**Appendix C** Details of the pairwise PERMANOVA tests performed on the transect attributes between the identified forest types. D.f.: degrees of freedom, *F*: F-statistic, Adjusted *p*-value: *p*-value after Bonferroni correction.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Transect attribute** | **Pairwise comparison** | **D.f.** | **R2** | ***F*** | **Adjusted *p*-value** |
| Wood volume (m3/ha) | Forest type 1 - Forest type 2 | 1 | 0.542 | 218.043 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.771 | 458.724 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.755 | 459.182 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.913 | 1202.645 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.121 | 28.773 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 4 | 1 | 0.579 | 306.496 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.631 | 322.098 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.444 | 139.851 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.042 | 6.688 | 0.009\*\* |
|  | Forest type 5 - Forest type 3 | 1 | 0.557 | 176.117 | <0.001\*\*\* |
| Basal area (m2/ha) | Forest type 1 - Forest type 2 | 1 | 0.607 | 283.609 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.870 | 912.01 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.872 | 1015.613 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.910 | 1149.323 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.426 | 155.575 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 4 | 1 | 0.775 | 768.438 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.646 | 343.072 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.610 | 273.238 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.355 | 84.189 | <0.001\*\*\* |
|  | Forest type 5 - Forest type 3 | 1 | 0.332 | 69.612 | <0.001\*\*\* |
| Tree density (n/ha) | Forest type 1 - Forest type 2 | 1 | 0.216 | 50.551 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.797 | 534.949 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.692 | 334.517 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.377 | 68.886 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.574 | 282.892 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 4 | 1 | 0.626 | 373.284 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.012 | 2.224 | 0.134 |
|  | Forest type 4 - Forest type 3 | 1 | 0.208 | 46.056 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.550 | 187.046 | <0.001\*\*\* |
|  | Forest type 5 - Forest type 3 | 1 | 0.586 | 197.835 | <0.001\*\*\* |
| Stand height (m) | Forest type 1 - Forest type 2 | 1 | 0.379 | 112.125 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.495 | 133.497 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.550 | 182.324 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.790 | 429.554 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.015 | 3.125 | 0.082 |
|  | Forest type 2 - Forest type 4 | 1 | 0.117 | 29.557 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.423 | 138.099 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.217 | 48.635 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.173 | 32.079 | <0.001\*\*\* |
|  | Forest type 5 - Forest type 3 | 1 | 0.622 | 230.119 | <0.001\*\*\* |
| Sapling density (n/ha) | Forest type 1 - Forest type 2 | 1 | 0.025 | 4.637 | 0.030\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.024 | 3.274 | 0.072 |
|  | Forest type 1 - Forest type 4 | 1 | 0.063 | 10.074 | 0.001\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.076 | 9.346 | 0.002\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.000 | 0.003 | 0.957 |
|  | Forest type 2 - Forest type 4 | 1 | 0.015 | 3.304 | 0.073 |
|  | Forest type 2 - Forest type 5 | 1 | 0.025 | 4.722 | 0.031\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.012 | 2.114 | 0.147 |
|  | Forest type 4 - Forest type 5 | 1 | 0.003 | 0.402 | 0.532 |
|  | Forest type 5 - Forest type 3 | 1 | 0.022 | 3.113 | 0.078 |
| Estimated stand age (years) | Forest type 1 - Forest type 2 | 1 | 0.071 | 14.071 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.052 | 7.451 | 0.007\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.012 | 1.805 | 0.187 |
|  | Forest type 1 - Forest type 5 | 1 | 0.070 | 8.459 | 0.003\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.003 | 0.535 | 0.461 |
|  | Forest type 2 - Forest type 4 | 1 | 0.025 | 5.753 | 0.020\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.002 | 0.353 | 0.547 |
|  | Forest type 4 - Forest type 3 | 1 | 0.012 | 2.083 | 0.150 |
|  | Forest type 4 - Forest type 5 | 1 | 0.015 | 2.254 | 0.135 |
|  | Forest type 5 - Forest type 3 | 1 | 0.000 | 0.013 | 0.915 |
| Black spruce proportion (%) | Forest type 1 - Forest type 2 | 1 | 0.013 | 2.43 | 0.118 |
|  | Forest type 1 - Forest type 3 | 1 | 0.071 | 10.423 | 0.001\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.000 | 0.041 | 0.835 |
|  | Forest type 1 - Forest type 5 | 1 | 0.004 | 0.42 | 0.520 |
|  | Forest type 2 - Forest type 3 | 1 | 0.024 | 5.245 | 0.021\* |
|  | Forest type 2 - Forest type 4 | 1 | 0.021 | 4.821 | 0.030\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.034 | 6.523 | 0.013\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.089 | 17.184 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.002 | 0.309 | 0.580 |
|  | Forest type 5 - Forest type 3 | 1 | 0.124 | 19.893 | <0.001\*\*\* |
| Balsam fir proportion (%) | Forest type 1 - Forest type 2 | 1 | 0.051 | 9.966 | 0.0021\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.003 | 0.349 | 0.566 |
|  | Forest type 1 - Forest type 4 | 1 | 0.052 | 8.102 | 0.004\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.130 | 16.984 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.050 | 11.067 | 0.001\*\* |
|  | Forest type 2 - Forest type 4 | 1 | 0.000 | 0.060 | 0.802 |
|  | Forest type 2 - Forest type 5 | 1 | 0.017 | 3.346 | 0.068 |
|  | Forest type 4 - Forest type 3 | 1 | 0.048 | 8.894 | 0.003\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.023 | 3.638 | 0.060 |
|  | Forest type 5 - Forest type 3 | 1 | 0.136 | 21.997 | <0.001\*\*\* |
| Jack pine proportion (%) | Forest type 1 - Forest type 2 | 1 | 0.109 | 22.424 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.104 | 15.818 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.128 | 21.905 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.219 | 31.983 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.000 | 0.062 | 0.801 |
|  | Forest type 2 - Forest type 4 | 1 | 0.000 | 0.045 | 0.831 |
|  | Forest type 2 - Forest type 5 | 1 | 0.021 | 3.943 | 0.047\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.001 | 0.185 | 0.666 |
|  | Forest type 4 - Forest type 5 | 1 | 0.022 | 3.482 | 0.068 |
|  | Forest type 5 - Forest type 3 | 1 | 0.031 | 4.428 | 0.038\* |
| Broadleaved proportion (%) | Forest type 1 - Forest type 2 | 1 | 0.012 | 2.15 | 0.146 |
|  | Forest type 1 - Forest type 3 | 1 | 0.006 | 0.878 | 0.352 |
|  | Forest type 1 - Forest type 4 | 1 | 0.080 | 12.981 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.144 | 19.21 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.001 | 0.286 | 0.596 |
|  | Forest type 2 - Forest type 4 | 1 | 0.058 | 13.699 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.112 | 23.595 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.066 | 12.412 | <0.001\*\*\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.008 | 1.299 | 0.256 |
|  | Forest type 5 - Forest type 3 | 1 | 0.129 | 20.755 | <0.001\*\*\* |
| Altitude (m) | Forest type 1 - Forest type 2 | 1 | 0.028 | 5.226 | 0.023\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.006 | 0.781 | 0.373 |
|  | Forest type 1 - Forest type 4 | 1 | 0.001 | 0.206 | 0.657 |
|  | Forest type 1 - Forest type 5 | 1 | 0.039 | 4.679 | 0.032\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.007 | 1.529 | 0.222 |
|  | Forest type 2 - Forest type 4 | 1 | 0.042 | 9.681 | 0.002\*\* |
|  | Forest type 2 - Forest type 5 | 1 | 0.001 | 0.171 | 0.682 |
|  | Forest type 4 - Forest type 3 | 1 | 0.012 | 2.083 | 0.146 |
|  | Forest type 4 - Forest type 5 | 1 | 0.046 | 7.365 | 0.008\*\* |
|  | Forest type 5 - Forest type 3 | 1 | 0.011 | 1.624 | 0.208 |
| Slope (%) | Forest type 1 - Forest type 2 | 1 | 0.074 | 14.766 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 3 | 1 | 0.034 | 4.852 | 0.0309\* |
|  | Forest type 1 - Forest type 4 | 1 | 0.102 | 16.948 | <0.001\*\*\* |
|  | Forest type 1 - Forest type 5 | 1 | 0.218 | 31.69 | <0.001\*\*\* |
|  | Forest type 2 - Forest type 3 | 1 | 0.013 | 2.78 | 0.100 |
|  | Forest type 2 - Forest type 4 | 1 | 0.003 | 0.614 | 0.433 |
|  | Forest type 2 - Forest type 5 | 1 | 0.037 | 7.308 | 0.008\*\* |
|  | Forest type 4 - Forest type 3 | 1 | 0.026 | 4.727 | 0.030\* |
|  | Forest type 4 - Forest type 5 | 1 | 0.021 | 3.218 | 0.076 |
|  | Forest type 5 - Forest type 3 | 1 | 0.092 | 14.124 | <0.001\*\*\* |