

Table S4. Correlations between richness (Chao 1 values), diversity (Shannon index), abundance of 16S rRNA, *amoA*, *nosZ* (qPCR) and sediment properties.

| | Richness | Diversity | Abundance | | |
|---------------------------------|----------|-----------|---------------------------------------|--|--|
| | | | Log ₁₀ ^{16S rRNA} | Log ₁₀ ^{<i>amoA</i>} | Log ₁₀ ^{<i>nosZ</i>} |
| pH | -0.218 | -0.109 | 0.109 | -0.218 | 0.109 |
| TOC | 0.119 | 0.167 | 0.738* | 0.333 | 0.619 |
| NH ₃ -N | -0.357 | -0.333 | 0.190 | -0.214 | 0.024 |
| NO ₃ ⁻ -N | -0.619 | -0.619 | -0.286 | -0.548 | -0.381 |
| NO ₂ ⁻ -N | -0.286 | -0.262 | 0.167 | -0.143 | 0.119 |
| Temperature | 0.381 | 0.524 | 0.381 | 0.357 | 0.429 |

Significance at * α = 0.05 level