

Supplementary Table 5. Soil laboratory analysis results for each study site. All soil samples were taken from 0–15 cm intervals.

Site	Bulk density	Litter depth	Field-moist gravimetric water content	Air-dried gravimetric water content	Sand	Silt	Clay	Organic C	NH ₄ ⁺	NO ₃ ⁻
Units	(g/cm ³)	(cm)	(%)	(%)	(%)	(%)	(%)	(mg C/g of soil)	(N/kg)	(N/kg)
1*	1.41	0.83	8.28	1.97	47.76	22.67	29.56	36.68	7.52	3.22
2	1.58	0.42	5.21	1.90	63.70	16.84	19.46	38.66	9.15	2.39
3	1.39	1.83	9.01	1.28	60.57	22.62	16.81	36.06	7.43	2.08
4	1.47	1.67	12.52	2.53	44.72	25.32	29.96	24.98	6.90	4.28
5	1.35	0.08	7.59	2.18	47.15	25.07	27.79	34.54	7.90	1.28
6*	1.24	1.33	9.32	2.45	45.71	22.90	31.39	31.92	9.40	2.69
7	1.37	1.17	9.14	2.18	49.31	18.94	31.75	34.64	9.26	1.58
8	1.45	0.83	6.23	1.08	76.01	9.11	14.88	26.19	4.50	0.93
9	1.36	0.67	9.07	1.01	47.10	33.92	18.97	65.19	9.30	13.05
10*	1.40	1.00	14.44	2.74	39.09	25.46	35.45	27.23	8.69	7.83
11	1.23	1.67	10.83	2.45	49.19	23.11	27.70	42.32	12.43	6.44
12	1.20	2.33	16.97	2.18	50.15	22.47	27.39	42.40	10.09	6.70
13	1.62	1.83	8.49	0.60	83.14	5.31	11.55	22.68	8.53	3.27
14	1.53	0.00	7.87	1.70	48.28	22.55	29.18	26.87	5.66	2.10
15	1.34	1.33	25.60	2.18	41.38	30.51	28.11	31.43	6.70	3.87
16	1.34	1.00	8.00	1.01	50.43	31.24	18.33	34.29	6.41	2.54
17*	1.39	1.50	8.55	1.49	67.56	11.59	20.85	28.45	6.72	4.57
18	1.35	2.33	13.95	1.83	49.50	25.72	24.78	29.69	7.18	8.38
19	1.40	0.75	9.44	1.97	57.27	19.28	23.45	35.26	6.71	3.59
20	1.55	0.75	5.40	1.01	69.12	16.53	14.35	29.72	5.92	2.88
21	1.44	2.00	8.51	1.83	35.54	39.01	25.45	41.34	6.63	1.56
22	1.38	1.33	8.77	1.55	60.40	20.24	19.36	31.53	4.88	2.17
23	1.37	1.00	11.31	2.46	38.74	33.10	28.16	32.66	6.55	0.71
24	1.43	2.00	8.31	2.81	47.87	24.63	27.51	49.18	8.03	1.91

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Supplementary Table 5: Continued

Site	Bulk density	Litter depth	Field-moist gravimetric water content	Air-dried gravimetric water content	Sand	Silt	Clay	Organic C	NH ₄ ⁺	NO ₃ ⁻
Units	(g/cm ³)	(cm)	(%)	(%)	(%)	(%)	(%)	(mg C/ g of soil)	(N/kg)	(N/kg)
25	1.22	1.50	10.65	2.66	44.11	21.75	34.14	37.89	6.96	0.42
26	1.61	2.67	10.10	0.81	70.94	12.01	17.05	19.87	5.29	2.84
27	1.68	0.92	7.36	1.97	40.22	25.75	34.04	24.63	5.74	1.59
28*	1.35	0.83	8.14	1.83	30.22	42.67	27.12	42.25	8.20	1.55
29	1.78	0.58	3.72	0.74	83.58	5.10	11.32	18.50	4.25	2.08
30	1.49	1.08	10.83	1.90	46.25	21.94	31.81	32.64	7.26	1.49
31	1.88	0.42	3.43	0.74	78.08	7.08	14.85	17.91	4.21	1.71
32	1.22	0.33	24.17	2.67	50.11	19.04	30.86	40.65	5.87	4.49
33	1.19	0.42	23.95	2.11	55.25	16.16	28.59	32.22	4.94	4.95
34*	1.37	1.08	21.02	1.97	55.36	17.51	27.13	28.20	6.86	3.81
35	1.26	1.33	24.55	1.76	59.00	16.78	24.22	32.77	3.14	3.63
36	1.29	1.50	30.02	2.39	45.91	25.70	28.39	29.43	4.44	5.59
37	1.57	0.58	14.72	1.63	57.64	17.06	25.30	22.60	9.46	6.42
38*	1.32	2.17	18.30	2.05	52.79	22.19	25.02	37.19	9.10	6.57
39	1.19	1.33	23.52	2.97	46.92	22.07	31.01	38.91	9.85	6.45
40	1.47	0.25	12.96	2.18	55.22	19.28	25.50	32.16	3.49	1.31
41	1.33	1.50	16.99	2.11	46.14	24.69	29.17	31.94	4.80	3.97
42	1.23	1.67	24.11	2.89	51.26	20.61	28.13	32.50	4.13	6.37
43*	1.33	0.92	11.22	3.10	55.63	16.28	28.09	24.76	4.01	2.65
44	1.32	0.50	11.15	1.97	70.30	12.11	17.59	33.17	5.69	3.31
45	1.35	0.83	20.35	3.09	51.97	26.65	21.38	33.98	5.74	6.21
46*	1.44	0.83	18.45	3.16	37.16	35.66	27.17	31.03	9.91	4.59

* indicates positive (present) Dakota skipper site