Supporting Information

For the main article, “Predicting sediment and nutrient concentrations from high-frequency water-quality data” by Catherine Leigh, Sevvandi Kandanaarachchi, James M. McGree, Rob J. Hyndman, Omar Alsibai1, Kerrie Mengersen and Erin E. Peterson, published by Plos One.

This document contains S1 Table.

**S1 Table. Site-based NOx models.** The best NOx model for each site based on the *cvRMSE* (i.e. lowest value per site), following backwards stepwise selection of the covariates in each model using the Akaike Information Criterion.

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| --- | --- | --- | --- |
| **Site** | **Level category** | **Covariates in the model (log10-transformed)** | ***cvRMSE***  ***(log10-scale)*** |
| **MR** | <Q1 | Conductivity + Turbidity + Conductivity\*Turbidity | 0.0355 |
|  | <Q2 | Conductivity | 0.0322 |
|  | <Q3 | Conductivity | 0.0332 |
| **PR** | <Q1 | Conductivity + Level + Turbidity + Conductivity\*Level + Conductivity\*Turbidity + Turbidity\*Level + Conductivity\*Level\*Turbidity | 0.1239 |
|  | <Q2 | Level + Turbidity + Level\*Turbidity | 0.0884 |
|  | <Q3 | Conductivity + Level + Conductivity\*Level | 0.1051 |
| **SC** | <Q1 | Conductivity + Level + Turbidity + Conductivity\*Level + Conductivity\*Turbidity | 0.1730 |
|  | <Q2 | Conductivity + Level + Conductivity\*Level | 0.1541 |
|  | <Q3 | Conductivity + Level + Turbidity + Conductivity\*Level + Conductivity\*Turbidity | 0.1656 |