

**App. 1.** Basal area statistics by habitat-patch. Basal areas are given as mean plot basal area for all plots sampled within each habitat-patch in each sample period. For consistency with earlier samples, only stems > 12.6 cm (5 in) DBH are included. ‘Other species’ include *Fraxinus americana*, *Fraxinus pensylvanica*, *Larix laricina*, *Populus balsamifera*, *Prunus serotina*, *Quercus rubra*, *Sorbus americana*, *Tilia americana*, and *Ulmus americana*. Habitat-patches are described in terms of dominance and location in the stand (see Fig. 2) as well as by symbols used in Figs. 2 and 3. Because ‘mixed wetland’ patches are less spatially coherent than other types and have small sample sizes, they are pooled in Table 7.

**1. Tsuga patch A, western edge of stand (blue circles)**

Species	Number of plots	Sample Period					
		1935 9	1948 6	1970s 12	1989-92 12	1997-99 13	2002-04 12
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	0.99	1.16	0.36	0.14	0.21	0.19
	Sample SD	0.74	1.83	0.40	0.21	0.28	0.28
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	4.34	4.74	6.79	8.56	8.33	9.03
	Sample SD	3.18	4.54	4.74	5.97	6.02	6.32
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	0.40	0.88	0.77	0.52	0.67	0.52
	Sample SD	0.63	1.56	1.33	1.08	1.20	1.16
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	7.91	7.07	7.58	6.32	6.13	5.79
	Sample SD	4.58	6.21	4.78	2.94	2.73	2.75
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	0.00	0.00	0.05	0.00	0.01	0.03
	Sample SD	0.00	0.00	0.18	0.00	0.05	0.07
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.42	0.20	0.26	0.23	0.31	0.26
	Sample SD	0.90	0.49	0.55	0.56	0.61	0.62
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	0.41	0.19	0.29	0.29	0.19	0.19
	Sample SD	0.49	0.46	0.42	0.57	0.51	0.56
<i>Picea mariana</i>	Basal area (m <sup>2</sup> /ha)	0.02	0.23	0.02	0.00	0.00	0.00
	Sample SD	0.05	0.58	0.08	0.00	0.00	0.00
<i>Pinus strobus</i>	Basal area (m <sup>2</sup> /ha)	4.85	3.00	4.14	4.49	4.23	1.95
	Sample SD	13.40	4.60	11.02	11.85	11.58	5.24
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	3.59	2.52	2.23	2.94	2.95	2.64
	Sample SD	5.35	3.47	4.60	5.77	5.41	5.37
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	18.42	19.17	23.24	26.27	26.87	27.85
	Sample SD	5.78	4.00	8.40	8.33	8.42	9.02
other spp	Basal area (m <sup>2</sup> /ha)	0.51	0.17	0.00	0.01	0.02	0.02
	Sample SD	1.01	0.41	0.00	0.05	0.06	0.07
total	Basal area (m <sup>2</sup> /ha)	41.85	39.33	45.73	49.76	49.93	48.47
	Sample SD	12.23	7.10	12.92	14.54	13.73	7.56

**2. Tsuga patch B, south-central portion of stand (blue squares)**

Species	Number of plots	Sample Period					
		1935 9	1948 4	1970s 9	1989-92 9	1997-99 9	2002-04 9
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	0.86	1.16	0.20	0.16	0.20	0.26
	Sample SD	1.17	2.33	0.32	0.25	0.28	0.29
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	3.74	4.49	3.55	4.25	4.60	5.00
	Sample SD	2.70	5.21	2.78	2.82	2.99	3.21
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	3.54	0.78	2.94	4.22	4.27	4.26
	Sample SD	7.57	0.92	6.27	10.42	10.76	10.58
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	9.42	9.30	8.57	9.01	9.04	8.90
	Sample SD	3.89	3.65	3.60	4.23	3.73	4.13
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	0.08	0.25	0.38	0.51	0.51	0.62
	Sample SD	0.16	0.41	0.51	0.63	0.72	0.75
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.41	1.13	0.00	0.00	0.00	0.00
	Sample SD	1.23	2.25	0.00	0.00	0.00	0.00
<i>Ostrya virginiana</i>	Basal area (m <sup>2</sup> /ha)	0.06	0.00	0.05	0.02	0.02	0.04
	Sample SD	0.18	0.00	0.15	0.06	0.06	0.12
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	1.56	0.41	0.51	0.50	0.19	0.20
	Sample SD	3.75	0.68	1.25	1.36	0.41	0.43
<i>Pinus strobus</i>	Basal area (m <sup>2</sup> /ha)	0.00	0.00	1.19	1.23	1.25	1.21
	Sample SD	0.00	0.00	3.56	3.69	3.76	3.63
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	1.44	1.64	1.39	0.55	0.60	0.66
	Sample SD	4.08	3.28	3.57	1.21	1.31	1.45

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**App. 1, cont.**

<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	33.68	30.23	27.94	32.62	34.32	35.39
	Sample SD	16.84	9.38	17.06	19.76	20.66	20.67
other spp	Basal area (m <sup>2</sup> /ha)	0.38	0.40	0.73	0.03	0.00	0.00
	Sample SD	0.82	0.80	1.45	0.09	0.00	0.00
total	Basal area (m <sup>2</sup> /ha)	55.16	49.79	47.43	53.11	55.01	56.54
	Sample SD	9.74	6.51	11.09	13.53	14.24	13.43

**3. Mixed hardwood - Tsuga patch A, south-western portion of stand (light green circles)**

Species	Number of plots	Sample Period					
		1935	1948	1970s	1989-92	1997-99	2002-04
		12	6	13	13	12	12
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	0.28	0.28	0.19	0.17	0.27	0.34
	Sample SD	0.33	0.44	0.30	0.23	0.36	0.48
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	4.49	3.69	4.45	4.13	4.97	4.94
	Sample SD	2.40	1.46	3.00	3.93	4.47	4.97
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	7.80	4.79	5.32	8.64	8.55	8.59
	Sample SD	3.41	1.87	2.79	3.87	3.90	4.14
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	12.31	13.35	14.36	14.50	14.97	14.80
	Sample SD	4.02	5.26	6.34	5.69	6.43	7.25
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	0.73	0.76	1.12	1.79	1.77	1.84
	Sample SD	0.76	0.58	1.08	1.36	1.33	1.31
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.52	0.00	0.00	0.05	0.06	0.06
	Sample SD	1.76	0.00	0.00	0.18	0.19	0.21
<i>Ostrya virginiana</i>	Basal area (m <sup>2</sup> /ha)	0.03	0.00	0.00	0.04	0.04	0.04
	Sample SD	0.12	0.00	0.00	0.09	0.10	0.10
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	0.04	0.03	0.02	0.05	0.07	0.07
	Sample SD	0.13	0.06	0.06	0.11	0.12	0.13
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	0.09	0.19	0.11	0.11	0.12	0.13
	Sample SD	0.28	0.46	0.39	0.41	0.43	0.44
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	12.44	12.04	13.55	14.74	16.67	18.13
	Sample SD	5.65	6.43	6.67	9.65	9.46	9.93
other spp	Basal area (m <sup>2</sup> /ha)	0.27	0.00	0.88	0.00	0.00	0.00
	Sample SD	0.94	0.00	2.12	0.00	0.00	0.00
total	Basal area (m <sup>2</sup> /ha)	38.99	35.12	39.99	44.22	47.49	48.94
	Sample SD	8.36	8.43	7.98	8.66	7.68	7.44

**4. Mixed hardwood - Tsuga patch B, north-central portion of stand (light green squares)**

Species	Number of plots	Sample Period					
		1935	1948	1970s	1989-92	1997-99	2002-04
		18	9	17	17	18	18
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	0.53	0.07	0.03	0.00	0.00	0.01
	Sample SD	1.46	0.21	0.11	0.00	0.00	0.04
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	3.74	2.44	4.14	4.12	4.47	3.60
	Sample SD	2.95	3.71	3.96	4.87	5.41	4.15
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	13.10	14.44	15.15	16.28	16.44	12.39
	Sample SD	9.81	11.45	12.46	11.93	13.49	12.26
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	8.74	8.45	8.91	8.49	7.07	6.04
	Sample SD	4.57	4.96	5.32	5.60	5.47	5.08
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	3.32	3.52	5.79	6.44	7.55	5.34
	Sample SD	1.93	2.50	4.67	4.65	4.71	2.79
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.03	0.02	0.05	0.00	0.00	0.00
	Sample SD	0.13	0.05	0.21	0.00	0.00	0.00
<i>Ostrya virginiana</i>	Basal area (m <sup>2</sup> /ha)	0.04	0.00	0.02	0.01	0.02	0.02
	Sample SD	0.13	0.00	0.06	0.06	0.07	0.07
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	0.02	0.00	0.00	0.02	0.03	0.02
	Sample SD	0.06	0.00	0.00	0.07	0.08	0.07
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	6.23	3.67	5.72	4.95	6.62	7.07
	Sample SD	7.58	5.17	9.56	7.56	10.12	10.54
other spp	Basal area (m <sup>2</sup> /ha)	0.03	0.04	0.05	0.00	0.00	0.00
	Sample SD	0.12	0.13	0.20	0.00	0.00	0.00
total	Basal area (m <sup>2</sup> /ha)	35.78	32.64	39.86	40.32	42.18	34.49
	Sample SD	6.97	5.84	9.06	6.02	7.33	9.95

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## App. 1, cont.

5. *Acer saccharum* patch A, southeast portion of stand (red circles)

Species	Number of plots	Sample Period					
		1935 28	1948 14	1970s 28	1989-92 29	1997-99 29	2002-04 29
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	0.10	0.00	0.01	0.05	0.06	0.08
	Sample SD	0.26	0.00	0.05	0.14	0.26	0.36
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	0.33	0.23	0.56	0.62	0.71	0.72
	Sample SD	0.97	0.84	1.51	1.52	1.69	1.78
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	25.92	28.03	28.54	30.80	31.40	28.36
	Sample SD	7.42	8.88	8.10	9.09	8.73	7.88
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	5.94	4.47	4.63	3.30	2.93	2.60
	Sample SD	5.72	5.28	5.16	5.86	5.33	4.91
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	0.01	0.00	0.03	0.08	0.10	0.11
	Sample SD	0.06	0.00	0.11	0.21	0.30	0.34
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.01	0.00	0.09	0.03	0.06	0.03
	Sample SD	0.03	0.00	0.43	0.17	0.32	0.18
<i>Ostrya virginiana</i>	Basal area (m <sup>2</sup> /ha)	0.35	0.42	0.14	0.17	0.20	0.22
	Sample SD	0.60	0.63	0.25	0.27	0.30	0.31
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	0.01	0.00	0.05	0.03	0.04	0.04
	Sample SD	0.03	0.00	0.24	0.19	0.20	0.21
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	0.05	0.00	0.43	0.37	0.38	0.39
	Sample SD	0.27	0.00	2.28	1.99	2.05	2.11
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	0.19	0.00	0.22	0.32	0.37	0.45
	Sample SD	0.66	0.00	0.99	1.23	1.43	1.72
other spp	Basal area (m <sup>2</sup> /ha)	0.31	0.66	0.65	0.44	0.49	0.52
	Sample SD	0.82	1.44	1.40	1.56	1.67	1.76
total	Basal area (m <sup>2</sup> /ha)	33.22	33.81	35.36	36.21	36.74	33.53
	Sample SD	6.01	7.50	7.51	7.96	7.04	7.62

6. *Acer saccharum* patch B, north-central portion of stand (red squares)

Species	Number of plots	Sample Period					
		1935 37	1948 18	1970s 36	1989-92 37	1997-99 38	2002-04 37
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	0.31	0.24	0.06	0.06	0.08	0.06
	Sample SD	0.52	0.37	0.11	0.16	0.23	0.23
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	0.61	0.64	0.79	0.55	0.60	0.52
	Sample SD	1.53	1.49	2.07	1.63	1.83	1.71
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	25.56	24.50	28.21	30.66	31.34	27.28
	Sample SD	9.38	7.79	8.01	9.30	9.66	10.47
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	5.37	4.97	5.82	4.07	3.32	2.88
	Sample SD	5.70	4.68	5.23	5.42	4.57	3.94
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	0.27	0.45	0.10	0.51	0.39	0.47
	Sample SD	0.70	0.95	0.20	1.29	0.94	0.98
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.05	0.11	0.02	0.08	0.05	0.04
	Sample SD	0.24	0.46	0.08	0.36	0.22	0.17
<i>Ostrya virginiana</i>	Basal area (m <sup>2</sup> /ha)	0.48	0.41	0.09	0.16	0.18	0.23
	Sample SD	0.67	0.59	0.21	0.26	0.29	0.36
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	0.05	0.00	0.05	0.06	0.07	0.02
	Sample SD	0.24	0.00	0.26	0.32	0.34	0.12
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	0.00	0.00	0.02	0.03	0.03	0.04
	Sample SD	0.00	0.00	0.11	0.18	0.21	0.21
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	0.50	0.03	0.39	0.40	0.44	0.50
	Sample SD	1.92	0.15	1.57	1.86	2.12	2.32
other spp	Basal area (m <sup>2</sup> /ha)	0.33	0.36	0.64	0.40	0.41	0.45
	Sample SD	0.64	0.73	2.05	1.01	1.05	1.12
total	Basal area (m <sup>2</sup> /ha)	33.53	31.71	36.19	36.97	36.92	32.48
	Sample SD	7.11	5.95	6.57	7.50	7.10	9.48

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**App. 1, cont.****7. Mixed wetland patches combined, lavender squares and circles**

Species	Number of plots	Sample Period			
		1935 23	1948 19	1970s 31	2001-04 27
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	2.34	1.86	0.85	1.17
	Sample SD	1.40	2.05	0.71	1.01
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	1.30	3.17	1.73	1.92
	Sample SD	2.46	5.38	2.73	3.14
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	2.05	3.11	4.54	5.69
	Sample SD	2.35	4.35	5.17	6.41
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	7.34	8.66	8.16	8.09
	Sample SD	4.89	4.87	4.40	4.07
<i>Fagus grandifolia</i>	Basal area (m <sup>2</sup> /ha)	0.09	0.12	0.26	0.50
	Sample SD	0.27	0.31	0.64	1.12
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	6.35	4.98	2.50	2.72
	Sample SD	5.67	4.47	2.66	3.47
<i>Ostrya virginiana</i>	Basal area (m <sup>2</sup> /ha)	0.05	0.13	0.03	0.06
	Sample SD	0.11	0.45	0.11	0.16
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	1.15	1.34	0.65	0.81
	Sample SD	1.14	1.64	0.89	1.04
<i>Picea mariana</i>	Basal area (m <sup>2</sup> /ha)	0.08	0.03	0.38	0.00
	Sample SD	0.28	0.12	1.24	0.00
<i>Pinus strobus</i>	Basal area (m <sup>2</sup> /ha)	0.00	0.40	0.00	0.00
	Sample SD	0.00	1.76	0.00	0.00
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	8.46	7.03	6.46	6.90
	Sample SD	10.01	9.18	7.12	8.59
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	5.48	5.90	6.73	9.96
	Sample SD	8.21	9.94	9.35	13.34
other spp	Basal area (m <sup>2</sup> /ha)	1.59	1.32	1.76	1.43
	Sample SD	1.25	1.38	2.50	1.99
total	Basal area (m <sup>2</sup> /ha)	36.29	38.05	34.05	39.24
	Sample SD	9.98	8.73	8.89	12.21

**8. Thuja - dominated patch A, east-central portion (dark green circles)**

Species	Number of plots	Sample Period			
		1935 34	1948 17	1970s 34	2001-04 31
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	2.12	2.28	1.84	1.90
	Sample SD	1.48	1.49	1.26	1.32
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	0.41	0.52	0.91	1.00
	Sample SD	0.66	0.54	1.01	1.00
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	0.08	0.03	0.24	0.22
	Sample SD	0.27	0.12	0.56	0.47
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	1.90	1.69	2.70	2.91
	Sample SD	1.93	1.64	2.48	2.46
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	4.26	3.56	1.65	1.27
	Sample SD	6.16	5.77	2.13	1.47
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	2.10	3.20	3.03	3.14
	Sample SD	2.00	3.06	2.09	2.85
<i>Picea mariana</i>	Basal area (m <sup>2</sup> /ha)	2.64	2.43	0.83	0.18
	Sample SD	3.26	3.71	1.63	0.65
<i>Pinus strobus</i>	Basal area (m <sup>2</sup> /ha)	0.03	0.06	0.07	0.10
	Sample SD	0.15	0.26	0.39	0.56
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	22.64	25.05	24.73	28.96
	Sample SD	12.87	16.17	10.20	11.67
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	2.57	1.50	3.47	4.36
	Sample SD	7.38	2.65	9.03	10.20
other spp	Basal area (m <sup>2</sup> /ha)	0.23	0.13	0.13	0.20
	Sample SD	0.45	0.30	0.37	0.43
total	Basal area (m <sup>2</sup> /ha)	38.97	40.45	39.59	44.24
	Sample SD	11.86	14.52	10.67	12.26

→

**App. 1, cont.****9. Thuja - dominated patch B, northwest portion (dark green squares)**

Species	Number of plots	Sample Period			
		1935 21	1948 10	1970s 21	2001-04 10
<i>Abies balsamea</i>	Basal area (m <sup>2</sup> /ha)	4.66	5.62	1.86	0.90
	Sample SD	3.12	2.83	1.42	1.10
<i>Acer rubrum</i>	Basal area (m <sup>2</sup> /ha)	0.22	0.32	0.79	0.82
	Sample SD	0.32	0.41	1.57	0.80
<i>Acer saccharum</i>	Basal area (m <sup>2</sup> /ha)	0.00	0.00	0.07	0.09
	Sample SD	0.00	0.00	0.25	0.22
<i>Betula alleghaniensis</i>	Basal area (m <sup>2</sup> /ha)	0.60	0.79	1.89	2.02
	Sample SD	0.91	0.92	2.74	1.85
<i>Fraxinus nigra</i>	Basal area (m <sup>2</sup> /ha)	0.34	0.15	0.57	0.52
	Sample SD	1.01	0.29	1.61	1.55
<i>Picea glauca</i>	Basal area (m <sup>2</sup> /ha)	1.65	2.76	2.47	3.25
	Sample SD	1.64	3.22	2.09	1.20
<i>Picea mariana</i>	Basal area (m <sup>2</sup> /ha)	4.27	3.76	2.52	0.25
	Sample SD	4.67	5.27	2.60	0.79
<i>Pinus strobus</i>	Basal area (m <sup>2</sup> /ha)	0.33	0.74	0.47	1.27
	Sample SD	1.32	1.81	1.65	2.91
<i>Thuja occidentalis</i>	Basal area (m <sup>2</sup> /ha)	33.89	31.01	34.08	54.81
	Sample SD	15.07	16.90	17.63	13.58
<i>Tsuga canadensis</i>	Basal area (m <sup>2</sup> /ha)	0.03	0.06	0.17	0.00
	Sample SD	0.11	0.20	0.39	0.00
other spp	Basal area (m <sup>2</sup> /ha)	0.15	0.08	0.01	0.00
	Sample SD	0.69	0.14	0.04	0.00
total	Basal area (m <sup>2</sup> /ha)	46.13	45.29	44.90	63.93
	Sample SD	12.89	14.76	16.31	15.05