

Supplementary material

Table S1. Species exclusively recorded in either logged or unlogged plots.

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Table S3. Correlation matrix between measured variables.

Figure S1. Change in species richness over 30 years in logged and unlogged plots.

Figure S2. Change in tree density over 30 years in logged and unlogged plots.

Table S1. Species exclusively recorded in either logged or in unlogged plots. The # plots present columns indicate the number of plots in which the species was recorded in the 1978 and 2007 survey periods combined. Understory includes herbs, shrubs, and seedlings < 1 m tall and trees includes trees ≥ 10 cm dbh.

Family name	Species name	# plots present	
		Logged	Unlogged
Understory			
Apiaceae	<i>Osmorhiza longistylis</i>	2	0
Apiaceae	<i>Thaspium trifoliatum</i>	0	1
Aristolochiaceae	<i>Asarum canadense</i>	1	0
Aspleniaceae	<i>Asplenium platyneuron</i>	2	0
Asteraceae	<i>Achillea millefolium</i> var. <i>occidentalis</i>	0	1
Asteraceae	<i>Symphotrichum acuminata</i>	0	1
Asteraceae	<i>Symphotrichum lateriflorum</i> var. <i>lateriflorum</i>	0	1
Asteraceae	<i>Symphotrichum lowrieianum</i>	3	0
Asteraceae	<i>Symphotrichum undulatum</i>	0	1
Brassicaceae	<i>Cardamine concatenata</i>	0	1
Campanulaceae	<i>Campanula divaricata</i>	1	0
Clethraceae	<i>Clethra acuminata</i>	0	2
Cyperaceae	<i>Carex digitalis</i>	0	1
Dennstaedtiaceae	<i>Dennstaedtia punctilobula</i>	0	2
Dryopteridaceae	<i>Cystopteris protrusa</i>	0	2
Dryopteridaceae	<i>Dryopteris marginalis</i>	3	0
Ericaceae	<i>Leucothoe fontanesiana</i>	3	0
Ericaceae	<i>Vaccinium corymbosum</i>	1	0
Ericaceae	<i>Vaccinium erythrocarpum</i>	4	0
Ericaceae	<i>Vaccinium pallidum</i>	0	4
Ericaceae	<i>Vaccinium stamineum</i>	0	1
Fabaceae	<i>Cercis canadensis</i>	0	1
Fabaceae	<i>Desmodium</i> spp.	1	0
Gentianaceae	<i>Gentiana decora</i>	0	1
Hydrophyllaceae	<i>Hydrophyllum canadense</i>	1	0
Hydrophyllaceae	<i>Hydrophyllum virginianum</i> var. <i>atranthum</i>	0	1
Iridaceae	<i>Iris cristata</i>	0	1
Lamiaceae	<i>Collinsonia canadensis</i>	0	9
Lamiaceae	<i>Monarda clinopodia</i>	0	1
Lamiaceae	<i>Stachys clingmanii</i>	0	2
Liliaceae	<i>Lilium superbum</i>	0	1
Liliaceae	<i>Melanthium parviflorum</i>	0	2
Liliaceae	<i>Polygonatum pubescens</i>	0	2
Liliaceae	<i>Stenanthium gramineum</i>	1	0
Liliaceae	<i>Streptopus roseus</i>	0	1
Liliaceae	<i>Uvularia grandiflora</i>	0	4
Liliaceae	<i>Uvularia perfoliata</i>	0	2
Liliaceae	<i>Veratrum viride</i>	0	1
Lycopodiaceae	<i>Lycopodium obscurum</i>	1	0
Monotropaceae	<i>Monotropa uniflora</i>	0	2
Nyssaceae	<i>Nyssa sylvatica</i>	0	4
Onagraceae	<i>Circaea alpina</i>	0	2
Onagraceae	<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	0	1
Orchidaceae	<i>Galearis spectabilis</i>	0	2
Orchidaceae	<i>Platanthera</i> spp.	1	0
Osmundaceae	<i>Osmunda cinnamomea</i>	0	2
Osmundaceae	<i>Osmunda claytoniana</i>	6	0
Phytolaccaceae	<i>Phytolacca americana</i>	0	1

Poaceae	<i>Brachyelytrum erectum</i>	1	0
Poaceae	<i>Dichanthelium boscii</i>	0	1
Poaceae	<i>Dichanthelium dichotomum</i> var. <i>dichotomum</i>	1	0
Poaceae	<i>Panicum</i> spp.	1	0
Pteridaceae	<i>Adiantum pedatum</i>	0	4
Pteridaceae	<i>Cheilanthes</i> spp.	0	1
Pyrolaceae	<i>Chimaphila maculata</i>	0	3
Ranunculaceae	<i>Actaea pachypoda</i>	3	0
Ranunculaceae	<i>Hepatica nobilis</i>	1	0
Ranunculaceae	<i>Ranunculus recurvatus</i>	0	1
Ranunculaceae	<i>Thalictrum clavatum</i>	0	3
Ranunculaceae	<i>Thalictrum dioicum</i>	0	2
Ranunculaceae	<i>Thalictrum pubescens</i>	0	1
Ranunculaceae	<i>Trautvetteria carolinensis</i>	0	1
Rosaceae	<i>Aruncus dioicus</i>	0	2
Rosaceae	<i>Porteranthus stipulatus</i>	1	0
Rosaceae	<i>Porteranthus trifolius</i>	0	1
Rosaceae	<i>Potentilla simplex</i>	0	1
Rosaceae	<i>Prunus pensylvanica</i>	2	0
Saxifragaceae	<i>Astilbe biternata</i>	1	0
Saxifragaceae	<i>Chrysosplenium americanum</i>	0	2
Saxifragaceae	<i>Mitella diphylla</i>	1	0
Smilacaceae	<i>Smilax tamnoides</i>	0	2
Violaceae	<i>Viola macloskeyi</i> ssp. <i>pallens</i>	1	0
Violaceae	<i>Viola pedata</i>	0	1
Tree			
Aquifoliaceae	<i>Ilex montana</i>	2	0
Aquifoliaceae	<i>Ilex opaca</i>	1	0
Fagaceae	<i>Castanea dentata</i>	0	1
Fagaceae	<i>Quercus alba</i>	0	2
Fagaceae	<i>Quercus coccinea</i>	1	0
Pinaceae	<i>Pinus pungens</i>	1	0
Rosaceae	<i>Prunus pensylvanica</i>	5	0

Table S2. Species recorded in only 1978 (n = 30) or only 2007 (n = 30). The # plots present columns indicate the number of plots in which the species was recorded in the logged and unlogged areas combined.

Family name	Species name	# plots present	
		1978	2007
Apiaceae	<i>Sanicula</i> spp.	6	0
Aspleniaceae	<i>Asplenium platyneuron</i>	2	0
Asteraceae	<i>Achillea millefolium</i> var. <i>occidentalis</i>	1	0
Asteraceae	<i>Symphyotrichum acuminata</i>	0	1
Asteraceae	<i>Symphyotrichum lateriflorum</i> var. <i>lateriflorum</i>	1	0
Asteraceae	<i>Symphyotrichum undulatum</i>	1	0
Brassicaceae	<i>Cardamine concatenata</i>	1	0
Campanulaceae	<i>Campanula divaricata</i>	1	0
Caryophyllaceae	<i>Silene stellata</i>	3	0
Cornaceae	<i>Cornus florida</i>	9	0
Cyperaceae	<i>Carex digitalis</i>	0	1
Dryopteridaceae	<i>Cystopteris protrusa</i>	2	0
Dryopteridaceae	<i>Dryopteris marginalis</i>	3	0
Ericaceae	<i>Vaccinium corymbosum</i>	1	0
Ericaceae	<i>Vaccinium stamineum</i>	1	0
Fabaceae	<i>Cercis canadensis</i>	1	0
Fabaceae	<i>Desmodium</i> spp.	1	0
Gentianaceae	<i>Gentiana decora</i>	1	0
Hydrophyllaceae	<i>Hydrophyllum virginianum</i> var. <i>atranthum</i>	1	0
Lamiaceae	<i>Monarda clinopodia</i>	0	1
Liliaceae	<i>Maianthemum canadense</i>	0	2
Liliaceae	<i>Polygonatum pubescens</i>	2	0
Liliaceae	<i>Stenanthium gramineum</i>	1	0
Liliaceae	<i>Streptopus roseus</i>	0	1
Liliaceae	<i>Uvularia grandiflora</i>	4	0
Liliaceae	<i>Uvularia perfoliata</i>	2	0
Liliaceae	<i>Uvularia sessilifolia</i>	3	0
Lycopodiaceae	<i>Lycopodium obscurum</i>	1	0
Onagraceae	<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	1	0
Ophioglossaceae	<i>Botrychium dissectum</i>	2	0
Orchidaceae	<i>Platanthera</i> spp.	0	1
Osmundaceae	<i>Osmunda claytoniana</i>	6	0
Phytolaccaceae	<i>Phytolacca americana</i>	0	1
Poaceae	<i>Brachyelytrum erectum</i>	1	0
Poaceae	<i>Panicum</i> spp.	1	0
Poaceae	<i>Poa</i> spp.	3	0
Pteridaceae	<i>Cheilanthes</i> spp.	1	0
Pyrolaceae	<i>Chimaphila maculata</i>	3	0
Ranunculaceae	<i>Ranunculus recurvatus</i>	1	0
Ranunculaceae	<i>Thalictrum pubescens</i>	1	0
Rosaceae	<i>Porteranthus stipulatus</i>	1	0
Rosaceae	<i>Porteranthus trifoliatus</i>	1	0
Rubiaceae	<i>Houstonia serpyllifolia</i>	2	0
Saxifragaceae	<i>Astilbe biternata</i>	1	0
Saxifragaceae	<i>Mitella diphylla</i>	1	0
Thelypteridaceae	<i>Thelypteris noveboracensis</i>	0	7
Violaceae	<i>Viola macloskeyi</i> ssp. <i>pallens</i>	1	0
Violaceae	<i>Viola pedata</i>	0	1

Table S3. Correlation matrix between measured topographic and edaphic variables (a) and between measured topographic and edaphic variables and understory and tree community attributes (b). Values are Pearson's correlation coefficients. One asterisk (*) indicates $p \leq 0.05$.

(a)

	Elevation	Slope	Soil pH	Soil CEC	Soil K	Soil Ca	Soil Mg	Soil P
Slope	-0.08							
Soil pH	-0.55*	-0.07						
Soil CEC	-0.05	-0.11	-0.26					
Soil K	-0.52*	-0.20	0.54*	0.42*				
Soil Ca	-0.28	-0.22	0.32	0.69*	0.75*			
Soil Mg	-0.14	-0.40*	0.35	0.56*	0.73*	0.83*		
Soil P	0.51*	-0.13	-0.20	0.01	-0.03	0.08	0.19	
Soil organic matter	0.24	-0.06	-0.41*	0.51*	0.02	0.12	0.18	-0.04

(b)

Variable	Understory richness		Understory % cover		Tree richness		Tree basal area ($\text{m}^2 \text{ha}^{-1}$)	
	1978	2007	1978	2007	1978	2007	1978	2007
Elevation	-0.38*	-0.31	0.27	0.08	-0.20	-0.07	-0.15	0.05
Slope	0.07	0.02	0.16	0.14	0.19	0.04	0.18	-0.12
Soil pH	0.75*	0.58*	0.28	0.15	0.08	0.17	-0.11	-0.15
Soil CEC	-0.12	-0.12	-0.35	-0.34	0.08	0.01	-0.002	0.46*
Soil K	0.51*	0.50*	-0.07	0.11	-0.01	-0.06	-0.07	-0.02
Soil Ca	0.37*	0.26	-0.05	-0.06	-0.12	-0.04	-0.06	0.29
Soil Mg	0.24	0.21	0	-0.11	-0.20	-0.1	0.01	0.34
Soil P	-0.16	0.01	0.04	0.11	-0.39*	-0.21	-0.14	0.02
Soil organic matter	-0.34	-0.28	-0.29	-0.32	0.13	-0.09	0.19	0.17

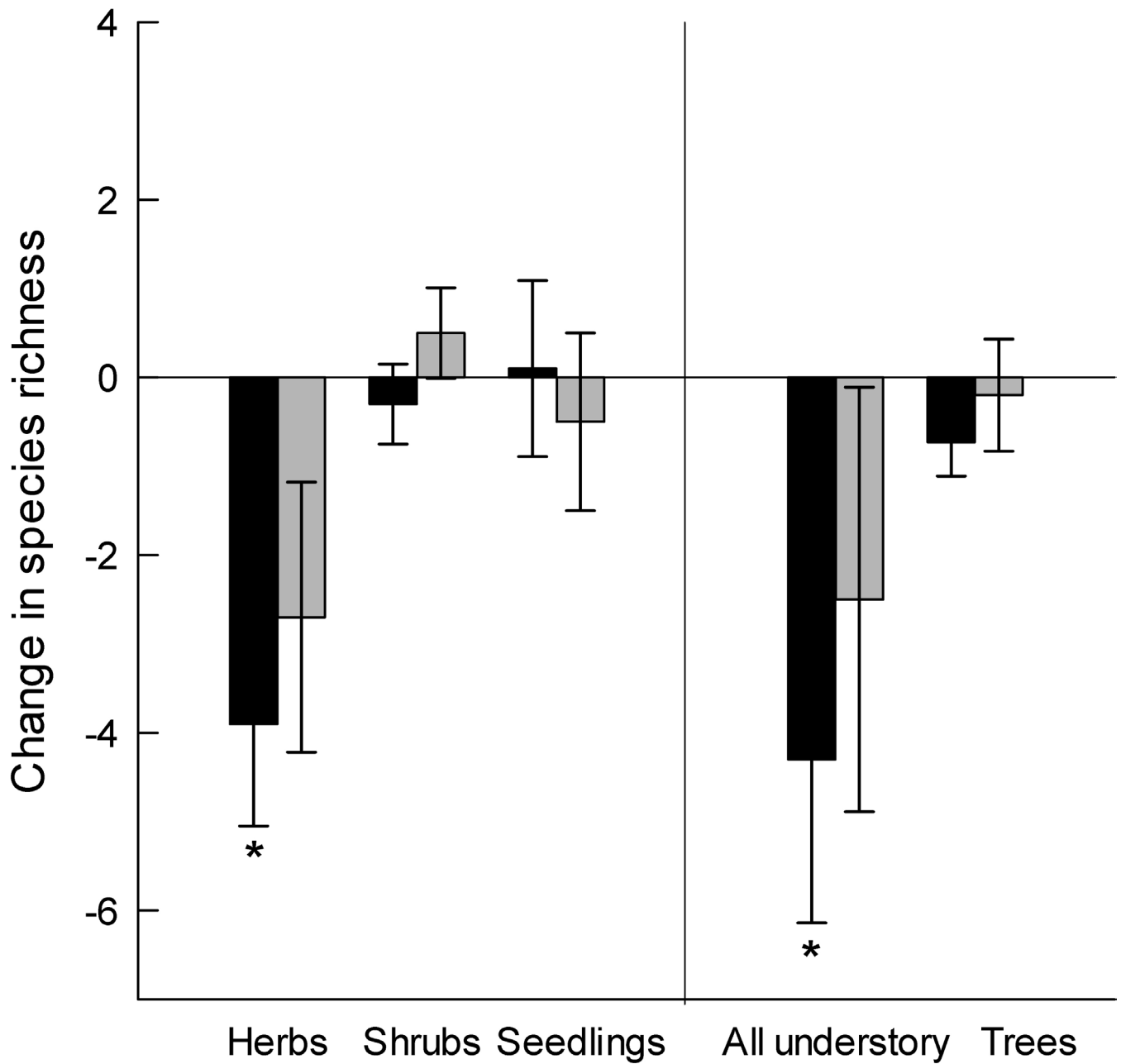


Figure S1. Mean (\pm SE) change in species richness over 30 yr in historically logged (black bars) and unlogged (gray bars) plots. All understory includes herbs, shrubs, and seedlings < 1 m tall and trees includes trees \geq 10 cm dbh. Asterisk (*) indicates that richness change is significantly different from zero at $p < 0.05$.

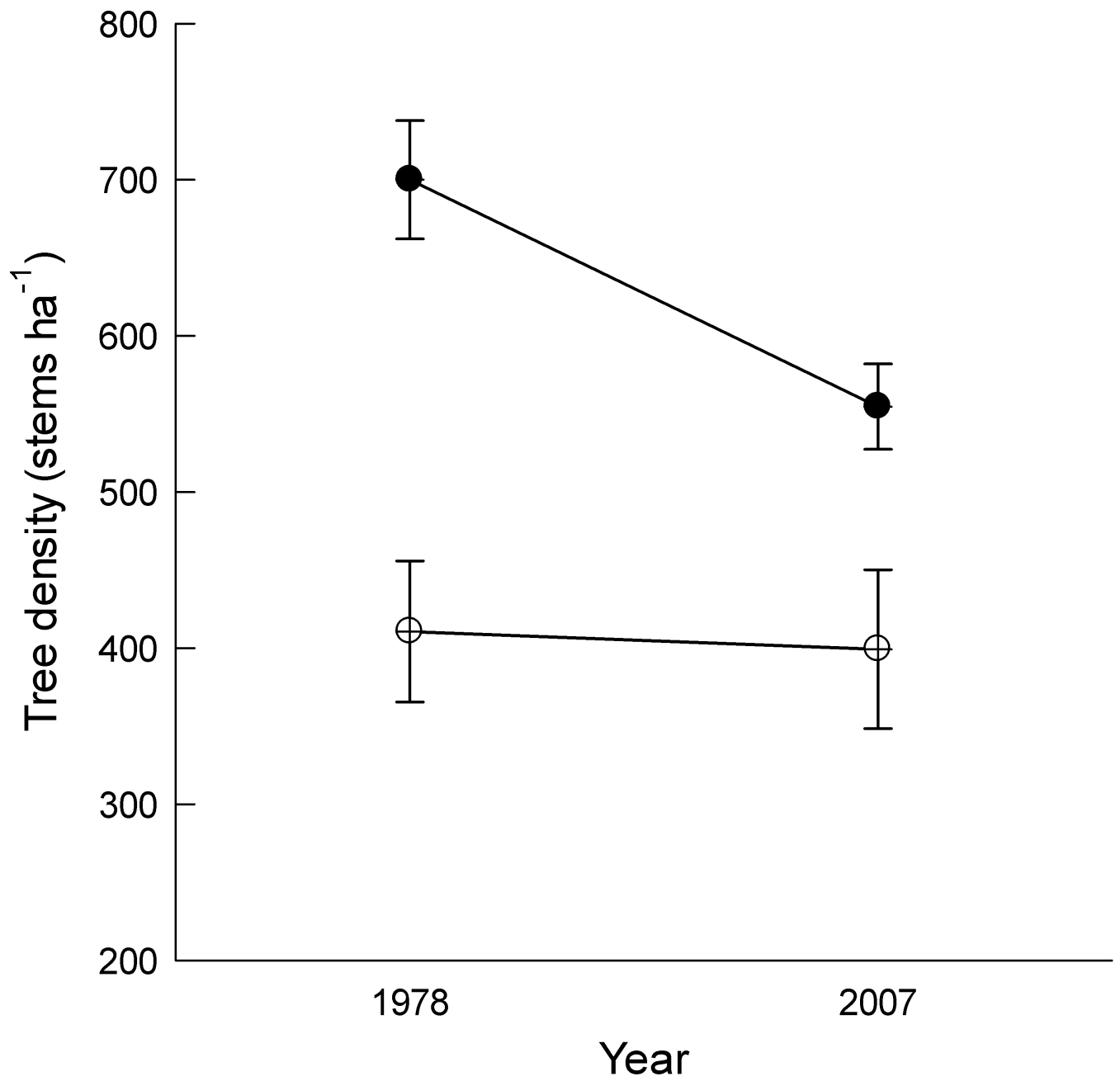


Figure S2. Change in mean (\pm SE) tree (≥ 10 cm dbh) density over 30 yr in historically logged (filled circles) and unlogged (unfilled circles) plots.