												
0	0	0	0	0	0	0	0	0	0	0	0	0
0.1-1.0	22	14.7	6	12.0	10	24.4	2	2.1	30	15.5	9	6.0
1.01-2.0	62	41.3	32	64.0	23	56.1	24	25.3	93	48.2	67	45.0
2.01-3.0	27	18.0	11	22.0	5	12.2	25	26.3	38	19.7	51	34.2
3.01-4.0	18	12.0	1	2.0	2	4.9	26	27.4	17	8.8	15	10.1
4.01-5	16	10.7	0	0	0	0	8	8.4	6	3.1	0	0
>5	5	3.3	0	0	1	2.4	10	10.5	9	4.7	7	4.7
Totals	150	100.0	50	100.0	41	100.0	95	100.0	193	100.0	149	100.0
Mean: 2.3			Mean: 1.7		Mean: 1.9		Mean: 3.3		Mean: 2.2		Mean: 2.3	
Median: 2.0			Median: 1.6		Median: 1.6		Median: 3.0		Median: 1.8		Median: 2.0	
Range: 0.6-7.9			Range: 0.8-3.1		Range: 0.4-11.0		Range: 0.6-23.6		Range: 0.6-11.2		Range: 0.6-7.9	
Cross Sectional Area Soil Loss (in²)												
0	0	0	0	0	0	0	0	0	0	0	0	0
0.01-25	59	39.3	21	42.0	26	63.4	12	12.6	92	47.7	40	26.8
25.01-50	58	38.7	23	46.0	12	29.3	30	31.6	60	31.1	70	47.0
50.01-75	15	10.0	6	12.0	1	2.4	16	16.8	12	6.2	31	20.8
75.01-100	9	6.0	0	0	1	2.4	20	21.1	12	6.2	3	2.0
>100	9	6.0	0	0	1	2.4	17	17.9	17	8.8	5	3.4
Totals	150	100.0	50	100.0	41	100.0	95	100.0	193	100.0	149	100.0
Mean: 39.0			Mean: 31.7		Mean: 26.0		Mean: 68.1		Mean: 41.6		Mean: 40.4	
Median: 30.6			Median: 28.7		Median: 21.7		Median: 55.0		Median: 26.0		Median: 35.7	
Range: 0.4-158.9			Range: 10.1-74.8		Range: 2.3-149.6		Range: 13.2-220.9		Range: 4.7-368.1		Range: 5.4-146.1	
Mean Trail Depth (in)												
0	0	0	0	0	0	0	0	0	0	0	0	0
0.01-0.5	14	9.3	2	4.0	4	9.8	2	2.1	10	5.2	2	1.3
0.51-1.0	49	32.7	14	28.0	11	26.8	14	14.7	54	28.0	20	13.4
1.01-1.5	46	30.7	13	26.0	15	36.6	15	15.8	60	31.1	45	30.2
1.51-2.0	12	8.0	14	28.0	6	14.6	10	10.5	34	17.6	42	28.2
2.01-2.5	16	10.7	7	14.0	3	7.3	19	20.0	14	7.3	22	14.8
2.51-3.0	3	2.0	0	0	1	2.4	16	16.8	8	4.1	9	6.0
3.01-3.5	7	4.7	0	0	1	2.4	8	8.4	3	1.6	3	2.0
3.51-4.0	2	1.3	0	0	0	0	4	4.2	4	2.1	0	0
>4.0	1	0.7	0	0	0	0	7	7.4	6	3.1	6	4.0
Totals	150	100.0	50	100.0	41	100.0	95	100.0	193	100.0	149	100.0
Mean: 1.3			Mean: 1.3		Mean: 1.3		Mean: 2.2		Mean: 1.5		Mean: 1.8	
Median: 1.1			Median: 1.4		Median: 1.3		Median: 2.2		Median: 1.3		Median: 1.6	
Range: 0-4.3			Range: 0.4-2.3		Range: 0.2-3.2		Range: 0.4-6.8		Range: 0.2-8.3		Range: 0.4-7.4	

SMHC			NHC		GAHC	
Indicator	N	Percent	N	%	N	%
Trail Width (in)						
0-6	0	0	0	0	0	0
6.01-12	0	0	1	1.0	0	0
12.01-18	40	40.0	23	23.0	15	10.1
18.01-24	36	36.0	57	57.0	81	54.4
24.01-30	16	16.0	17	17.0	32	21.5
30.01-36	3	3.0	1	1.0	13	8.7
36.01-42	4	4.0	0	0	2	1.3
42.01-48	0	0	0	0	3	2.0
>48	1	1.0	1	1.0	3	2.0
Totals	100	100.0	100	100.0	149	100.0
Mean: 20.9			Mean: 21.0		Mean: 24.1	
Median: 20.0			Median: 20.5		Median: 22.2	
Range: 12.4-66.5			Range: 11.6-52.6		Range: 13.4-62.4	
Maximum Incision (in)						
0	0	0	0	0	0	0
0.1-1.0	1	1.0	1	1.0	5	3.4
1.01-2.0	6	6.0	22	22.0	44	29.5
2.01-3.0	10	10.0	31	31.0	47	31.5
3.01-4.0	18	18.0	32	32.0	23	15.4
4.01-5	15	15.0	6	6.0	16	10.7
>5	50	50.0	8	8.0	14	9.4
Totals	100	100.0	100	100.0	149	100.0
Mean: 5.5			Mean: 3.1		Mean: 2.9	
Median: 5.0			Median: 3.0		Median: 2.6	
Range: 1.0-16.3			Range: 0.8-11.8		Range: 0.8-12.4	
Cross Sectional Area Soil Loss (in²)						
0	0	0	0	0	0	0
0.01-25	5	5.0	17	17.0	16	10.7
25.01-50	15	15.0	28	28.0	57	38.3
50.01-75	13	13.0	36	36.0	37	24.8
75.01-100	17	17.0	9	9.0	13	8.7
>100	50	50.0	10	10.0	26	17.4
Totals	100	100.0	100	100.0	149	100.0
Mean: 112.5			Mean: 58.2		Mean: 63.6	
Median: 100.2			Median: 52.5		Median: 52.3	
Range: 10.9-424.3			Range: 15.9-227.9		Range: 12.4-289.9	
Mean Trail Depth (in)						
0	0	0	0	0	0	0
0.01-0.5	0	0	0	0	1	0.7
0.51-1.0	1	1.0	14	14.0	10	6.7
1.01-1.5	4	4.0	9	9.0	28	18.8
1.51-2.0	6	6.0	11	11.0	31	20.8
2.01-2.5	9	9.0	20	20.0	25	16.8
2.51-3.0	8	8.0	24	24.0	22	14.8
3.01-3.5	8	8.0	6	6.0	10	6.7
3.51-4.0	8	8.0	8	8.0	8	5.4
>4.0	56	56.0	8	8.0	14	9.4
Totals	100	100.0	100	100.0	149	100.0
Mean: 4.9			Mean: 2.5		Mean: 2.4	
Median: 4.4			Median: 2.4		Median: 2.0	
Range: 0.7-15.8			Range: 0.7-11.5		Range: 0.5-11.8	

Table 1. Number and percent of sample points by impact indicator category. Tread Width: omitted roads, boardwalks and bog bridges. Everything else: omitted roads, boardwalks, bog bridges and rock steps.

ALL			VA		NC		TN		GA	
Indicator	N	Percent	N	%	N	%	N	%	N	%
Mud (%)										
0-25	1046	99.6	347	99.1	297	99.7	252	100.0	150	100.0
25.01-50	0	0	0	0	0	0	0	0	0	0
50.01-75	1	0.1	1	0.3	0	0	0	0	0	0
75.01-100	3	0.3	2	0.6	1	0.3	0	0	0	0
Totals	1050	100.0	350	100.0	298	100.0	252	100.0	150	100.0
Mean: 0.3			Mean: 0.8		Mean: 0.3		Mean: 0		Mean: 0	
Median: 0			Median: 0		Median: 0		Median: 0		Median: 0	
Range: 0-95			Range: 0-95		Range: 0-85		Range: 0		Range: 0	
Roots (%)										
0-25	1039	99.0	349	99.7	292	98.0	248	98.4	150	100
25.01-50	11	1.0	1	0.3	6	2.0	4	1.6	0	0
50.01-75	0	0	0	0	0	0	0	0	0	0
75.01-100	0	0	0	0	0	0	0	0	0	0
Totals	1050	100.0	350	100.0	298	100.0	252	100.0	150	100
Mean: 1.4			Mean: 0.5		Mean: 2.3		Mean: 1.7		Mean: 1.2	
Median: 0			Median: 0		Median: 0		Median: 0		Median: 0	
Range: 0-50			Range: 0-30		Range: 0-40		Range: 0-50		Range: 0-20	

RATC			OCVT		PATH		MRATC		TEHCC		CMC	
Indicator	N	Percent	N	%	N	%	N	%	N	%	N	%
Mud (%)												
0-25	148	98.7	100	100	49	98.0	100	100	200	100	150	100
25.01-50	1	0.7	0	0	0	0	0	0	0	0	0	0
50.01-75	1	0.7	0	0	0	0	0	0	0	0	0	0
75.01-100	0	0	0	0	1	2.0	0	0	0	0	0	0
Totals	150	100.0	50	100.0	50	100.0	100	100	200	100	150	100
Mean: 1.3			Mean: 0		Mean: 1.8		Mean: 0		Mean: 0		Mean: 0	
Median: 0			Median: 0		Median: 0		Median: 0		Median: 0		Median: 0	
Range: 0-95			Range: 0		Range: 0-90		Range: 0		Range: 0		Range: 0	
Roots (%)												
0-25	148	100.0	50	100.0	49	98.0	100	100.0	200	100.0	150	100.0
25.01-50	0	0	0	0	0	0	0	0	0	0	0	0
50.01-75	1	0	0	0	0	0	0	0	0	0	0	0
75.01-100	1	0	0	0	1	2.0	0	0	0	0	0	0
Totals	150	100.0	50	100.0	50	100.0	100	100.0	200	100.0	150	100.0
Mean: 0.2			Mean: 0		Mean: 0		Mean: 1.5		Mean: 1.7		Mean: 2.3	
Median: 0			Median: 0		Median: 0		Median: 0		Median: 0		Median: 0	
Range: 0-15			Range: 0		Range: 0		Range: 0-30		Range: 0-50		Range: 0-40	

SMHC			NHC		GAHC	
Indicator	N	Percent	N	%	N	%
Mud (%)						
0-25	99	99.0	100	100.0	150	100.0
25.01-50	0	0	0	0	0	0
50.01-75	0	0	0	0	0	0
75.01-100	1	1.0	0	0	0	0
Totals	100	100.0	100	100.0	150	100.0
Mean: 0.9			Mean: 0		Mean: 0	
Median: 0			Median: 0		Median: 0	
Range: 0-85			Range: 0		Range: 0	
Roots (%)						
0-25	99	99.0	100	100	150	100.0
25.01-50	0	0	0	0	0	0
50.01-75	0	0	0	0	0	0
75.01-100	1	1.0	0	0	0	0
Totals	100	100.0	100	100.0	150	100.0
Mean: 1.5			Mean: 2.8		Mean: 1.2	
Median: 0			Median: 0		Median: 0	
Range: 0-30			Range: 0-35		Range: 0-20	

ALL		
Indicator	Sample Points	Percent
Soil Texture		
Sandy Clay	21	2.0
Clay	15	1.4
Silty Clay	48	4.6
Sandy Clay Loam	87	8.3
Clay Loam	72	6.9
Silty Clay Loam	223	21.2
Sandy Loam	290	27.6
Loam	23	2.2
Silt Loam	0	0
Organic Soil	239	22.8
Other Tread Type	32	3.0
Totals	1050	100.00

Indicator	Sample Points	Percent
Secondary Treads		
0	1042	99.2
1	8	0.8
2	0	0
3	0	0
Totals	1050	100
Mean: 0.01		
Median: 0		

Indicator	Sample Points	Percent
Rugosity		
Smooth	831	79.1
Intermediate	187	17.8
Rough	32	3.0
Totals	1050	100

Indicator	Sample Points	Percent
Rugosity		
0	0	0
0.01-0.25	264	25.7
0.26-0.50	464	45.1
0.51-0.75	173	16.8
0.76-1.0	54	5.3
>1	73	7.1
Totals	1028	100.0
Mean: 0.46		
Median: 0.36		
Range: 0.07-6.87		

Indicator	Sample Points	Percent
Historic Erosion: Maximum Incision (in)		
0	0	0
0.1-1.0	0	0
1.01-2.0	1	0.8
2.01-3.0	10	8.1
3.01-4.0	13	10.6
4.01-5	16	13.0
5.01-6	13	10.6
6.01-12	48	39.0
12.01-24	22	17.9
>24	0	0
Totals	123	100
Mean = 7.45		
Median = 6.50		
Range = 1.97-16.34		

Table 2. Maximum incision in inches including historic erosion. Roads, boardwalks, bog bridges, and rock steps have been omitted.

Table 3. Slope Ratio, the absolute value of trail grade/landform grade.

Indicator	Sample Points	Percent
Slope Ratio		
0-0.25	399	38.0
0.26-0.5	288	27.4
0.51-0.75	167	15.9
0.76-1.0	196	18.7
Totals	1050	100.0
Mean: 0.44		
Median: 0.36		
Range: 0-1.0		

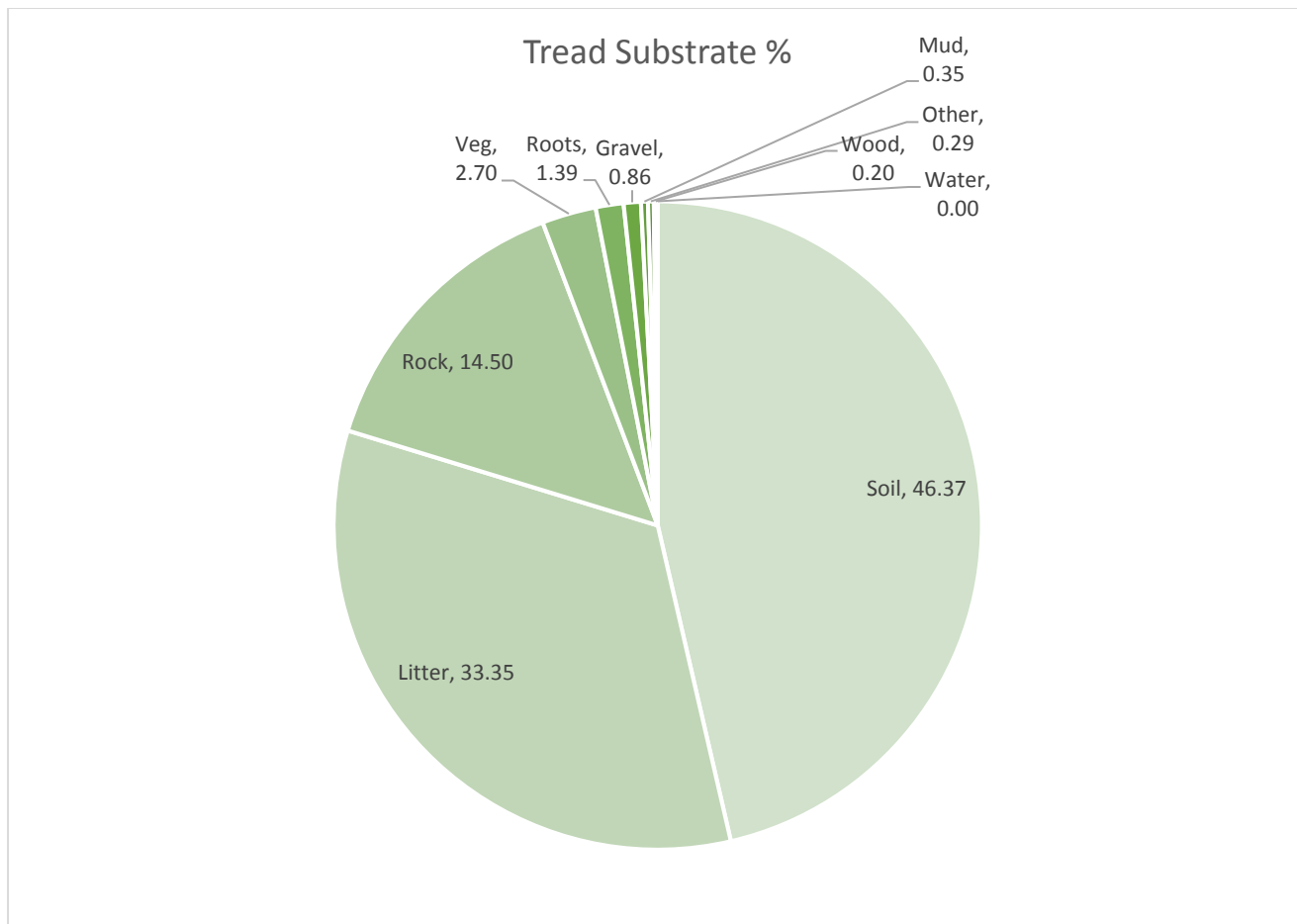


Figure 1. Mean tread substrate cover as a proportion of transect (tread) width.

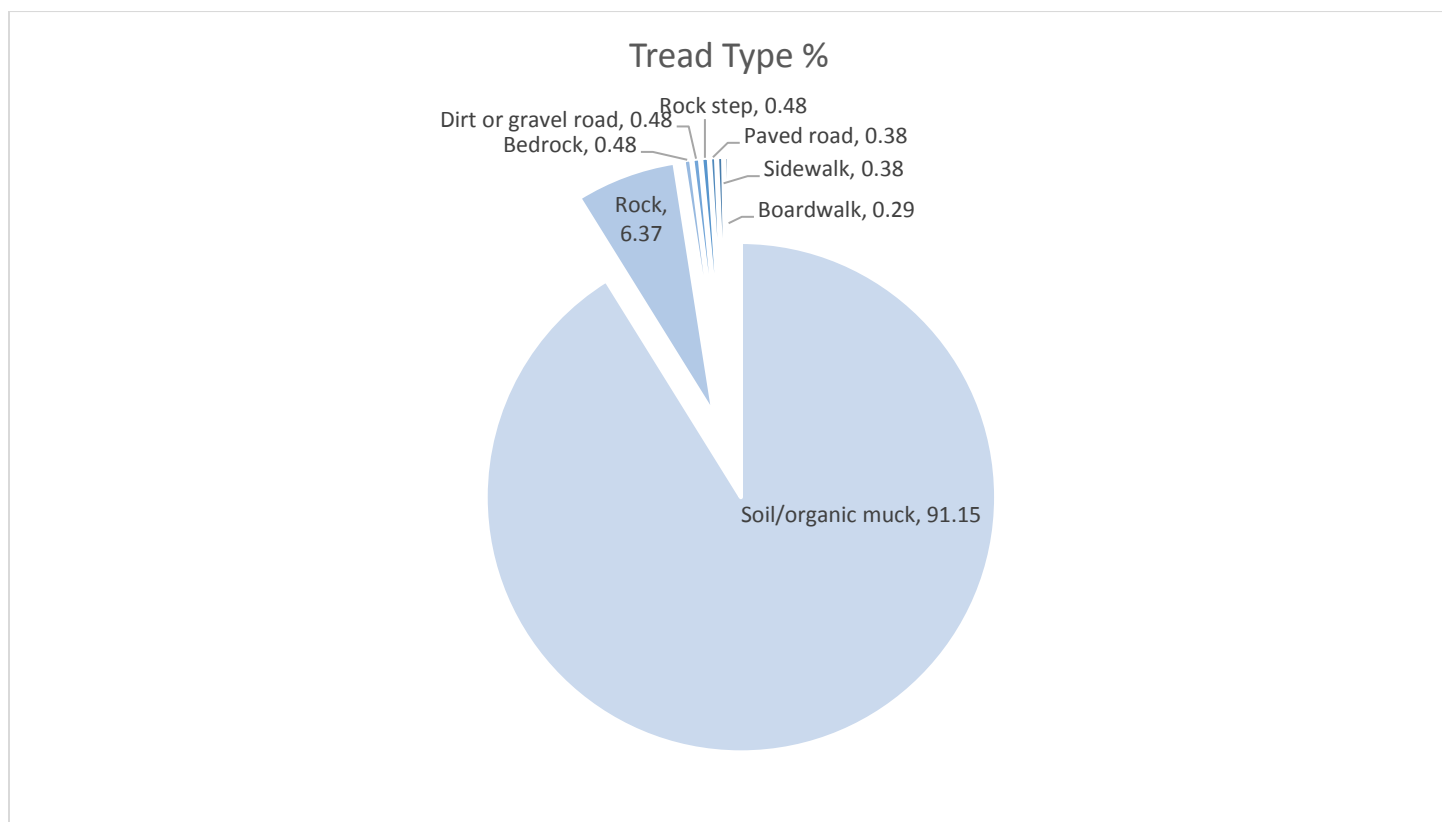


Figure 2. Mean tread type of the Northern third of the AT