Hyporheic Zone Respiration is Jointly Constrained by Organic Carbon Concentration and Molecular Richness

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Supplementary Materials
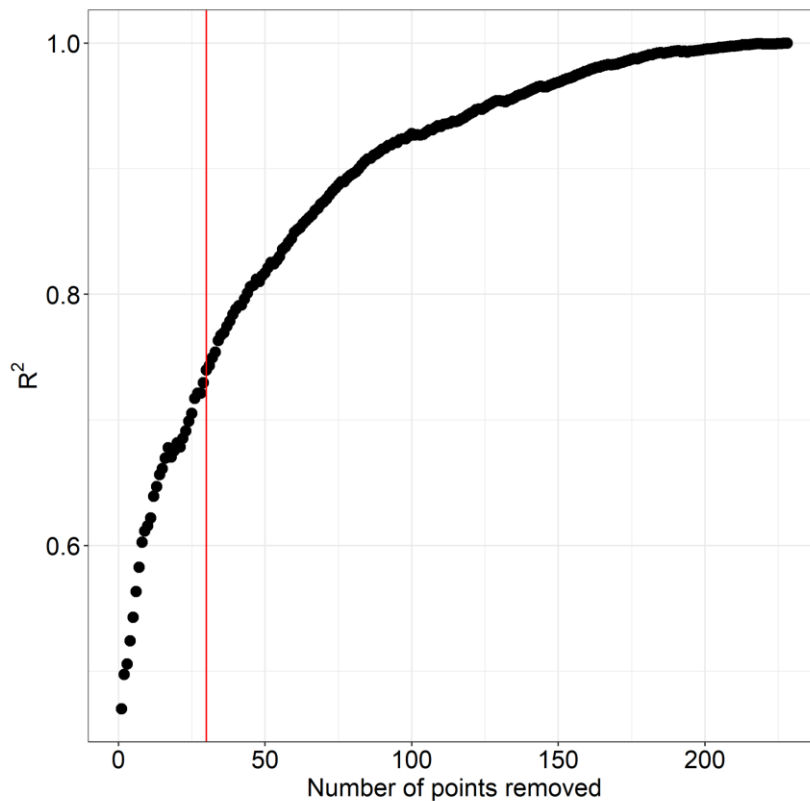
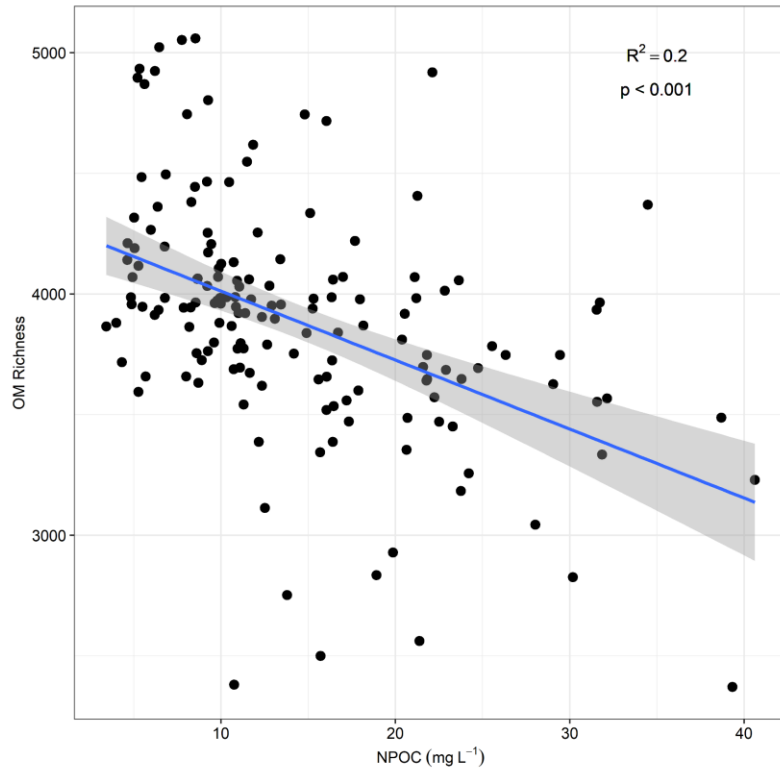**Figure S1: Coefficient of determination (R^2) of the log-transformed Field NPOC vs. Incubation NPOC regression as a function of the number of sample points removed in the regression analysis.** The red line represents the half saturation value and indicates the number of samples to remove to reach an optimal R^2 that balances the number of points (i.e., samples) to remove and the increase in confidence in the NPOC, and thus OM richness, data.
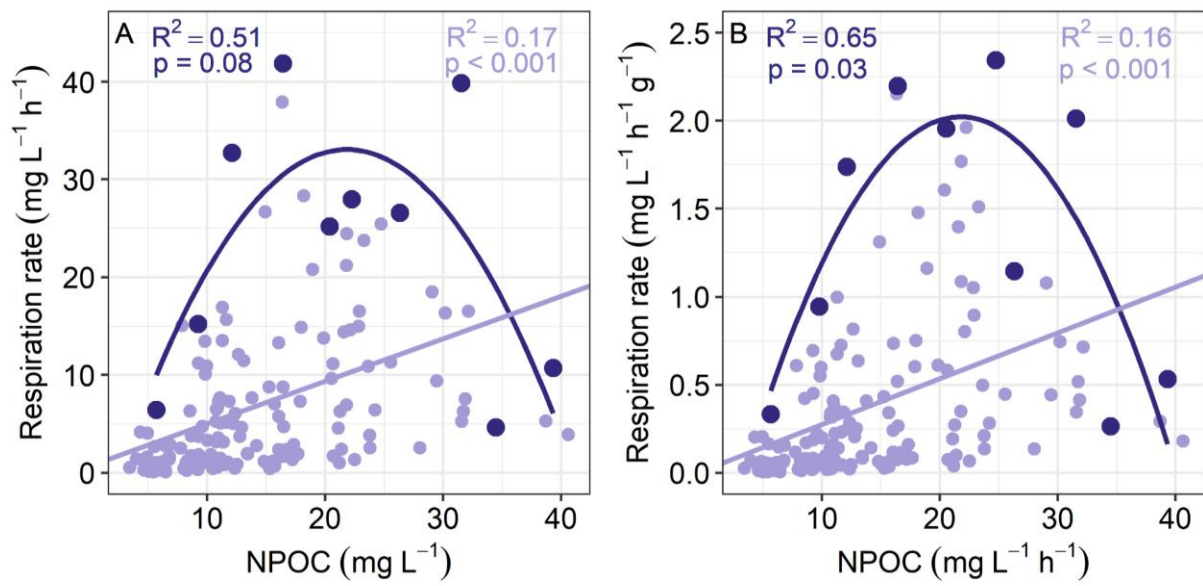
Figure S2: OM richness and Non-purgeable organic matter (NPOC) are weakly but significantly related to each other. Coefficient of determination (R^2) and p-value in the plot were calculated via ordinary least-square regressions. The associated model and its 95% confidence interval are shown as the solid line and gray shading, respectively.

Figure S3. Sediment respiration vs non-purgeable organic carbon concentration (NPOC). Panels A and B are for respiration that was either not normalized or normalized by sediment mass, respectively. Quadratic regression models with maximum respiration rates are shown in dark purple. Linear regression models based on all respiration and NPOC values are shown in light purple.