Table S1: Effect of added fixed effects on LMM for DOM flux (mg/m2). For pairs that are significantly different (p < 0.05), the greater value is in **bold**; this is determined by the difference between the estimated marginal means (“estimate” column).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effect | contrast | estimate | SE | df | t.ratio | p.value |
| Vegetation type | **beech**-grass | 0.837 | 0.162 | 7.84 | 5.171 | 0.004 |
| **beech**-oak | 1.344 | 0.161 | 7.61 | 8.367 | 0.0002 |
| **beech**-pine | 0.621 | 0.164 | 8.19 | 3.796 | 0.0212 |
| grass-oak | 0.507 | 0.162 | 7.84 | 3.135 | 0.0561 |
| grass-pine | -0.215 | 0.165 | 8.43 | -1.308 | 0.5823 |
| oak-**pine** | -0.723 | 0.164 | 8.19 | -4.417 | 0.0091 |
| Depth | 5-**10** | -0.166 | 0.0471 | 961 | -3.514 | 0.0005 |
| Period | Dry-**Moist** | -0.204 | 0.0574 | 945 | -3.552 | 0.0012 |
| Dry-**Rewetting** | -0.396 | 0.069 | 944 | -5.737 | <.0001 |
| Moist-**Rewetting** | -0.192 | 0.0581 | 944 | -3.311 | 0.0028 |
| Year | **(2017/2018)**-(2019/2020) | 0.221 | 0.0523 | 943 | 4.22 | 0.0001 |
| **(2017/2018)**-(2018/2019) | 0.52 | 0.0571 | 943 | 9.094 | <.0001 |
| **(2019/2020)**-(2018/2019) | 0.299 | 0.0621 | 943 | 4.811 | <.0001 |
| Vegetation type \* period(within periods) | **beech Dry** - grass Dry | 0.95134 | 0.2069 | 58.2 | 4.597 | 0.0013 |
| **beech Dry** - oak Dry | 1.49888 | 0.1865 | 35 | 8.039 | <.0001 |
| beech Dry - pine Dry | 0.61623 | 0.2167 | 70.3 | 2.844 | 0.1847 |
| grass Dry - oak Dry | 0.54754 | 0.2066 | 57.7 | 2.651 | 0.277 |
| grass Dry - pine Dry | -0.33512 | 0.2338 | 97.8 | -1.433 | 0.9539 |
| oak Dry - **pine Dry** | -0.88265 | 0.2163 | 69.8 | -4.081 | 0.0061 |
| **beech Moist** - grass Moist | 1.0204 | 0.174 | 23.5 | 5.864 | 0.0003 |
| **beech Moist** - oak Moist | 1.3297 | 0.1739 | 23.9 | 7.647 | <.0001 |
| **beech Moist** - pine Moist | 0.80411 | 0.1757 | 23.9 | 4.578 | 0.0054 |
| grass Moist - oak Moist | 0.3093 | 0.1747 | 24 | 1.77 | 0.8181 |
| grass Moist - pine Moist | -0.21629 | 0.1765 | 24 | -1.226 | 0.9811 |
| oak Moist - pine Moist | -0.52559 | 0.1764 | 24.5 | -2.98 | 0.1742 |
| beech Rewetting - grass Rewetting | 0.46479 | 0.201 | 50.5 | 2.312 | 0.4819 |
| **beech Rewetting** - oak Rewetting | 1.07416 | 0.2032 | 54.5 | 5.285 | 0.0001 |
| beech Rewetting - pine Rewetting | 0.29359 | 0.209 | 59.1 | 1.405 | 0.958 |
| grass Rewetting - oak Rewetting | 0.60937 | 0.1983 | 47.1 | 3.074 | 0.1197 |
| grass Rewetting - pine Rewetting | -0.1712 | 0.2043 | 51.7 | -0.838 | 0.9994 |
| oak Rewetting - **pine Rewetting** | -0.78057 | 0.2064 | 55.7 | -3.781 | 0.0179 |
| Vegetation type \* period(within vegetation types) | beech Dry - beech Moist | -0.24991 | 0.0947 | 960.4 | -2.64 | 0.2587 |
| beech Dry - beech Rewetting | -0.12923 | 0.1231 | 958.9 | -1.05 | 0.9965 |
| grass Dry - grass Moist | -0.18086 | 0.1312 | 959.4 | -1.379 | 0.9674 |
| grass Dry - **grass Rewetting** | -0.61578 | 0.1451 | 958.6 | -4.244 | 0.0014 |
| oak Dry - **oak Moist** | -0.41909 | 0.0942 | 958.4 | -4.451 | 0.0006 |
| oak Dry - **oak Rewetting** | -0.55395 | 0.1171 | 958.4 | -4.73 | 0.0002 |
| pine Dry - pine Moist | -0.06203 | 0.1478 | 960.7 | -0.42 | 1 |
| pine Dry - pine Rewetting | -0.45187 | 0.1691 | 960.8 | -2.673 | 0.2414 |
| beech Moist - beech Rewetting | 0.12069 | 0.1117 | 958.9 | 1.08 | 0.9954 |
| grass Moist - **grass Rewetting** | -0.43492 | 0.1041 | 958.8 | -4.178 | 0.0019 |
| oak Moist - oak Rewetting | -0.13486 | 0.1081 | 958.6 | -1.247 | 0.9849 |
| pine Moist - pine Rewetting | -0.38984 | 0.1207 | 958.8 | -3.229 | 0.0577 |
| Year \* period (Within years) | (2017/2018 Dry)-(2017/2018 Moist) | 0.11537 | 0.0702 | 931 | 1.643 | 0.7808 |
| (2017/2018 Dry)-(2017/2018 Rewetting) | -0.19721 | 0.0893 | 931 | -2.208 | 0.4009 |
| (2019/2020 Dry)-**(2019/2020 Moist)** | -1.19693 | 0.1296 | 931 | -9.233 | <.0001 |
| (2019/2020 Dry)-**(2019/2020 Rewetting)** | -1.2519 | 0.1437 | 931 | -8.714 | <.0001 |
| (2018/2019 Dry)-**(2018/2019 Moist)** | -0.57435 | 0.1177 | 930 | -4.88 | <.0001 |
| (2018/2019 Dry)-**(2018/2019 Rewetting)** | -0.80429 | 0.1336 | 930 | -6.019 | <.0001 |
| (2017/2018 Moist)-**(2017/2018 Rewetting)** | -0.31258 | 0.0816 | 930 | -3.83 | 0.0043 |
| (2019/2020 Moist)-(2019/2020 Rewetting) | -0.05496 | 0.0908 | 930 | -0.605 | 0.9996 |
| (2018/2019 Moist)-(2018/2019 Rewetting) | -0.22994 | 0.1076 | 930 | -2.137 | 0.4485 |
| Year \* period (Between years) | **(2017/2018 Dry)**-(2019/2020 Dry) | 1.24527 | 0.1276 | 931 | 9.759 | <.0001 |
| **(2017/2018 Dry)**-(2018/2019 Dry) | 1.01304 | 0.1099 | 930 | 9.216 | <.0001 |
| (2019/2020 Dry)-(2018/2019 Dry) | -0.23223 | 0.1481 | 931 | -1.568 | 0.8223 |
| (2017/2018 Moist)-(2019/2020 Moist) | -0.06704 | 0.0633 | 930 | -1.06 | 0.9796 |
| **(2017/2018 Moist)**-(2018/2019 Moist) | 0.32332 | 0.0748 | 930 | 4.32 | 0.0006 |
| **(2019/2020 Moist)**-(2018/2019 Moist) | 0.39036 | 0.0774 | 930 | 5.046 | <.0001 |
| (2017/2018 Rewetting)-(2019/2020 Rewetting) | 0.19058 | 0.1046 | 931 | 1.821 | 0.6681 |
| **(2017/2018 Rewetting)**-(2018/2019 Rewetting) | 0.40596 | 0.1117 | 931 | 3.636 | 0.0089 |
| (2019/2020 Rewetting)-(2018/2019 Rewetting) | 0.21538 | 0.1179 | 931 | 1.828 | 0.6638 |
| Year \* vegetation type(within vegetation types) | **(2017/2018 beech)**-(2019/2020 beech) | 0.5238 | 0.0954 | 922.5 | 5.493 | <.0001 |
| **(2017/2018 beech)**-(2018/2019 beech) | 0.6036 | 0.1034 | 922.2 | 5.835 | <.0001 |
| (2019/2020 beech)-(2018/2019 beech) | 0.0797 | 0.113 | 922.1 | 0.706 | 0.9999 |
| **(2017/2018 grass)**-(2019/2020 grass) | 0.4057 | 0.1156 | 922.9 | 3.509 | 0.0237 |
| **(2017/2018 grass)**-(2018/2019 grass) | 0.7353 | 0.1099 | 922.2 | 6.688 | <.0001 |
| (2019/2020 grass)-(2018/2019 grass) | 0.3296 | 0.1307 | 922.5 | 2.523 | 0.327 |
| (2017/2018 oak)-(2019/2020 oak) | 0.2898 | 0.0928 | 922.5 | 3.123 | 0.0784 |
| (2017/2018 oak)-(2018/2019 oak) | 0.2265 | 0.0994 | 922.1 | 2.279 | 0.4921 |
| (2019/2020 oak)-(2018/2019 oak) | -0.0633 | 0.1086 | 922.2 | -0.582 | 1 |
| **(2017/2018 pine)**-(2019/2020 pine) | 0.682 | 0.1198 | 922.6 | 5.691 | <.0001 |
| **(2017/2018 pine)**-(2018/2019 pine) | 0.9863 | 0.1349 | 924.2 | 7.314 | <.0001 |
| (2019/2020 pine)-(2018/2019 pine) | 0.3043 | 0.1477 | 923.1 | 2.06 | 0.6518 |
| Year \* vegetation type(within years) | **(beech 2017/2018)** - (grass 2017/2018) | 0.863 | 0.183 | 10.3 | 4.716 | 0.0206 |
| **(beech 2017/2018)** - (oak 2017/2018) | 1.4321 | 0.1815 | 10 | 7.891 | 0.0004 |
| (beech 2017/2018) - (pine 2017/2018) | 0.5197 | 0.1855 | 10.9 | 2.801 | 0.2935 |
| (grass 2017/2018) - (oak 2017/2018) | 0.5692 | 0.1824 | 10.2 | 3.12 | 0.1983 |
| (grass 2017/2018) - (pine 2017/2018) | -0.3432 | 0.1864 | 11.1 | -1.842 | 0.7706 |
| (oak 2017/2018) - **(pine 2017/2018)** | -0.9124 | 0.185 | 10.8 | -4.932 | 0.0139 |
| (beech 2019/2020) - (grass 2019/2020) | 0.7448 | 0.2001 | 14.8 | 3.722 | 0.0605 |
| **(beech 2019/2020)** - (oak 2019/2020) | 1.1981 | 0.1908 | 12.2 | 6.278 | 0.0014 |
| (beech 2019/2020) - (pine 2019/2020) | 0.6779 | 0.2019 | 15.3 | 3.357 | 0.1104 |
| (grass 2019/2020) - (oak 2019/2020) | 0.4532 | 0.2022 | 15.4 | 2.241 | 0.5471 |
| (grass 2019/2020) - (pine 2019/2020) | -0.0669 | 0.2096 | 17.7 | -0.319 | 1 |
| (oak 2019/2020) - (pine 2019/2020) | -0.5202 | 0.2035 | 15.8 | -2.556 | 0.3744 |
| **(beech 2018/2019)** - (grass 2018/2019) | 0.9947 | 0.2049 | 16.2 | 4.855 | 0.0065 |
| **(beech 2018/2019)** - (oak 2018/2019) | 1.0551 | 0.1995 | 14.6 | 5.288 | 0.0038 |
| **(beech 2018/2019)** - (pine 2018/2019) | 0.9025 | 0.218 | 20.7 | 4.14 | 0.0182 |
| (grass 2018/2019) - (oak 2018/2019) | 0.0604 | 0.2026 | 15.5 | 0.298 | 1 |
| (grass 2018/2019) - (pine 2018/2019) | -0.0922 | 0.2186 | 21 | -0.422 | 1 |
| (oak 2018/2019) - (pine 2018/2019) | -0.1526 | 0.2161 | 20 | -0.706 | 0.9998 |