

Table S21. Analysis of Variance table of type 3 with Satterthwaite approximation for degrees of freedom of the linear mixed effects models for the differences of species richness as a function of exploratory, management intensity, roof (main roof vs. satellite roof) and the interaction of management and roof. These tests were performed to exclude differences between the main and satellite roof replicated measurements.

| species richness  |           | spring 2012            |                            |       |                        | late summer 2012           |       |                        | early summer 2013          |              |                    | late summer 2013           |       |  |
|-------------------|-----------|------------------------|----------------------------|-------|------------------------|----------------------------|-------|------------------------|----------------------------|--------------|--------------------|----------------------------|-------|--|
| Fixed factors     | Num<br>df | den<br>DF <sup>b</sup> | F-value<br>or z -<br>score |       | den<br>DF <sup>b</sup> | F-value<br>or z -<br>score |       | den<br>DF <sup>b</sup> | F-value<br>or z -<br>score |              | denDF <sup>b</sup> | F-value<br>or z -<br>score |       |  |
|                   |           |                        | p <sup>a</sup>             |       |                        | p <sup>a</sup>             |       |                        | p <sup>a</sup>             |              |                    | p <sup>a</sup>             |       |  |
| exploratory       | 2         | 3                      | 1.628                      | 0.332 | 3                      | 5.10                       | 0.108 | 3                      | 14.66                      | <b>0.028</b> | 0                  | 0.360                      | NA    |  |
| management        | 2         | 3                      | 4.492                      | 0.125 | 3                      | 6.32                       | 0.840 | 3                      | 21.04                      | <b>0.017</b> | 0                  | 0.589                      | NA    |  |
| roof              | 1         | 5                      | 0.672                      | 0.450 | 5                      | 1.78                       | 0.240 | 5                      | 4.311                      | 0.092        | 3                  | 0.468                      | 0.543 |  |
| management * roof | 2         | 5                      | 0.561                      | 0.603 | 5                      | 1.30                       | 0.351 | 5                      | 4.046                      | 0.090        | 3                  | 1.286                      | 0.395 |  |

<sup>a</sup> Significant probabilities (< 0.05) are shown in bold.

<sup>b</sup> denDF is the number of degrees of freedom associated with the model errors.

Note: In late summer 2013 at beech unmanaged and at the beech managed stand we could not measure the transpiration rates because the device was broken. Plot Schorfheide beech unmanaged had no understory vegetation.

