

## USEPA Big Cypress REMAP Report EPA-904-R25-002. 2025

**Appendix 5. Spearman rank correlation matrix.** The highlighting color indicates the strength of the Spearman rank correlations. White cells – negligible correlations ( $\rho \leq 0.09$ ); orange cells – weak correlations ( $0.10 \leq \rho \leq 0.39$ ), yellow cells – moderate correlations ( $0.40 \leq \rho \leq 0.69$ ), green cells – strong correlations ( $0.70 \leq \rho \leq 0.89$ ); and blue cells – very strong correlations ( $\rho \geq 0.9$ ) (Schober et al. 2018).

|                                                                                       | Total Mercury in Mosquitofish (ng/g) | Specific Conductance ( $\mu\text{S}/\text{cm}$ ) | Oxidation Reduction Potential in Water Near the Soil Surface (mV) |
|---------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------|-------------------------------------------------------------------|
| Total Mercury in Mosquitofish (ng/g)                                                  |                                      |                                                  |                                                                   |
| Specific Conductance ( $\mu\text{S}/\text{cm}$ )                                      | $\rho=0.116$<br>$p=0.488$            |                                                  |                                                                   |
| Oxidation Reduction Potential in Water Near the Soil Surface (mV)                     | $\rho=0.057$<br>$p=0.736$            | $\rho=0.21$<br>$p=0.206$                         |                                                                   |
| Average Water Depth (ft)                                                              | $\rho=0.629$<br>$p<0.001$            | $\rho=0.043$<br>$p=0.795$                        | $\rho=0.128$<br>$p=0.442$                                         |
| Average Soil Thickness (ft)                                                           | $\rho=0.265$<br>$p=0.107$            | $\rho=-0.025$<br>$p=0.883$                       | $\rho=-0.08$<br>$p=0.633$                                         |
| Average Floc Thickness (cm)                                                           | $\rho=0.25$<br>$p=0.13$              | $\rho=0.351$<br>$p=0.031$                        | $\rho=0.288$<br>$p=0.079$                                         |
| Average Benthic Periphyton Thickness (cm)                                             | $\rho=0.107$<br>$p=0.521$            | $\rho=-0.001$<br>$p=0.994$                       | $\rho=-0.069$<br>$p=0.681$                                        |
| Surface Water Methylmercury (ng/L)                                                    | $\rho=-0.1$<br>$p=0.555$             | $\rho=-0.065$<br>$p=0.704$                       | $\rho=0.158$<br>$p=0.35$                                          |
| Surface Water Total Mercury (ng/L)                                                    | $\rho=0.19$<br>$p=0.26$              | $\rho=0.409$<br>$p=0.012$                        | $\rho=-0.049$<br>$p=0.771$                                        |
| Surface Water Total Nitrogen (mg/L)                                                   | $\rho=-0.057$<br>$p=0.745$           | $\rho=0.225$<br>$p=0.194$                        | $\rho=-0.406$<br>$p=0.016$                                        |
| Surface Water Total Phosphorus ( $\mu\text{g}/\text{L}$ )                             | $\rho=-0.119$<br>$p=0.497$           | $\rho=0.01$<br>$p=0.957$                         | $\rho=0.313$<br>$p=0.067$                                         |
| Surface Water Chlorophyll a ( $\mu\text{g}/\text{L}$ )                                | $\rho=-0.182$<br>$p=0.297$           | $\rho=0.107$<br>$p=0.542$                        | $\rho=0.096$<br>$p=0.582$                                         |
| Surface Water Chlorides (mg/L)                                                        | $\rho=0.134$<br>$p=0.444$            | $\rho=0.604$<br>$p<0.001$                        | $\rho=-0.297$<br>$p=0.083$                                        |
| Surface Water Dissolved Organic Carbon (mg/L)                                         | $\rho=0.293$<br>$p=0.087$            | $\rho=0.475$<br>$p=0.004$                        | $\rho=-0.189$<br>$p=0.278$                                        |
| Surface Water Total Organic Carbon (mg/L)                                             | $\rho=0.19$<br>$p=0.281$             | $\rho=0.529$<br>$p=0.001$                        | $\rho=-0.105$<br>$p=0.555$                                        |
| Surface Water Dissolved Nitrite/Nitrate (mg/L)                                        | $\rho=-0.26$<br>$p=0.131$            | $\rho=0.062$<br>$p=0.725$                        | $\rho=0.04$<br>$p=0.821$                                          |
| Surface Water Dissolved Nitrite (mg/L)                                                | $\rho=-0.216$<br>$p=0.213$           | $\rho=0.203$<br>$p=0.241$                        | $\rho=0.259$<br>$p=0.133$                                         |
| Surface Water Dissolved Nitrate (mg/L)                                                | $\rho=-0.094$<br>$p=0.591$           | $\rho=-0.095$<br>$p=0.587$                       | $\rho=0.01$<br>$p=0.956$                                          |
| Surface Water Dissolved Ammonia (mg/L)                                                | $\rho=-0.068$<br>$p=0.697$           | $\rho=0.01$<br>$p=0.957$                         | $\rho=-0.055$<br>$p=0.756$                                        |
| Surface Water Alkaline Phosphatase Activity ( $\mu\text{Mole}/\text{L}/\text{hour}$ ) | $\rho=-0.08$<br>$p=0.649$            | $\rho=0.248$<br>$p=0.15$                         | $\rho=0.14$<br>$p=0.422$                                          |
| Soil Methylmercury (ng/g)                                                             | $\rho=0.441$<br>$p=0.006$            | $\rho=-0.092$<br>$p=0.581$                       | $\rho=0.039$<br>$p=0.814$                                         |
| Soil Methylmercury (ng/cc)                                                            | $\rho=0.083$<br>$p=0.622$            | $\rho=-0.002$<br>$p=0.992$                       | $\rho=-0.093$<br>$p=0.58$                                         |
| Soil Total Mercury (ng/g)                                                             | $\rho=0.466$<br>$p=0.003$            | $\rho=-0.012$<br>$p=0.941$                       | $\rho=0.318$<br>$p=0.052$                                         |
| Soil Total Mercury (ng/cc)                                                            | $\rho=0.263$<br>$p=0.11$             | $\rho=0.125$<br>$p=0.454$                        | $\rho=0.245$<br>$p=0.138$                                         |

|                                               | Total Mercury in Mosquitofish (ng/g) | Specific Conductance (μS/cm) | Oxidation Reduction Potential in Water Near the Soil Surface (mV) |
|-----------------------------------------------|--------------------------------------|------------------------------|-------------------------------------------------------------------|
| Soil Total Carbon (g/kg)                      | rho = 0.44<br>p = 0.006              | rho = -0.091<br>p = 0.586    | rho = 0.214<br>p = 0.197                                          |
| Soil Total Carbon (mg/cc)                     | rho = -0.23<br>p = 0.165             | rho = -0.019<br>p = 0.908    | rho = -0.009<br>p = 0.956                                         |
| Soil Total Nitrogen (g/kg)                    | rho = 0.415<br>p = 0.01              | rho = -0.087<br>p = 0.604    | rho = 0.356<br>p = 0.028                                          |
| Soil Total Nitrogen (mg/cc)                   | rho = -0.165<br>p = 0.321            | rho = 0.003<br>p = 0.985     | rho = 0.238<br>p = 0.15                                           |
| Soil Total Phosphorus (mg/kg)                 | rho = 0.278<br>p = 0.091             | rho = -0.045<br>p = 0.788    | rho = 0.222<br>p = 0.181                                          |
| Soil Total Phosphorus (μg/cc)                 | rho = -0.33<br>p = 0.043             | rho = 0.14<br>p = 0.402      | rho = -0.063<br>p = 0.707                                         |
| Soil Organic Matter (g/kg)                    | rho = 0.467<br>p = 0.003             | rho = -0.078<br>p = 0.641    | rho = 0.274<br>p = 0.096                                          |
| Soil Organic Matter (mg/cc)                   | rho = 0.193<br>p = 0.245             | rho = -0.012<br>p = 0.944    | rho = 0.367<br>p = 0.023                                          |
| Soil Moisture Content (%)                     | rho = 0.485<br>p = 0.002             | rho = -0.12<br>p = 0.474     | rho = 0.182<br>p = 0.275                                          |
| Soil pH(SU)                                   | rho = -0.192<br>p = 0.247            | rho = 0.083<br>p = 0.621     | rho = -0.435<br>p = 0.006                                         |
| Soil Bulk Density (g/cc)                      | rho = -0.483<br>p = 0.002            | rho = 0.109<br>p = 0.516     | rho = -0.187<br>p = 0.262                                         |
| Floc Methylmercury (ng/g)                     | rho = 0.222<br>p = 0.287             | rho = 0.15<br>p = 0.476      | rho = -0.109<br>p = 0.603                                         |
| Floc Total Mercury (ng/g)                     | rho = -0.089<br>p = 0.673            | rho = -0.014<br>p = 0.948    | rho = 0.389<br>p = 0.054                                          |
| Floc Total Carbon (g/kg)                      | rho = -0.006<br>p = 0.987            | rho = -0.624<br>p = 0.054    | rho = 0.624<br>p = 0.054                                          |
| Floc Total Nitrogen (g/kg)                    | rho = -0.091<br>p = 0.803            | rho = -0.576<br>p = 0.082    | rho = 0.624<br>p = 0.054                                          |
| Floc Total Phosphorus (mg/kg)                 | rho = -0.127<br>p = 0.726            | rho = -0.418<br>p = 0.229    | rho = 0.855<br>p = 0.002                                          |
| Floc Organic Matter (g/kg)                    | rho = -0.079<br>p = 0.829            | rho = -0.552<br>p = 0.098    | rho = 0.661<br>p = 0.038                                          |
| Floc Chlorophyll a (mg/kg)                    | rho = -0.236<br>p = 0.511            | rho = -0.006<br>p = 0.987    | rho = 0.067<br>p = 0.855                                          |
| Benthic Periphyton Methylmercury (ng/g)       | rho = 0.393<br>p = 0.057             | rho = 0.2<br>p = 0.35        | rho = 0.237<br>p = 0.264                                          |
| Benthic Periphyton Total Mercury (ng/g)       | rho = 0.328<br>p = 0.118             | rho = 0.173<br>p = 0.418     | rho = 0.437<br>p = 0.033                                          |
| Benthic Periphyton Total Carbon (g/kg)        | rho = 0.349<br>p = 0.121             | rho = -0.131<br>p = 0.57     | rho = 0.614<br>p = 0.003                                          |
| Benthic Periphyton Total Nitrogen (g/kg)      | rho = 0.191<br>p = 0.408             | rho = -0.203<br>p = 0.378    | rho = 0.498<br>p = 0.022                                          |
| Benthic Periphyton Total Phosphorus (mg/kg)   | rho = 0.274<br>p = 0.23              | rho = -0.066<br>p = 0.775    | rho = 0.263<br>p = 0.25                                           |
| Benthic Periphyton Organic Matter (g/kg)      | rho = 0.29<br>p = 0.19               | rho = -0.059<br>p = 0.793    | rho = 0.595<br>p = 0.003                                          |
| Benthic Periphyton Chlorophyll a (mg/kg)      | rho = 0.309<br>p = 0.162             | rho = -0.052<br>p = 0.818    | rho = 0.587<br>p = 0.004                                          |
| Water Column Periphyton Methylmercury (ng/g)  | rho = -0.029<br>p = 0.885            | rho = -0.242<br>p = 0.215    | rho = 0.164<br>p = 0.405                                          |
| Water Column Periphyton Methylmercury (ng/cc) | rho = -0.242<br>p = 0.223            | rho = -0.092<br>p = 0.648    | rho = -0.089<br>p = 0.659                                         |
| Water Column Periphyton Total Mercury (ng/g)  | rho = -0.116<br>p = 0.558            | rho = 0.007<br>p = 0.972     | rho = 0.155<br>p = 0.432                                          |
| Water Column Periphyton Total Mercury (ng/cc) | rho = -0.245<br>p = 0.218            | rho = 0.154<br>p = 0.444     | rho = -0.303<br>p = 0.124                                         |

Appendix 5-2

|                                                  | Total Mercury in Mosquitofish (ng/g) | Specific Conductance (μS/cm) | Oxidation Reduction Potential in Water Near the Soil Surface (mV) |
|--------------------------------------------------|--------------------------------------|------------------------------|-------------------------------------------------------------------|
| Water Column Periphyton Total Carbon (g/kg)      | rho = 0.022<br>p = 0.915             | rho = 0.104<br>p = 0.607     | rho = 0.485<br>p = 0.01                                           |
| Water Column Periphyton Total Carbon (mg/cc)     | rho = -0.066<br>p = 0.743            | rho = 0.151<br>p = 0.454     | rho = -0.296<br>p = 0.133                                         |
| Water Column Periphyton Total Nitrogen (g/kg)    | rho = 0.074<br>p = 0.708             | rho = 0.114<br>p = 0.562     | rho = 0.506<br>p = 0.006                                          |
| Water Column Periphyton Total Nitrogen (mg/cc)   | rho = -0.078<br>p = 0.694            | rho = 0.149<br>p = 0.448     | rho = -0.043<br>p = 0.829                                         |
| Water Column Periphyton Total Phosphorus (mg/kg) | rho = -0.197<br>p = 0.325            | rho = -0.099<br>p = 0.625    | rho = 0.142<br>p = 0.48                                           |
| Water Column Periphyton Total Phosphorus (μg/cc) | rho = -0.395<br>p = 0.042            | rho = -0.04<br>p = 0.843     | rho = -0.113<br>p = 0.576                                         |
| Water Column Periphyton Organic Matter (g/kg)    | rho = 0.059<br>p = 0.769             | rho = -0.009<br>p = 0.963    | rho = 0.503<br>p = 0.008                                          |
| Water Column Periphyton Chlorophyll a (mg/kg)    | rho = 0.081<br>p = 0.689             | rho = -0.089<br>p = 0.657    | rho = 0.319<br>p = 0.105                                          |
| Water Column Periphyton Bulk Density (g/cc)      | rho = -0.087<br>p = 0.665            | rho = 0.05<br>p = 0.804      | rho = -0.362<br>p = 0.064                                         |
| Vegetation Total Carbon (g/kg)                   | rho = -0.213<br>p = 0.307            | rho = -0.017<br>p = 0.936    | rho = 0.15<br>p = 0.474                                           |
| Vegetation Total Nitrogen (g/kg)                 | rho = 0.113<br>p = 0.591             | rho = -0.169<br>p = 0.42     | rho = 0.019<br>p = 0.927                                          |
| Vegetation Total Phosphorus (mg/kg)              | rho = 0.303<br>p = 0.141             | rho = -0.005<br>p = 0.98     | rho = 0.025<br>p = 0.904                                          |

|                                                            | Average Water Depth (ft) | Average Soil Thickness (ft) | Average Floc Thickness (cm) |
|------------------------------------------------------------|--------------------------|-----------------------------|-----------------------------|
| Average Water Depth (ft)                                   |                          |                             |                             |
| Average Soil Thickness (ft)                                | rho=0.434<br>p=0.006     |                             |                             |
| Average Floc Thickness (cm)                                | rho=0.31<br>p=0.058      | rho=0.243<br>p=0.142        |                             |
| Average Benthic Periphyton Thickness (cm)                  | rho=-0.115<br>p=0.493    | rho=-0.162<br>p=0.331       | rho=-0.618<br>p<0.001       |
| Surface Water Methylmercury (ng/L)                         | rho=0.184<br>p=0.275     | rho=-0.148<br>p=0.382       | rho=0.158<br>p=0.351        |
| Surface Water Total Mercury (ng/L)                         | rho=0.181<br>p=0.283     | rho=0.047<br>p=0.781        | rho=0.121<br>p=0.477        |
| Surface Water Total Nitrogen (mg/L)                        | rho=0.057<br>p=0.744     | rho=0.057<br>p=0.746        | rho=-0.156<br>p=0.371       |
| Surface Water Total Phosphorus (µg/L)                      | rho=-0.256<br>p=0.138    | rho=0.215<br>p=0.215        | rho=0.18<br>p=0.3           |
| Surface Water Chlorophyll a (µg/L)                         | rho=-0.209<br>p=0.229    | rho=0.019<br>p=0.915        | rho=0.556<br>p<0.001        |
| Surface Water Chlorides (mg/L)                             | rho=0.063<br>p=0.72      | rho=0.108<br>p=0.538        | rho=0.091<br>p=0.604        |
| Surface Water Dissolved Organic Carbon (mg/L)              | rho=0.128<br>p=0.463     | rho=0.267<br>p=0.121        | rho=0.121<br>p=0.49         |
| Surface Water Total Organic Carbon (mg/L)                  | rho=0.118<br>p=0.507     | rho=0.199<br>p=0.258        | rho=0.145<br>p=0.415        |
| Surface Water Dissolved Nitrite/Nitrate (mg/L)             | rho=-0.126<br>p=0.47     | rho=-0.078<br>p=0.656       | rho=-0.461<br>p=0.005       |
| Surface Water Dissolved Nitrite (mg/L)                     | rho=-0.115<br>p=0.511    | rho=0.165<br>p=0.345        | rho=0.022<br>p=0.901        |
| Surface Water Dissolved Nitrate (mg/L)                     | rho=-0.081<br>p=0.643    | rho=0.167<br>p=0.339        | rho=-0.286<br>p=0.096       |
| Surface Water Dissolved Ammonia (mg/L)                     | rho=0.272<br>p=0.115     | rho=0.256<br>p=0.138        | rho=-0.368<br>p=0.03        |
| Surface Water Alkaline Phosphatase Activity (µMole/L/hour) | rho=-0.425<br>p=0.011    | rho=-0.394<br>p=0.019       | rho=-0.191<br>p=0.272       |
| Soil Methylmercury (ng/g)                                  | rho=0.553<br>p<0.001     | rho=0.367<br>p=0.024        | rho=0.174<br>p=0.297        |
| Soil Methylmercury (ng/cc)                                 | rho=-0.203<br>p=0.221    | rho=-0.142<br>p=0.396       | rho=-0.182<br>p=0.275       |
| Soil Total Mercury (ng/g)                                  | rho=0.641<br>p<0.001     | rho=0.221<br>p=0.182        | rho=0.453<br>p=0.004        |
| Soil Total Mercury (ng/cc)                                 | rho=0.064<br>p=0.705     | rho=-0.219<br>p=0.187       | rho=0.262<br>p=0.111        |
| Soil Total Carbon (g/kg)                                   | rho=0.787<br>p<0.001     | rho=0.357<br>p=0.028        | rho=0.421<br>p=0.008        |
| Soil Total Carbon (mg/cc)                                  | rho=-0.426<br>p=0.008    | rho=-0.443<br>p=0.005       | rho=-0.163<br>p=0.327       |
| Soil Total Nitrogen (g/kg)                                 | rho=0.735<br>p<0.001     | rho=0.218<br>p=0.189        | rho=0.399<br>p=0.013        |
| Soil Total Nitrogen (mg/cc)                                | rho=-0.355<br>p=0.029    | rho=-0.553<br>p<0.001       | rho=-0.073<br>p=0.662       |
| Soil Total Phosphorus (mg/kg)                              | rho=0.582<br>p<0.001     | rho=0.233<br>p=0.159        | rho=0.627<br>p<0.001        |
| Soil Total Phosphorus (µg/cc)                              | rho=-0.262<br>p=0.113    | rho=-0.146<br>p=0.383       | rho=0.251<br>p=0.129        |

Appendix 5-4

|                                                | Average Water Depth (ft) | Average Soil Thickness (ft) | Average Floc Thickness (cm) |
|------------------------------------------------|--------------------------|-----------------------------|-----------------------------|
| Soil Organic Matter (g/kg)                     | rho =0.805<br>p<0.001    | rho =0.337<br>p=0.039       | rho =0.467<br>p=0.003       |
| Soil Organic Matter (mg/cc)                    | rho =0.379<br>p=0.019    | rho =-0.149<br>p=0.371      | rho =0.376<br>p=0.02        |
| Soil Moisture Content (%)                      | rho =0.838<br>p<0.001    | rho =0.393<br>p=0.015       | rho =0.372<br>p=0.022       |
| Soil pH (SU)                                   | rho =-0.404<br>p=0.012   | rho =-0.337<br>p=0.038      | rho =-0.473<br>p=0.003      |
| Soil Bulk Density (g/cc)                       | rho =-0.844<br>p<0.001   | rho =-0.382<br>p=0.018      | rho =-0.384<br>p=0.017      |
| Floc Methylmercury (ng/g)                      | rho =0.027<br>p=0.898    | rho =0.332<br>p=0.105       | rho =0.076<br>p=0.719       |
| Floc Total Mercury (ng/g)                      | rho =0.254<br>p=0.22     | rho =0.203<br>p=0.331       | rho =0.117<br>p=0.579       |
| Floc Total Carbon (g/kg)                       | rho =-0.067<br>p=0.854   | rho =0.451<br>p=0.191       | rho =0.359<br>p=0.309       |
| Floc Total Nitrogen (g/kg)                     | rho =0.024<br>p=0.947    | rho =0.518<br>p=0.125       | rho =0.267<br>p=0.455       |
| Floc Total Phosphorus (mg/kg)                  | rho =-0.292<br>p=0.413   | rho =0.378<br>p=0.281       | rho =0.237<br>p=0.51        |
| Floc Organic Matter (g/kg)                     | rho =-0.055<br>p=0.881   | rho =0.439<br>p=0.204       | rho =0.34<br>p=0.336        |
| Floc Chlorophyll a (mg/kg)                     | rho =-0.14<br>p=0.7      | rho =-0.268<br>p=0.454      | rho =0.103<br>p=0.776       |
| Benthic Periphyton Methylmercury (ng/g)        | rho =0.251<br>p=0.237    | rho =-0.246<br>p=0.247      | rho =0.268<br>p=0.206       |
| Benthic Periphyton Total Mercury (ng/g)        | rho =0.209<br>p=0.327    | rho =-0.152<br>p=0.479      | rho =0.291<br>p=0.167       |
| Benthic Periphyton Total Carbon (g/kg)         | rho =0.448<br>p=0.042    | rho =0.12<br>p=0.603        | rho =0.255<br>p=0.265       |
| Benthic Periphyton Total Nitrogen (g/kg)       | rho =0.18<br>p=0.436     | rho =0.082<br>p=0.725       | rho =0.246<br>p=0.283       |
| Benthic Periphyton Total Phosphorus (mg/kg)    | rho =0.086<br>p=0.71     | rho =-0.145<br>p=0.53       | rho =0.439<br>p=0.047       |
| Benthic Periphyton Organic Matter (g/kg)       | rho =0.322<br>p=0.144    | rho =0.132<br>p=0.557       | rho =0.302<br>p=0.171       |
| Benthic Periphyton Chlorophyll a (mg/kg)       | rho =0.17<br>p=0.449     | rho =-0.376<br>p=0.084      | rho =0.199<br>p=0.374       |
| Water Column Periphyton Methylmercury (ng/g)   | rho =0.007<br>p=0.972    | rho =-0.012<br>p=0.953      | rho =0.133<br>p=0.499       |
| Water Column Periphyton Methylmercury (ng/cc)  | rho =-0.328<br>p=0.095   | rho =-0.28<br>p=0.158       | rho =-0.077<br>p=0.704      |
| Water Column Periphyton Total Mercury (ng/g)   | rho =0.065<br>p=0.742    | rho =0.19<br>p=0.333        | rho =0.314<br>p=0.104       |
| Water Column Periphyton Total Mercury (ng/cc)  | rho =-0.258<br>p=0.193   | rho =0.169<br>p=0.4         | rho =-0.029<br>p=0.884      |
| Water Column Periphyton Total Carbon (g/kg)    | rho =0.265<br>p=0.182    | rho =0.145<br>p=0.471       | rho =0.419<br>p=0.029       |
| Water Column Periphyton Total Carbon (mg/cc)   | rho =-0.489<br>p=0.01    | rho =-0.154<br>p=0.445      | rho =-0.162<br>p=0.42       |
| Water Column Periphyton Total Nitrogen (g/kg)  | rho =0.268<br>p=0.168    | rho =0.11<br>p=0.577        | rho =0.44<br>p=0.019        |
| Water Column Periphyton Total Nitrogen (mg/cc) | rho =-0.35<br>p=0.068    | rho =-0.127<br>p=0.521      | rho =-0.067<br>p=0.734      |

Appendix 5-5

|                                                     | Average Water Depth (ft)  | Average Soil Thickness (ft) | Average Floc Thickness (cm) |
|-----------------------------------------------------|---------------------------|-----------------------------|-----------------------------|
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = -0.084<br>p = 0.678 | rho = 0.054<br>p = 0.79     | rho = 0.386<br>p = 0.047    |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = -0.486<br>p = 0.01  | rho = 0.031<br>p = 0.877    | rho = 0.112<br>p = 0.577    |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.231<br>p = 0.246  | rho = 0.097<br>p = 0.63     | rho = 0.401<br>p = 0.038    |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.329<br>p = 0.094  | rho = 0.015<br>p = 0.942    | rho = 0.453<br>p = 0.018    |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.492<br>p = 0.009 | rho = -0.195<br>p = 0.329   | rho = -0.266<br>p = 0.18    |
| Vegetation Total Carbon (g/kg)                      | rho = -0.173<br>p = 0.408 | rho = -0.041<br>p = 0.845   | rho = -0.406<br>p = 0.044   |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.246<br>p = 0.236  | rho = 0.336<br>p = 0.1      | rho = 0.092<br>p = 0.66     |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.577<br>p = 0.003  | rho = 0.552<br>p = 0.004    | rho = 0.382<br>p = 0.06     |

|                                                            | Average Benthic Periphyton Thickness (cm) | Surface Water Methylmercury (ng/L) | Surface Water Total Mercury (ng/L) |
|------------------------------------------------------------|-------------------------------------------|------------------------------------|------------------------------------|
| Average Benthic Periphyton Thickness (cm)                  |                                           |                                    |                                    |
| Surface Water Methylmercury (ng/L)                         | rho = -0.21<br>p = 0.213                  |                                    |                                    |
| Surface Water Total Mercury (ng/L)                         | rho = -0.24<br>p = 0.152                  | rho = 0.137<br>p = 0.42            |                                    |
| Surface Water Total Nitrogen (mg/L)                        | rho = 0.284<br>p = 0.099                  | rho = -0.093<br>p = 0.594          | rho = 0.227<br>p = 0.189           |
| Surface Water Total Phosphorus (µg/L)                      | rho = -0.261<br>p = 0.129                 | rho = -0.234<br>p = 0.176          | rho = -0.107<br>p = 0.542          |
| Surface Water Chlorophyll a (µg/L)                         | rho = -0.553<br>p < 0.001                 | rho = 0.239<br>p = 0.167           | rho = 0.075<br>p = 0.669           |
| Surface Water Chlorides (mg/L)                             | rho = 0.271<br>p = 0.115                  | rho = -0.055<br>p = 0.755          | rho = 0.231<br>p = 0.183           |
| Surface Water Dissolved Organic Carbon (mg/L)              | rho = 0.05<br>p = 0.773                   | rho = -0.349<br>p = 0.04           | rho = 0.292<br>p = 0.089           |
| Surface Water Total Organic Carbon (mg/L)                  | rho = 0.081<br>p = 0.649                  | rho = -0.271<br>p = 0.121          | rho = 0.315<br>p = 0.07            |
| Surface Water Dissolved Nitrite/Nitrate (mg/L)             | rho = 0.19<br>p = 0.276                   | rho = 0.067<br>p = 0.701           | rho = 0.083<br>p = 0.635           |
| Surface Water Dissolved Nitrite (mg/L)                     | rho = -0.203<br>p = 0.242                 | rho = 0.025<br>p = 0.885           | rho = 0.043<br>p = 0.808           |
| Surface Water Dissolved Nitrate (mg/L)                     | rho = 0.159<br>p = 0.36                   | rho = -0.071<br>p = 0.684          | rho = 0.025<br>p = 0.887           |
| Surface Water Dissolved Ammonia (mg/L)                     | rho = 0.335<br>p = 0.049                  | rho = 0.208<br>p = 0.231           | rho = -0.01<br>p = 0.952           |
| Surface Water Alkaline Phosphatase Activity (µMole/L/hour) | rho = 0.293<br>p = 0.088                  | rho = 0.009<br>p = 0.959           | rho = 0.099<br>p = 0.572           |
| Soil Methylmercury (ng/g)                                  | rho = -0.211<br>p = 0.203                 | rho = 0.15<br>p = 0.375            | rho = 0.194<br>p = 0.25            |
| Soil Methylmercury (ng/cc)                                 | rho = -0.017<br>p = 0.921                 | rho = -0.071<br>p = 0.674          | rho = 0.125<br>p = 0.462           |
| Soil Total Mercury (ng/g)                                  | rho = -0.313<br>p = 0.055                 | rho = 0.313<br>p = 0.06            | rho = 0.103<br>p = 0.544           |
| Soil Total Mercury (ng/cc)                                 | rho = -0.173<br>p = 0.298                 | rho = 0.164<br>p = 0.332           | rho = 0.082<br>p = 0.629           |
| Soil Total Carbon (g/kg)                                   | rho = -0.286<br>p = 0.082                 | rho = 0.234<br>p = 0.164           | rho = 0.086<br>p = 0.611           |
| Soil Total Carbon (mg/cc)                                  | rho = 0.044<br>p = 0.795                  | rho = -0.147<br>p = 0.386          | rho = -0.199<br>p = 0.238          |
| Soil Total Nitrogen (g/kg)                                 | rho = -0.302<br>p = 0.066                 | rho = 0.251<br>p = 0.133           | rho = -0.005<br>p = 0.978          |
| Soil Total Nitrogen (mg/cc)                                | rho = -0.005<br>p = 0.978                 | rho = -0.004<br>p = 0.982          | rho = -0.295<br>p = 0.076          |
| Soil Total Phosphorus (mg/kg)                              | rho = -0.637<br>p < 0.001                 | rho = 0.218<br>p = 0.196           | rho = 0.169<br>p = 0.318           |
| Soil Total Phosphorus (µg/cc)                              | rho = -0.552<br>p < 0.001                 | rho = -0.146<br>p = 0.39           | rho = 0.044<br>p = 0.794           |
| Soil Organic Matter (g/kg)                                 | rho = -0.384<br>p = 0.017                 | rho = 0.288<br>p = 0.084           | rho = 0.129<br>p = 0.448           |
| Soil Organic Matter (mg/cc)                                | rho = -0.467<br>p = 0.003                 | rho = 0.321<br>p = 0.052           | rho = 0.046<br>p = 0.788           |
| Soil Moisture Content (%)                                  | rho = -0.262<br>p = 0.113                 | rho = 0.261<br>p = 0.118           | rho = 0.132<br>p = 0.438           |

Appendix 5-7

|                                                     | Average Benthic Periphyton<br>Thickness (cm) | Surface Water<br>Methylmercury (ng/L) | Surface Water<br>Total Mercury (ng/L) |
|-----------------------------------------------------|----------------------------------------------|---------------------------------------|---------------------------------------|
| Soil pH(SU)                                         | rho = 0.461<br>p = 0.004                     | rho = -0.243<br>p = 0.148             | rho = -0.036<br>p = 0.831             |
| Soil Bulk Density (g/cc)                            | rho = 0.27<br>p = 0.102                      | rho = -0.277<br>p = 0.097             | rho = -0.145<br>p = 0.391             |
| Floc Methylmercury (ng/g)                           | rho = -0.099<br>p = 0.637                    | rho = -0.468<br>p = 0.018             | rho = 0.453<br>p = 0.023              |
| Floc Total Mercury (ng/g)                           | rho = -0.327<br>p = 0.111                    | rho = 0.189<br>p = 0.365              | rho = -0.225<br>p = 0.28              |
| Floc Total Carbon (g/kg)                            | rho = -0.212<br>p = 0.557                    | rho = 0.354<br>p = 0.316              | rho = -0.584<br>p = 0.077             |
| Floc Total Nitrogen (g/kg)                          | rho = -0.184<br>p = 0.61                     | rho = 0.274<br>p = 0.443              | rho = -0.553<br>p = 0.097             |
| Floc Total Phosphorus (mg/kg)                       | rho = -0.348<br>p = 0.324                    | rho = 0.104<br>p = 0.776              | rho = -0.669<br>p = 0.035             |
| Floc Organic Matter (g/kg)                          | rho = -0.212<br>p = 0.557                    | rho = 0.293<br>p = 0.412              | rho = -0.608<br>p = 0.062             |
| Floc Chlorophyll a (mg/kg)                          | rho = 0.335<br>p = 0.345                     | rho = 0.116<br>p = 0.75               | rho = -0.498<br>p = 0.143             |
| Benthic Periphyton<br>Methylmercury (ng/g)          | rho = -0.282<br>p = 0.182                    | rho = 0.258<br>p = 0.235              | rho = 0.31<br>p = 0.15                |
| Benthic Periphyton<br>Total Mercury (ng/g)          | rho = 0.02<br>p = 0.924                      | rho = 0.143<br>p = 0.515              | rho = -0.099<br>p = 0.654             |
| Benthic Periphyton<br>Total Carbon (g/kg)           | rho = 0.042<br>p = 0.858                     | rho = 0.238<br>p = 0.312              | rho = -0.11<br>p = 0.645              |
| Benthic Periphyton<br>Total Nitrogen (g/kg)         | rho = -0.124<br>p = 0.593                    | rho = 0.233<br>p = 0.323              | rho = -0.334<br>p = 0.15              |
| Benthic Periphyton<br>Total Phosphorus (mg/kg)      | rho = -0.275<br>p = 0.228                    | rho = 0.273<br>p = 0.244              | rho = -0.306<br>p = 0.189             |
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho = -0.087<br>p = 0.7                      | rho = 0.253<br>p = 0.268              | rho = -0.15<br>p = 0.516              |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho = -0.267<br>p = 0.229                    | rho = 0.227<br>p = 0.323              | rho = 0.178<br>p = 0.441              |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = -0.175<br>p = 0.372                    | rho = -0.035<br>p = 0.863             | rho = -0.266<br>p = 0.181             |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = -0.036<br>p = 0.858                    | rho = -0.169<br>p = 0.409             | rho = -0.326<br>p = 0.104             |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = -0.268<br>p = 0.168                    | rho = 0.218<br>p = 0.275              | rho = -0.113<br>p = 0.576             |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = 0.039<br>p = 0.846                     | rho = 0.015<br>p = 0.943              | rho = -0.139<br>p = 0.499             |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = -0.179<br>p = 0.372                    | rho = 0.033<br>p = 0.874              | rho = -0.234<br>p = 0.249             |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = 0.289<br>p = 0.144                     | rho = -0.183<br>p = 0.371             | rho = -0.089<br>p = 0.665             |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = -0.141<br>p = 0.474                    | rho = 0.208<br>p = 0.298              | rho = -0.199<br>p = 0.32              |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = 0.402<br>p = 0.034                     | rho = 0.027<br>p = 0.893              | rho = -0.145<br>p = 0.472             |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = -0.455<br>p = 0.017                    | rho = 0.074<br>p = 0.719              | rho = -0.272<br>p = 0.179             |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = -0.263<br>p = 0.184                    | rho = -0.169<br>p = 0.409             | rho = -0.264<br>p = 0.193             |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = -0.164<br>p = 0.413                    | rho = -0.046<br>p = 0.825             | rho = -0.318<br>p = 0.113             |

Appendix 5-8

|                                                  | Average Benthic Periphyton<br>Thickness (cm) | Surface Water<br>Methylmercury (ng/L) | Surface Water<br>Total Mercury (ng/L) |
|--------------------------------------------------|----------------------------------------------|---------------------------------------|---------------------------------------|
| Water Column Periphyton<br>Chlorophyll a (mg/kg) | rho = -0.539<br>p = 0.004                    | rho = 0.061<br>p = 0.769              | rho = 0.091<br>p = 0.657              |
| Water Column Periphyton<br>Bulk Density (g/cc)   | rho = 0.264<br>p = 0.184                     | rho = -0.138<br>p = 0.502             | rho = 0.021<br>p = 0.919              |
| Vegetation Total Carbon (g/kg)                   | rho = 0.272<br>p = 0.188                     | rho = 0.24<br>p = 0.259               | rho = -0.055<br>p = 0.798             |
| Vegetation Total Nitrogen (g/kg)                 | rho = -0.047<br>p = 0.825                    | rho = 0.251<br>p = 0.238              | rho = -0.299<br>p = 0.156             |
| Vegetation Total Phosphorus (mg/kg)              | rho = -0.312<br>p = 0.128                    | rho = 0.151<br>p = 0.482              | rho = -0.12<br>p = 0.576              |

|                                                               | Surface Water<br>Total Nitrogen (mg/L) | Surface Water Total<br>Phosphorus (µg/L) | Surface Water<br>Chlorophyll a (µg/L) |
|---------------------------------------------------------------|----------------------------------------|------------------------------------------|---------------------------------------|
| Surface Water Total Nitrogen (mg/L)                           |                                        |                                          |                                       |
| Surface Water Total Phosphorus (µg/L)                         | rho = -0.09<br>p = 0.608               |                                          |                                       |
| Surface Water Chlorophyll a (µg/L)                            | rho = -0.112<br>p = 0.522              | rho = 0.151<br>p = 0.388                 |                                       |
| Surface Water Chlorides (mg/L)                                | rho = 0.605<br>p < 0.001               | rho = -0.231<br>p = 0.183                | rho = 0.066<br>p = 0.708              |
| Surface Water Dissolved<br>Organic Carbon (mg/L)              | rho = 0.588<br>p < 0.001               | rho = 0.336<br>p = 0.049                 | rho = 0.016<br>p = 0.927              |
| Surface Water Total<br>Organic Carbon (mg/L)                  | rho = 0.62<br>p < 0.001                | rho = 0.299<br>p = 0.086                 | rho = -0.015<br>p = 0.932             |
| Surface Water Dissolved<br>Nitrite/Nitrate (mg/L)             | rho = 0.112<br>p = 0.523               | rho = -0.139<br>p = 0.425                | rho = -0.327<br>p = 0.055             |
| Surface Water Dissolved<br>Nitrite (mg/L)                     | rho = 0.026<br>p = 0.88                | rho = 0.362<br>p = 0.033                 | rho = 0.154<br>p = 0.378              |
| Surface Water Dissolved<br>Nitrate (mg/L)                     | rho = 0.274<br>p = 0.111               | rho = 0.082<br>p = 0.642                 | rho = -0.151<br>p = 0.386             |
| Surface Water Dissolved<br>Ammonia (mg/L)                     | rho = 0.405<br>p = 0.016               | rho = -0.261<br>p = 0.13                 | rho = -0.337<br>p = 0.048             |
| Surface Water Alkaline<br>Phosphatase Activity (µMole/L/hour) | rho = 0.306<br>p = 0.074               | rho = 0.051<br>p = 0.769                 | rho = 0.021<br>p = 0.905              |
| Soil Methylmercury (ng/g)                                     | rho = -0.096<br>p = 0.581              | rho = -0.178<br>p = 0.307                | rho = 0.13<br>p = 0.456               |
| Soil Methylmercury (ng/cc)                                    | rho = -0.084<br>p = 0.631              | rho = -0.134<br>p = 0.443                | rho = 0.286<br>p = 0.095              |
| Soil Total Mercury (ng/g)                                     | rho = -0.195<br>p = 0.262              | rho = -0.05<br>p = 0.774                 | rho = 0.152<br>p = 0.385              |
| Soil Total Mercury (ng/cc)                                    | rho = -0.284<br>p = 0.098              | rho = 0.027<br>p = 0.879                 | rho = 0.392<br>p = 0.02               |
| Soil Total Carbon (g/kg)                                      | rho = -0.055<br>p = 0.754              | rho = -0.082<br>p = 0.638                | rho = -0.064<br>p = 0.717             |
| Soil Total Carbon (mg/cc)                                     | rho = -0.077<br>p = 0.66               | rho = 0.157<br>p = 0.367                 | rho = 0.154<br>p = 0.376              |
| Soil Total Nitrogen (g/kg)                                    | rho = -0.201<br>p = 0.246              | rho = -0.004<br>p = 0.98                 | rho = -0.079<br>p = 0.653             |
| Soil Total Nitrogen (mg/cc)                                   | rho = -0.318<br>p = 0.063              | rho = 0.213<br>p = 0.22                  | rho = 0.116<br>p = 0.506              |
| Soil Total Phosphorus (mg/kg)                                 | rho = -0.404<br>p = 0.016              | rho = 0.066<br>p = 0.708                 | rho = 0.194<br>p = 0.265              |
| Soil Total Phosphorus (µg/cc)                                 | rho = -0.4<br>p = 0.017                | rho = 0.319<br>p = 0.062                 | rho = 0.224<br>p = 0.196              |
| Soil Organic Matter (g/kg)                                    | rho = -0.154<br>p = 0.378              | rho = -0.06<br>p = 0.732                 | rho = -0.024<br>p = 0.891             |
| Soil Organic Matter (mg/cc)                                   | rho = -0.255<br>p = 0.139              | rho = 0.184<br>p = 0.29                  | rho = 0.218<br>p = 0.207              |
| Soil Moisture Content (%)                                     | rho = -0.053<br>p = 0.761              | rho = -0.151<br>p = 0.387                | rho = -0.138<br>p = 0.43              |
| Soil pH (SU)                                                  | rho = 0.387<br>p = 0.022               | rho = -0.454<br>p = 0.006                | rho = -0.312<br>p = 0.068             |
| Soil Bulk Density (g/cc)                                      | rho = 0.032<br>p = 0.855               | rho = 0.172<br>p = 0.324                 | rho = 0.13<br>p = 0.455               |

|                                                     | Surface Water<br>Total Nitrogen (mg/L) | Surface Water Total<br>Phosphorus (µg/L) | Surface Water<br>Chlorophyll a (µg/L) |
|-----------------------------------------------------|----------------------------------------|------------------------------------------|---------------------------------------|
| Floc Methylmercury (ng/g)                           | rho = 0.225<br>p = 0.279               | rho = 0.252<br>p = 0.224                 | rho = -0.007<br>p = 0.972             |
| Floc Total Mercury (ng/g)                           | rho = -0.532<br>p = 0.006              | rho = -0.049<br>p = 0.815                | rho = 0.117<br>p = 0.578              |
| Floc Total Carbon (g/kg)                            | rho = -0.721<br>p = 0.019              | rho = 0.345<br>p = 0.328                 | rho = -0.394<br>p = 0.26              |
| Floc Total Nitrogen (g/kg)                          | rho = -0.648<br>p = 0.043              | rho = 0.333<br>p = 0.347                 | rho = -0.479<br>p = 0.162             |
| Floc Total Phosphorus (mg/kg)                       | rho = -0.915<br>p < 0.001              | rho = 0.636<br>p = 0.048                 | rho = -0.236<br>p = 0.511             |
| Floc Organic Matter (g/kg)                          | rho = -0.709<br>p = 0.022              | rho = 0.382<br>p = 0.276                 | rho = -0.467<br>p = 0.174             |
| Floc Chlorophyll a (mg/kg)                          | rho = 0.091<br>p = 0.803               | rho = 0.164<br>p = 0.651                 | rho = -0.188<br>p = 0.603             |
| Benthic Periphyton<br>Methylmercury (ng/g)          | rho = -0.119<br>p = 0.608              | rho = 0.32<br>p = 0.157                  | rho = -0.153<br>p = 0.508             |
| Benthic Periphyton<br>Total Mercury (ng/g)          | rho = -0.237<br>p = 0.302              | rho = 0.6<br>p = 0.004                   | rho = 0.143<br>p = 0.537              |
| Benthic Periphyton<br>Total Carbon (g/kg)           | rho = -0.136<br>p = 0.59               | rho = 0.377<br>p = 0.123                 | rho = 0.158<br>p = 0.531              |
| Benthic Periphyton<br>Total Nitrogen (g/kg)         | rho = -0.187<br>p = 0.458              | rho = 0.593<br>p = 0.01                  | rho = 0.156<br>p = 0.537              |
| Benthic Periphyton<br>Total Phosphorus (mg/kg)      | rho = -0.191<br>p = 0.448              | rho = 0.577<br>p = 0.012                 | rho = 0.267<br>p = 0.284              |
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho = -0.209<br>p = 0.391              | rho = 0.47<br>p = 0.042                  | rho = 0.26<br>p = 0.283               |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho = -0.495<br>p = 0.031              | rho = 0.432<br>p = 0.064                 | rho = 0.271<br>p = 0.261              |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = -0.091<br>p = 0.657              | rho = 0.355<br>p = 0.075                 | rho = 0.057<br>p = 0.784              |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = 0.123<br>p = 0.557               | rho = 0.267<br>p = 0.196                 | rho = -0.125<br>p = 0.551             |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = -0.442<br>p = 0.024              | rho = 0.35<br>p = 0.08                   | rho = 0.277<br>p = 0.17               |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = -0.124<br>p = 0.556              | rho = 0.163<br>p = 0.437                 | rho = 0.091<br>p = 0.666              |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = -0.297<br>p = 0.149              | rho = 0.454<br>p = 0.022                 | rho = 0.235<br>p = 0.259              |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = 0.225<br>p = 0.279               | rho = -0.056<br>p = 0.791                | rho = -0.092<br>p = 0.663             |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = -0.356<br>p = 0.08               | rho = 0.577<br>p = 0.003                 | rho = 0.248<br>p = 0.233              |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = 0.153<br>p = 0.465               | rho = 0.174<br>p = 0.406                 | rho = -0.044<br>p = 0.834             |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = -0.42<br>p = 0.037               | rho = 0.559<br>p = 0.004                 | rho = 0.529<br>p = 0.007              |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = -0.285<br>p = 0.167              | rho = 0.508<br>p = 0.009                 | rho = 0.386<br>p = 0.057              |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = -0.394<br>p = 0.051              | rho = 0.47<br>p = 0.018                  | rho = 0.248<br>p = 0.233              |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = -0.367<br>p = 0.071              | rho = 0.2<br>p = 0.339                   | rho = 0.405<br>p = 0.044              |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = 0.268<br>p = 0.195               | rho = -0.139<br>p = 0.507                | rho = -0.154<br>p = 0.461             |

|                                     | Surface Water<br>Total Nitrogen (mg/L) | Surface Water Total<br>Phosphorus (µg/L) | Surface Water<br>Chlorophyll a (µg/L) |
|-------------------------------------|----------------------------------------|------------------------------------------|---------------------------------------|
| Vegetation Total Carbon (g/kg)      | rho = -0.277<br>p = 0.212              | rho = 0.002<br>p = 0.992                 | rho = -0.275<br>p = 0.216             |
| Vegetation Total Nitrogen (g/kg)    | rho = -0.305<br>p = 0.167              | rho = -0.025<br>p = 0.913                | rho = -0.047<br>p = 0.834             |
| Vegetation Total Phosphorus (mg/kg) | rho = -0.168<br>p = 0.455              | rho = 0.163<br>p = 0.468                 | rho = -0.057<br>p = 0.801             |

|                                                            | Surface Water Chlorides (mg/L) | Surface Water Dissolved Organic Carbon (mg/L) | Surface Water Total Organic Carbon (mg/L) |
|------------------------------------------------------------|--------------------------------|-----------------------------------------------|-------------------------------------------|
| Surface Water Chlorides (mg/L)                             |                                |                                               |                                           |
| Surface Water Dissolved Organic Carbon (mg/L)              | rho=0.51<br>p=0.002            |                                               |                                           |
| Surface Water Total Organic Carbon (mg/L)                  | rho=0.512<br>p=0.002           | rho=0.94<br>p<0.001                           |                                           |
| Surface Water Dissolved Nitrite/Nitrate (mg/L)             | rho=0.13<br>p=0.457            | rho=-0.157<br>p=0.368                         | rho=-0.121<br>p=0.496                     |
| Surface Water Dissolved Nitrite (mg/L)                     | rho=0.154<br>p=0.379           | rho=0.204<br>p=0.241                          | rho=0.131<br>p=0.459                      |
| Surface Water Dissolved Nitrate (mg/L)                     | rho=0.082<br>p=0.639           | rho=0.057<br>p=0.745                          | rho=0.002<br>p=0.99                       |
| Surface Water Dissolved Ammonia (mg/L)                     | rho=0.399<br>p=0.018           | rho=0.127<br>p=0.469                          | rho=0.16<br>p=0.365                       |
| Surface Water Alkaline Phosphatase Activity (μMole/L/hour) | rho=0.253<br>p=0.143           | rho=0.072<br>p=0.682                          | rho=0.168<br>p=0.344                      |
| Soil Methylmercury (ng/g)                                  | rho=0.017<br>p=0.921           | rho=0.028<br>p=0.874                          | rho=0.084<br>p=0.638                      |
| Soil Methylmercury (ng/cc)                                 | rho=-0.01<br>p=0.957           | rho=-0.038<br>p=0.829                         | rho=-0.066<br>p=0.71                      |
| Soil Total Mercury (ng/g)                                  | rho=-0.026<br>p=0.882          | rho=-0.064<br>p=0.714                         | rho=-0.004<br>p=0.98                      |
| Soil Total Mercury (ng/cc)                                 | rho=-0.044<br>p=0.802          | rho=0.006<br>p=0.973                          | rho=-0.013<br>p=0.941                     |
| Soil Total Carbon (g/kg)                                   | rho=-0.022<br>p=0.899          | rho=-0.031<br>p=0.861                         | rho=0.08<br>p=0.654                       |
| Soil Total Carbon (mg/cc)                                  | rho=-0.002<br>p=0.992          | rho=0.031<br>p=0.859                          | rho=0.106<br>p=0.552                      |
| Soil Total Nitrogen (g/kg)                                 | rho=-0.117<br>p=0.505          | rho=-0.134<br>p=0.444                         | rho=-0.005<br>p=0.976                     |
| Soil Total Nitrogen (mg/cc)                                | rho=-0.137<br>p=0.432          | rho=-0.158<br>p=0.365                         | rho=-0.128<br>p=0.472                     |
| Soil Total Phosphorus (mg/kg)                              | rho=-0.301<br>p=0.079          | rho=-0.228<br>p=0.188                         | rho=-0.148<br>p=0.404                     |
| Soil Total Phosphorus (μg/cc)                              | rho=-0.291<br>p=0.089          | rho=-0.09<br>p=0.608                          | rho=-0.111<br>p=0.531                     |
| Soil Organic Matter (g/kg)                                 | rho=-0.103<br>p=0.555          | rho=-0.08<br>p=0.647                          | rho=0.014<br>p=0.935                      |
| Soil Organic Matter (mg/cc)                                | rho=-0.196<br>p=0.258          | rho=-0.03<br>p=0.863                          | rho=0.053<br>p=0.765                      |
| Soil Moisture Content (%)                                  | rho=-0.056<br>p=0.748          | rho=-0.07<br>p=0.688                          | rho=0.006<br>p=0.975                      |
| Soil pH(SU)                                                | rho=0.423<br>p=0.011           | rho=0.056<br>p=0.748                          | rho=-0.005<br>p=0.976                     |
| Soil Bulk Density(g/cc)                                    | rho=0.059<br>p=0.736           | rho=0.06<br>p=0.734                           | rho=-0.025<br>p=0.888                     |
| Floc Methylmercury (ng/g)                                  | rho=0.258<br>p=0.214           | rho=0.349<br>p=0.087                          | rho=0.283<br>p=0.181                      |
| Floc Total Mercury (ng/g)                                  | rho=-0.151<br>p=0.47           | rho=-0.287<br>p=0.164                         | rho=-0.421<br>p=0.04                      |
| Floc Total Carbon (g/kg)                                   | rho=-0.697<br>p=0.025          | rho=-0.887<br>p<0.001                         | rho=-0.762<br>p=0.01                      |
| Floc Total Nitrogen (g/kg)                                 | rho=-0.709<br>p=0.022          | rho=-0.856<br>p=0.002                         | rho=-0.675<br>p=0.032                     |

|                                                  | Surface Water Chlorides (mg/L) | Surface Water Dissolved Organic Carbon (mg/L) | Surface Water Total Organic Carbon (mg/L) |
|--------------------------------------------------|--------------------------------|-----------------------------------------------|-------------------------------------------|
| Floc Total Phosphorus (mg/kg)                    | rho = -0.83<br>p = 0.003       | rho = -0.762<br>p = 0.01                      | rho = -0.638<br>p = 0.047                 |
| Floc Organic Matter (g/kg)                       | rho = -0.733<br>p = 0.016      | rho = -0.856<br>p = 0.002                     | rho = -0.694<br>p = 0.026                 |
| Floc Chlorophyll a (mg/kg)                       | rho = -0.03<br>p = 0.934       | rho = -0.151<br>p = 0.677                     | rho = -0.18<br>p = 0.62                   |
| Benthic Periphyton Methylmercury (ng/g)          | rho = -0.083<br>p = 0.719      | rho = -0.077<br>p = 0.739                     | rho = 0.003<br>p = 0.99                   |
| Benthic Periphyton Total Mercury (ng/g)          | rho = -0.216<br>p = 0.347      | rho = 0.1<br>p = 0.665                        | rho = 0.183<br>p = 0.44                   |
| Benthic Periphyton Total Carbon (g/kg)           | rho = -0.295<br>p = 0.234      | rho = 0.036<br>p = 0.888                      | rho = 0.126<br>p = 0.631                  |
| Benthic Periphyton Total Nitrogen (g/kg)         | rho = -0.289<br>p = 0.245      | rho = 0.025<br>p = 0.921                      | rho = 0.089<br>p = 0.733                  |
| Benthic Periphyton Total Phosphorus (mg/kg)      | rho = -0.086<br>p = 0.735      | rho = 0.143<br>p = 0.571                      | rho = 0.196<br>p = 0.452                  |
| Benthic Periphyton Organic Matter (g/kg)         | rho = -0.259<br>p = 0.284      | rho = 0.031<br>p = 0.899                      | rho = 0.194<br>p = 0.44                   |
| Benthic Periphyton Chlorophyll a (mg/kg)         | rho = -0.524<br>p = 0.021      | rho = -0.244<br>p = 0.313                     | rho = -0.176<br>p = 0.484                 |
| Water Column Periphyton Methylmercury (ng/g)     | rho = -0.255<br>p = 0.208      | rho = -0.223<br>p = 0.273                     | rho = -0.143<br>p = 0.485                 |
| Water Column Periphyton Methylmercury (ng/cc)    | rho = -0.096<br>p = 0.647      | rho = -0.122<br>p = 0.561                     | rho = -0.137<br>p = 0.514                 |
| Water Column Periphyton Total Mercury (ng/g)     | rho = -0.226<br>p = 0.266      | rho = -0.277<br>p = 0.171                     | rho = -0.2<br>p = 0.328                   |
| Water Column Periphyton Total Mercury (ng/cc)    | rho = 0.131<br>p = 0.534       | rho = 0.028<br>p = 0.894                      | rho = -0.027<br>p = 0.898                 |
| Water Column Periphyton Total Carbon (g/kg)      | rho = -0.172<br>p = 0.412      | rho = -0.133<br>p = 0.525                     | rho = -0.004<br>p = 0.983                 |
| Water Column Periphyton Total Carbon (mg/cc)     | rho = 0.194<br>p = 0.352       | rho = 0.174<br>p = 0.406                      | rho = 0.089<br>p = 0.672                  |
| Water Column Periphyton Total Nitrogen (g/kg)    | rho = -0.249<br>p = 0.23       | rho = -0.187<br>p = 0.369                     | rho = -0.099<br>p = 0.639                 |
| Water Column Periphyton Total Nitrogen (mg/cc)   | rho = 0.034<br>p = 0.874       | rho = 0.082<br>p = 0.695                      | rho = 0.037<br>p = 0.862                  |
| Water Column Periphyton Total Phosphorus (mg/kg) | rho = -0.268<br>p = 0.195      | rho = -0.232<br>p = 0.264                     | rho = -0.209<br>p = 0.317                 |
| Water Column Periphyton Total Phosphorus (µg/cc) | rho = -0.206<br>p = 0.323      | rho = -0.179<br>p = 0.392                     | rho = -0.212<br>p = 0.31                  |
| Water Column Periphyton Organic Matter (g/kg)    | rho = -0.254<br>p = 0.22       | rho = -0.193<br>p = 0.356                     | rho = -0.09<br>p = 0.669                  |
| Water Column Periphyton Chlorophyll a (mg/kg)    | rho = -0.274<br>p = 0.185      | rho = -0.23<br>p = 0.268                      | rho = -0.156<br>p = 0.458                 |
| Water Column Periphyton Bulk Density (g/cc)      | rho = 0.156<br>p = 0.456       | rho = 0.155<br>p = 0.461                      | rho = 0.049<br>p = 0.817                  |
| Vegetation Total Carbon (g/kg)                   | rho = 0<br>p = 1               | rho = 0.042<br>p = 0.852                      | rho = 0.107<br>p = 0.645                  |
| Vegetation Total Nitrogen (g/kg)                 | rho = 0.019<br>p = 0.932       | rho = -0.145<br>p = 0.519                     | rho = -0.238<br>p = 0.299                 |
| Vegetation Total Phosphorus (mg/kg)              | rho = 0.106<br>p = 0.638       | rho = -0.043<br>p = 0.85                      | rho = -0.067<br>p = 0.774                 |

|                                                               | Surface Water Dissolved<br>Nitrite/Nitrate (mg/L) | Surface Water Dissolved<br>Nitrite (mg/L) | Surface Water Dissolved<br>Nitrate (mg/L) |
|---------------------------------------------------------------|---------------------------------------------------|-------------------------------------------|-------------------------------------------|
| Surface Water Dissolved<br>Nitrite/Nitrate (mg/L)             |                                                   |                                           |                                           |
| Surface Water Dissolved<br>Nitrite (mg/L)                     | rho =0.451<br>p =0.007                            |                                           |                                           |
| Surface Water Dissolved<br>Nitrate (mg/L)                     | rho =0.567<br>p <0.001                            | rho =0.144<br>p =0.409                    |                                           |
| Surface Water Dissolved<br>Ammonia (mg/L)                     | rho =0.57<br>p <0.001                             | rho =0.289<br>p =0.092                    | rho =0.381<br>p =0.024                    |
| Surface Water Alkaline<br>Phosphatase Activity (μMole/L/hour) | rho =0.433<br>p =0.009                            | rho =0.232<br>p =0.18                     | rho =0.255<br>p =0.14                     |
| Soil Methylmercury (ng/g)                                     | rho =-0.108<br>p =0.536                           | rho =0.023<br>p =0.894                    | rho =-0.165<br>p =0.344                   |
| Soil Methylmercury (ng/cc)                                    | rho =0.129<br>p =0.46                             | rho =0.174<br>p =0.318                    | rho =-0.025<br>p =0.887                   |
| Soil Total Mercury (ng/g)                                     | rho =-0.226<br>p =0.192                           | rho =-0.048<br>p =0.784                   | rho =-0.281<br>p =0.102                   |
| Soil Total Mercury (ng/cc)                                    | rho =-0.197<br>p =0.256                           | rho =0.067<br>p =0.703                    | rho =-0.389<br>p =0.021                   |
| Soil Total Carbon (g/kg)                                      | rho =-0.149<br>p =0.394                           | rho =-0.099<br>p =0.572                   | rho =-0.146<br>p =0.403                   |
| Soil Total Carbon (mg/cc)                                     | rho =0.08<br>p =0.648                             | rho =0.157<br>p =0.368                    | rho =-0.182<br>p =0.295                   |
| Soil Total Nitrogen (g/kg)                                    | rho =-0.176<br>p =0.313                           | rho =-0.099<br>p =0.571                   | rho =-0.228<br>p =0.188                   |
| Soil Total Nitrogen (mg/cc)                                   | rho =0.025<br>p =0.885                            | rho =0.14<br>p =0.424                     | rho =-0.268<br>p =0.12                    |
| Soil Total Phosphorus (mg/kg)                                 | rho =-0.33<br>p =0.053                            | rho =-0.134<br>p =0.442                   | rho =-0.325<br>p =0.056                   |
| Soil Total Phosphorus (μg/cc)                                 | rho =-0.012<br>p =0.947                           | rho =0.227<br>p =0.189                    | rho =-0.23<br>p =0.185                    |
| Soil Organic Matter (g/kg)                                    | rho =-0.247<br>p =0.153                           | rho =-0.173<br>p =0.321                   | rho =-0.194<br>p =0.265                   |
| Soil Organic Matter (mg/cc)                                   | rho =-0.246<br>p =0.154                           | rho =0.031<br>p =0.861                    | rho =-0.356<br>p =0.036                   |
| Soil Moisture Content (%)                                     | rho =-0.2<br>p =0.249                             | rho =-0.216<br>p =0.212                   | rho =-0.086<br>p =0.625                   |
| Soil pH (SU)                                                  | rho =0.198<br>p =0.255                            | rho =-0.101<br>p =0.564                   | rho =0.211<br>p =0.223                    |
| Soil Bulk Density (g/cc)                                      | rho =0.185<br>p =0.288                            | rho =0.231<br>p =0.182                    | rho =0.073<br>p =0.679                    |
| Floc Methylmercury (ng/g)                                     | rho =0.02<br>p =0.923                             | rho =0.155<br>p =0.461                    | rho =0.116<br>p =0.58                     |
| Floc Total Mercury (ng/g)                                     | rho =0.231<br>p =0.267                            | rho =0.383<br>p =0.059                    | rho =-0.181<br>p =0.387                   |
| Floc Total Carbon (g/kg)                                      | rho =0.276<br>p =0.44                             | rho =-0.106<br>p =0.77                    | rho =0.112<br>p =0.758                    |
| Floc Total Nitrogen (g/kg)                                    | rho =0.261<br>p =0.466                            | rho =-0.094<br>p =0.797                   | rho =-0.022<br>p =0.951                   |
| Floc Total Phosphorus (mg/kg)                                 | rho =0.395<br>p =0.258                            | rho =0.238<br>p =0.509                    | rho =-0.037<br>p =0.919                   |
| Floc Organic Matter (g/kg)                                    | rho =0.261<br>p =0.466                            | rho =-0.094<br>p =0.797                   | rho =-0.022<br>p =0.951                   |
| Floc Chlorophyll a (mg/kg)                                    | rho =-0.38<br>p =0.278                            | rho =-0.419<br>p =0.228                   | rho =-0.186<br>p =0.606                   |

|                                                     | Surface Water Dissolved<br>Nitrite/Nitrate (mg/L) | Surface Water Dissolved<br>Nitrite (mg/L) | Surface Water Dissolved<br>Nitrate (mg/L) |
|-----------------------------------------------------|---------------------------------------------------|-------------------------------------------|-------------------------------------------|
| Benthic Periphyton<br>Methylmercury (ng/g)          | rho=0.122<br>p=0.599                              | rho=-0.174<br>p=0.451                     | rho=0.139<br>p=0.548                      |
| Benthic Periphyton<br>Total Mercury (ng/g)          | rho=-0.343<br>p=0.128                             | rho=-0.139<br>p=0.549                     | rho=-0.327<br>p=0.148                     |
| Benthic Periphyton<br>Total Carbon (g/kg)           | rho=-0.092<br>p=0.715                             | rho=0.185<br>p=0.463                      | rho=0.167<br>p=0.508                      |
| Benthic Periphyton<br>Total Nitrogen (g/kg)         | rho=-0.178<br>p=0.481                             | rho=0.326<br>p=0.186                      | rho=-0.078<br>p=0.76                      |
| Benthic Periphyton<br>Total Phosphorus (mg/kg)      | rho=-0.512<br>p=0.03                              | rho=0.061<br>p=0.809                      | rho=-0.445<br>p=0.064                     |
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho=-0.085<br>p=0.731                             | rho=0.209<br>p=0.39                       | rho=0.047<br>p=0.849                      |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho=-0.06<br>p=0.806                              | rho=-0.119<br>p=0.627                     | rho=0.063<br>p=0.798                      |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho=0.178<br>p=0.385                              | rho=0.108<br>p=0.599                      | rho=0.1<br>p=0.628                        |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho=0.38<br>p=0.061                               | rho=0.155<br>p=0.46                       | rho=0.143<br>p=0.497                      |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho=-0.336<br>p=0.093                             | rho=-0.112<br>p=0.587                     | rho=-0.178<br>p=0.384                     |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho=-0.133<br>p=0.525                             | rho=-0.085<br>p=0.687                     | rho=-0.022<br>p=0.918                     |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho=-0.181<br>p=0.385                             | rho=0.121<br>p=0.565                      | rho=-0.186<br>p=0.375                     |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho=0.09<br>p=0.668                               | rho=-0.119<br>p=0.571                     | rho=0.149<br>p=0.476                      |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho=-0.214<br>p=0.303                             | rho=0.124<br>p=0.555                      | rho=-0.209<br>p=0.317                     |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho=0.002<br>p=0.991                              | rho=-0.193<br>p=0.356                     | rho=0.075<br>p=0.723                      |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho=-0.4<br>p=0.047                               | rho=0.096<br>p=0.649                      | rho=-0.365<br>p=0.073                     |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho=-0.196<br>p=0.348                             | rho=-0.022<br>p=0.917                     | rho=-0.098<br>p=0.642                     |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho=-0.211<br>p=0.312                             | rho=0.093<br>p=0.658                      | rho=-0.199<br>p=0.339                     |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho=-0.336<br>p=0.101                             | rho=-0.157<br>p=0.455                     | rho=-0.148<br>p=0.48                      |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho=0.164<br>p=0.432                              | rho=-0.093<br>p=0.657                     | rho=0.193<br>p=0.354                      |
| Vegetation Total Carbon (g/kg)                      | rho=0.36<br>p=0.1                                 | rho=0.202<br>p=0.367                      | rho=0.027<br>p=0.904                      |
| Vegetation Total Nitrogen (g/kg)                    | rho=0.085<br>p=0.705                              | rho=0.142<br>p=0.527                      | rho=0.093<br>p=0.68                       |
| Vegetation Total Phosphorus (mg/kg)                 | rho=-0.117<br>p=0.603                             | rho=0.156<br>p=0.487                      | rho=-0.043<br>p=0.85                      |

|                                                            | Surface Water Dissolved Ammonia (mg/L) | Surface Water Alkaline Phosphatase Activity (μMole/L/hour) | Soil Methylmercury (ng/g) |
|------------------------------------------------------------|----------------------------------------|------------------------------------------------------------|---------------------------|
| Surface Water Dissolved Ammonia (mg/L)                     |                                        |                                                            |                           |
| Surface Water Alkaline Phosphatase Activity (μMole/L/hour) | rho = 0.211<br>p = 0.225               |                                                            |                           |
| Soil Methylmercury (ng/g)                                  | rho = 0.087<br>p = 0.618               | rho = -0.292<br>p = 0.089                                  |                           |
| Soil Methylmercury (ng/cc)                                 | rho = -0.141<br>p = 0.42               | rho = 0.232<br>p = 0.179                                   | rho = 0.51<br>p = 0.001   |
| Soil Total Mercury (ng/g)                                  | rho = 0.004<br>p = 0.981               | rho = -0.35<br>p = 0.039                                   | rho = 0.722<br>p < 0.001  |
| Soil Total Mercury (ng/cc)                                 | rho = -0.331<br>p = 0.052              | rho = -0.037<br>p = 0.831                                  | rho = 0.456<br>p = 0.004  |
| Soil Total Carbon (g/kg)                                   | rho = 0.098<br>p = 0.574               | rho = -0.397<br>p = 0.018                                  | rho = 0.58<br>p < 0.001   |
| Soil Total Carbon (mg/cc)                                  | rho = -0.369<br>p = 0.029              | rho = 0.328<br>p = 0.055                                   | rho = -0.185<br>p = 0.266 |
| Soil Total Nitrogen (g/kg)                                 | rho = -0.003<br>p = 0.987              | rho = -0.346<br>p = 0.042                                  | rho = 0.569<br>p < 0.001  |
| Soil Total Nitrogen (mg/cc)                                | rho = -0.411<br>p = 0.014              | rho = 0.297<br>p = 0.083                                   | rho = -0.172<br>p = 0.302 |
| Soil Total Phosphorus (mg/kg)                              | rho = -0.316<br>p = 0.064              | rho = -0.547<br>p < 0.001                                  | rho = 0.495<br>p = 0.002  |
| Soil Total Phosphorus (μg/cc)                              | rho = -0.463<br>p = 0.005              | rho = -0.174<br>p = 0.317                                  | rho = -0.18<br>p = 0.28   |
| Soil Organic Matter (g/kg)                                 | rho = 0.024<br>p = 0.891               | rho = -0.489<br>p = 0.003                                  | rho = 0.63<br>p < 0.001   |
| Soil Organic Matter (mg/cc)                                | rho = -0.267<br>p = 0.121              | rho = -0.211<br>p = 0.224                                  | rho = 0.43<br>p = 0.007   |
| Soil Moisture Content (%)                                  | rho = 0.134<br>p = 0.442               | rho = -0.489<br>p = 0.003                                  | rho = 0.609<br>p < 0.001  |
| Soil pH (SU)                                               | rho = 0.127<br>p = 0.469               | rho = 0.25<br>p = 0.147                                    | rho = -0.309<br>p = 0.059 |
| Soil Bulk Density (g/cc)                                   | rho = -0.155<br>p = 0.375              | rho = 0.472<br>p = 0.004                                   | rho = -0.592<br>p < 0.001 |
| Floc Methylmercury (ng/g)                                  | rho = -0.01<br>p = 0.963               | rho = 0.059<br>p = 0.781                                   | rho = 0.057<br>p = 0.785  |
| Floc Total Mercury (ng/g)                                  | rho = 0.3<br>p = 0.145                 | rho = -0.252<br>p = 0.225                                  | rho = 0.228<br>p = 0.273  |
| Floc Total Carbon (g/kg)                                   | rho = -0.03<br>p = 0.934               | rho = -0.297<br>p = 0.405                                  | rho = 0.365<br>p = 0.3    |
| Floc Total Nitrogen (g/kg)                                 | rho = 0.03<br>p = 0.934                | rho = -0.309<br>p = 0.385                                  | rho = 0.359<br>p = 0.309  |
| Floc Total Phosphorus (mg/kg)                              | rho = -0.236<br>p = 0.511              | rho = -0.345<br>p = 0.328                                  | rho = 0.316<br>p = 0.374  |
| Floc Organic Matter (g/kg)                                 | rho = -0.067<br>p = 0.855              | rho = -0.37<br>p = 0.293                                   | rho = 0.34<br>p = 0.336   |
| Floc Chlorophyll a (mg/kg)                                 | rho = -0.115<br>p = 0.751              | rho = -0.03<br>p = 0.934                                   | rho = -0.28<br>p = 0.434  |
| Benthic Periphyton Methylmercury (ng/g)                    | rho = -0.101<br>p = 0.664              | rho = 0.348<br>p = 0.122                                   | rho = 0.229<br>p = 0.282  |
| Benthic Periphyton Total Mercury (ng/g)                    | rho = -0.317<br>p = 0.162              | rho = 0.071<br>p = 0.758                                   | rho = -0.049<br>p = 0.821 |
| Benthic Periphyton Total Carbon (g/kg)                     | rho = 0.259<br>p = 0.299               | rho = 0.078<br>p = 0.757                                   | rho = 0.274<br>p = 0.23   |
| Benthic Periphyton Total Nitrogen (g/kg)                   | rho = 0.218<br>p = 0.385               | rho = 0.165<br>p = 0.512                                   | rho = 0.048<br>p = 0.836  |
| Benthic Periphyton Total Phosphorus (mg/kg)                | rho = -0.166<br>p = 0.51               | rho = 0.045<br>p = 0.858                                   | rho = -0.062<br>p = 0.788 |

|                                                     | Surface Water Dissolved<br>Ammonia (mg/L) | Surface Water Alkaline<br>Phosphatase Activity (μMole/L/hour) | Soil Methylmercury (ng/g) |
|-----------------------------------------------------|-------------------------------------------|---------------------------------------------------------------|---------------------------|
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho = 0.184<br>p = 0.45                   | rho = 0.212<br>p = 0.383                                      | rho = 0.16<br>p = 0.477   |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho = -0.257<br>p = 0.288                 | rho = 0.285<br>p = 0.236                                      | rho = 0.036<br>p = 0.875  |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = 0.085<br>p = 0.678                  | rho = 0.186<br>p = 0.362                                      | rho = -0.109<br>p = 0.58  |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = 0.027<br>p = 0.897                  | rho = 0.363<br>p = 0.074                                      | rho = -0.337<br>p = 0.085 |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = -0.208<br>p = 0.309                 | rho = -0.295<br>p = 0.144                                     | rho = -0.184<br>p = 0.349 |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = -0.096<br>p = 0.648                 | rho = -0.191<br>p = 0.36                                      | rho = -0.379<br>p = 0.051 |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = -0.167<br>p = 0.426                 | rho = -0.117<br>p = 0.579                                     | rho = -0.06<br>p = 0.767  |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = -0.143<br>p = 0.496                 | rho = 0.184<br>p = 0.379                                      | rho = -0.258<br>p = 0.193 |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = -0.228<br>p = 0.274                 | rho = -0.113<br>p = 0.592                                     | rho = -0.026<br>p = 0.897 |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = -0.175<br>p = 0.402                 | rho = 0.102<br>p = 0.628                                      | rho = -0.242<br>p = 0.214 |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = -0.408<br>p = 0.043                 | rho = -0.268<br>p = 0.196                                     | rho = -0.133<br>p = 0.509 |
| Water Column Periphyton<br>Total Phosphorus (μg/cc) | rho = -0.458<br>p = 0.021                 | rho = -0.304<br>p = 0.139                                     | rho = -0.362<br>p = 0.063 |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = -0.298<br>p = 0.148                 | rho = -0.143<br>p = 0.496                                     | rho = -0.031<br>p = 0.88  |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = -0.352<br>p = 0.084                 | rho = -0.295<br>p = 0.153                                     | rho = 0.1<br>p = 0.619    |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.09<br>p = 0.668                  | rho = 0.189<br>p = 0.365                                      | rho = -0.205<br>p = 0.304 |
| Vegetation Total Carbon (g/kg)                      | rho = 0.503<br>p = 0.017                  | rho = 0<br>p = 1                                              | rho = -0.001<br>p = 0.997 |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.361<br>p = 0.098                  | rho = -0.082<br>p = 0.717                                     | rho = 0.321<br>p = 0.118  |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.259<br>p = 0.244                  | rho = -0.552<br>p = 0.008                                     | rho = 0.357<br>p = 0.08   |

|                                             | Soil Methylmercury (ng/cc) | Soil Total Mercury (ng/g) | Soil Total Mercury (ng/cc) |
|---------------------------------------------|----------------------------|---------------------------|----------------------------|
| Soil Methylmercury (ng/cc)                  |                            |                           |                            |
| Soil Total Mercury (ng/g)                   | rho = 0.064<br>p = 0.704   |                           |                            |
| Soil Total Mercury (ng/cc)                  | rho = 0.529<br>p < 0.001   | rho = 0.638<br>p < 0.001  |                            |
| Soil Total Carbon (g/kg)                    | rho = -0.288<br>p = 0.079  | rho = 0.754<br>p < 0.001  | rho = 0.112<br>p = 0.505   |
| Soil Total Carbon (mg/cc)                   | rho = 0.253<br>p = 0.126   | rho = -0.232<br>p = 0.161 | rho = 0.259<br>p = 0.117   |
| Soil Total Nitrogen (g/kg)                  | rho = -0.224<br>p = 0.177  | rho = 0.797<br>p < 0.001  | rho = 0.212<br>p = 0.2     |
| Soil Total Nitrogen (mg/cc)                 | rho = 0.26<br>p = 0.115    | rho = -0.064<br>p = 0.704 | rho = 0.392<br>p = 0.015   |
| Soil Total Phosphorus (mg/kg)               | rho = -0.172<br>p = 0.302  | rho = 0.675<br>p < 0.001  | rho = 0.196<br>p = 0.239   |
| Soil Total Phosphorus (μg/cc)               | rho = 0.099<br>p = 0.553   | rho = -0.194<br>p = 0.244 | rho = 0.04<br>p = 0.81     |
| Soil Organic Matter (g/kg)                  | rho = -0.236<br>p = 0.154  | rho = 0.824<br>p < 0.001  | rho = 0.177<br>p = 0.286   |
| Soil Organic Matter (mg/cc)                 | rho = 0.091<br>p = 0.588   | rho = 0.641<br>p < 0.001  | rho = 0.523<br>p < 0.001   |
| Soil Moisture Content (%)                   | rho = -0.292<br>p = 0.076  | rho = 0.762<br>p < 0.001  | rho = 0.048<br>p = 0.774   |
| Soil pH (SU)                                | rho = 0.195<br>p = 0.242   | rho = -0.532<br>p < 0.001 | rho = -0.239<br>p = 0.148  |
| Soil Bulk Density (g/cc)                    | rho = 0.312<br>p = 0.057   | rho = -0.751<br>p < 0.001 | rho = -0.032<br>p = 0.85   |
| Floc Methylmercury (ng/g)                   | rho = 0.052<br>p = 0.804   | rho = -0.213<br>p = 0.306 | rho = -0.319<br>p = 0.12   |
| Floc Total Mercury (ng/g)                   | rho = 0.042<br>p = 0.842   | rho = 0.398<br>p = 0.049  | rho = 0.308<br>p = 0.134   |
| Floc Total Carbon (g/kg)                    | rho = -0.328<br>p = 0.354  | rho = 0.503<br>p = 0.138  | rho = -0.03<br>p = 0.934   |
| Floc Total Nitrogen (g/kg)                  | rho = -0.322<br>p = 0.364  | rho = 0.479<br>p = 0.162  | rho = -0.103<br>p = 0.777  |
| Floc Total Phosphorus (mg/kg)               | rho = -0.146<br>p = 0.688  | rho = 0.515<br>p = 0.128  | rho = 0.055<br>p = 0.881   |
| Floc Organic Matter (g/kg)                  | rho = -0.353<br>p = 0.318  | rho = 0.515<br>p = 0.128  | rho = -0.018<br>p = 0.96   |
| Floc Chlorophyll a (mg/kg)                  | rho = -0.511<br>p = 0.132  | rho = -0.139<br>p = 0.701 | rho = -0.018<br>p = 0.96   |
| Benthic Periphyton Methylmercury (ng/g)     | rho = -0.06<br>p = 0.78    | rho = 0.344<br>p = 0.1    | rho = 0.125<br>p = 0.562   |
| Benthic Periphyton Total Mercury (ng/g)     | rho = -0.274<br>p = 0.195  | rho = 0.307<br>p = 0.145  | rho = 0.311<br>p = 0.139   |
| Benthic Periphyton Total Carbon (g/kg)      | rho = -0.21<br>p = 0.361   | rho = 0.579<br>p = 0.006  | rho = 0.274<br>p = 0.229   |
| Benthic Periphyton Total Nitrogen (g/kg)    | rho = -0.284<br>p = 0.212  | rho = 0.449<br>p = 0.041  | rho = 0.309<br>p = 0.173   |
| Benthic Periphyton Total Phosphorus (mg/kg) | rho = -0.365<br>p = 0.104  | rho = 0.381<br>p = 0.089  | rho = 0.343<br>p = 0.128   |
| Benthic Periphyton Organic Matter (g/kg)    | rho = -0.278<br>p = 0.211  | rho = 0.464<br>p = 0.03   | rho = 0.197<br>p = 0.379   |
| Benthic Periphyton Chlorophyll a (mg/kg)    | rho = -0.122<br>p = 0.587  | rho = 0.365<br>p = 0.095  | rho = 0.209<br>p = 0.351   |

|                                                     | Soil Methylmercury (ng/cc) | Soil Total Mercury (ng/g) | Soil Total Mercury (ng/cc) |
|-----------------------------------------------------|----------------------------|---------------------------|----------------------------|
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = -0.3<br>p = 0.121    | rho = 0.23<br>p = 0.239   | rho = 0.021<br>p = 0.914   |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = -0.134<br>p = 0.507  | rho = -0.218<br>p = 0.274 | rho = -0.103<br>p = 0.611  |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = -0.431<br>p = 0.022  | rho = 0.029<br>p = 0.885  | rho = -0.175<br>p = 0.373  |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = -0.239<br>p = 0.229  | rho = -0.55<br>p = 0.003  | rho = -0.462<br>p = 0.015  |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = -0.366<br>p = 0.061  | rho = 0.323<br>p = 0.1    | rho = 0.091<br>p = 0.653   |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = 0.181<br>p = 0.368   | rho = -0.557<br>p = 0.003 | rho = -0.178<br>p = 0.374  |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = -0.37<br>p = 0.053   | rho = 0.38<br>p = 0.046   | rho = 0.151<br>p = 0.443   |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = 0.048<br>p = 0.808   | rho = -0.35<br>p = 0.068  | rho = -0.089<br>p = 0.653  |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = -0.276<br>p = 0.163  | rho = 0.214<br>p = 0.283  | rho = 0.118<br>p = 0.558   |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = -0.181<br>p = 0.368  | rho = -0.25<br>p = 0.208  | rho = -0.109<br>p = 0.587  |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = -0.324<br>p = 0.099  | rho = 0.359<br>p = 0.066  | rho = 0.16<br>p = 0.425    |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = -0.294<br>p = 0.136  | rho = 0.496<br>p = 0.008  | rho = 0.145<br>p = 0.47    |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = 0.242<br>p = 0.224   | rho = -0.537<br>p = 0.004 | rho = -0.168<br>p = 0.403  |
| Vegetation Total Carbon (g/kg)                      | rho = 0.101<br>p = 0.632   | rho = -0.12<br>p = 0.566  | rho = 0.179<br>p = 0.393   |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.081<br>p = 0.701   | rho = 0.239<br>p = 0.249  | rho = 0.029<br>p = 0.89    |
| Vegetation Total Phosphorus (mg/kg)                 | rho = -0.258<br>p = 0.213  | rho = 0.608<br>p = 0.001  | rho = 0.1<br>p = 0.634     |

|                                               | Soil Total Carbon (g/kg)  | Soil Total Carbon (mg/cc) | Soil Total Nitrogen (g/kg) |
|-----------------------------------------------|---------------------------|---------------------------|----------------------------|
| Soil Total Carbon (g/kg)                      |                           |                           |                            |
| Soil Total Carbon (mg/cc)                     | rho = -0.152<br>p = 0.363 |                           |                            |
| Soil Total Nitrogen (g/kg)                    | rho = 0.934<br>p < 0.001  | rho = -0.112<br>p = 0.501 |                            |
| Soil Total Nitrogen (mg/cc)                   | rho = -0.167<br>p = 0.317 | rho = 0.807<br>p < 0.001  | rho = 0.051<br>p = 0.761   |
| Soil Total Phosphorus (mg/kg)                 | rho = 0.734<br>p < 0.001  | rho = -0.282<br>p = 0.086 | rho = 0.779<br>p < 0.001   |
| Soil Total Phosphorus (µg/cc)                 | rho = -0.22<br>p = 0.184  | rho = 0.23<br>p = 0.165   | rho = -0.097<br>p = 0.563  |
| Soil Organic Matter (g/kg)                    | rho = 0.943<br>p < 0.001  | rho = -0.325<br>p = 0.046 | rho = 0.945<br>p < 0.001   |
| Soil Organic Matter (mg/cc)                   | rho = 0.533<br>p < 0.001  | rho = 0.195<br>p = 0.242  | rho = 0.675<br>p < 0.001   |
| Soil Moisture Content (%)                     | rho = 0.937<br>p < 0.001  | rho = -0.422<br>p = 0.008 | rho = 0.904<br>p < 0.001   |
| Soil pH(SU)                                   | rho = -0.561<br>p < 0.001 | rho = 0.069<br>p = 0.681  | rho = -0.583<br>p < 0.001  |
| Soil Bulk Density (g/cc)                      | rho = -0.936<br>p < 0.001 | rho = 0.436<br>p = 0.006  | rho = -0.892<br>p < 0.001  |
| Floc Methylmercury (ng/g)                     | rho = -0.008<br>p = 0.968 | rho = -0.259<br>p = 0.211 | rho = -0.112<br>p = 0.594  |
| Floc Total Mercury (ng/g)                     | rho = 0.155<br>p = 0.461  | rho = -0.078<br>p = 0.712 | rho = 0.319<br>p = 0.12    |
| Floc Total Carbon (g/kg)                      | rho = 0.782<br>p = 0.008  | rho = -0.491<br>p = 0.15  | rho = 0.806<br>p = 0.005   |
| Floc Total Nitrogen (g/kg)                    | rho = 0.806<br>p = 0.005  | rho = -0.515<br>p = 0.128 | rho = 0.818<br>p = 0.004   |
| Floc Total Phosphorus (mg/kg)                 | rho = 0.636<br>p = 0.048  | rho = -0.273<br>p = 0.446 | rho = 0.673<br>p = 0.033   |
| Floc Organic Matter (g/kg)                    | rho = 0.794<br>p = 0.006  | rho = -0.455<br>p = 0.187 | rho = 0.83<br>p = 0.003    |
| Floc Chlorophyll a (mg/kg)                    | rho = -0.03<br>p = 0.934  | rho = 0.079<br>p = 0.829  | rho = 0.103<br>p = 0.777   |
| Benthic Periphyton Methylmercury (ng/g)       | rho = 0.281<br>p = 0.184  | rho = -0.229<br>p = 0.281 | rho = 0.42<br>p = 0.041    |
| Benthic Periphyton Total Mercury (ng/g)       | rho = 0.326<br>p = 0.12   | rho = 0.29<br>p = 0.17    | rho = 0.424<br>p = 0.039   |
| Benthic Periphyton Total Carbon (g/kg)        | rho = 0.655<br>p = 0.001  | rho = -0.052<br>p = 0.823 | rho = 0.595<br>p = 0.004   |
| Benthic Periphyton Total Nitrogen (g/kg)      | rho = 0.386<br>p = 0.084  | rho = 0.129<br>p = 0.579  | rho = 0.442<br>p = 0.045   |
| Benthic Periphyton Total Phosphorus (mg/kg)   | rho = 0.262<br>p = 0.251  | rho = 0.19<br>p = 0.41    | rho = 0.391<br>p = 0.08    |
| Benthic Periphyton Organic Matter (g/kg)      | rho = 0.549<br>p = 0.008  | rho = -0.01<br>p = 0.966  | rho = 0.522<br>p = 0.013   |
| Benthic Periphyton Chlorophyll a (mg/kg)      | rho = 0.382<br>p = 0.08   | rho = -0.054<br>p = 0.813 | rho = 0.474<br>p = 0.026   |
| Water Column Periphyton Methylmercury (ng/g)  | rho = 0.302<br>p = 0.118  | rho = -0.056<br>p = 0.776 | rho = 0.265<br>p = 0.173   |
| Water Column Periphyton Methylmercury (ng/cc) | rho = -0.15<br>p = 0.454  | rho = 0.213<br>p = 0.286  | rho = -0.168<br>p = 0.401  |

|                                                     | Soil Total Carbon (g/kg) | Soil Total Carbon (mg/cc) | Soil Total Nitrogen (g/kg) |
|-----------------------------------------------------|--------------------------|---------------------------|----------------------------|
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho=0.187<br>p=0.34      | rho=-0.086<br>p=0.663     | rho=0.204<br>p=0.297       |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho=-0.311<br>p=0.114    | rho=0.105<br>p=0.601      | rho=-0.331<br>p=0.092      |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho=0.433<br>p=0.024     | rho=0.058<br>p=0.775      | rho=0.469<br>p=0.014       |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho=-0.568<br>p=0.002    | rho=0.143<br>p=0.477      | rho=-0.575<br>p=0.002      |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho=0.421<br>p=0.026     | rho=-0.002<br>p=0.991     | rho=0.484<br>p=0.009       |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho=-0.442<br>p=0.018    | rho=0.012<br>p=0.95       | rho=-0.444<br>p=0.018      |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho=0.162<br>p=0.42      | rho=0.009<br>p=0.964      | rho=0.217<br>p=0.276       |
| Water Column Periphyton<br>Total Phosphorus (μg/cc) | rho=-0.291<br>p=0.141    | rho=0.022<br>p=0.912      | rho=-0.239<br>p=0.229      |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho=0.485<br>p=0.01      | rho=0.187<br>p=0.351      | rho=0.54<br>p=0.004        |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho=0.574<br>p=0.002     | rho=-0.07<br>p=0.729      | rho=0.556<br>p=0.003       |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho=-0.586<br>p=0.001    | rho=0.083<br>p=0.681      | rho=-0.588<br>p=0.001      |
| Vegetation Total Carbon (g/kg)                      | rho=-0.246<br>p=0.236    | rho=0.141<br>p=0.501      | rho=-0.193<br>p=0.356      |
| Vegetation Total Nitrogen (g/kg)                    | rho=0.205<br>p=0.325     | rho=-0.004<br>p=0.984     | rho=0.249<br>p=0.23        |
| Vegetation Total Phosphorus (mg/kg)                 | rho=0.576<br>p=0.003     | rho=-0.351<br>p=0.085     | rho=0.542<br>p=0.005       |

|                                               | Soil Total Nitrogen (mg/cc) | Soil Total Phosphorus (mg/kg) | Soil Total Phosphorus (µg/cc) |
|-----------------------------------------------|-----------------------------|-------------------------------|-------------------------------|
| Soil Total Nitrogen (mg/cc)                   |                             |                               |                               |
| Soil Total Phosphorus (mg/kg)                 | rho = -0.112<br>p = 0.504   |                               |                               |
| Soil Total Phosphorus (µg/cc)                 | rho = 0.382<br>p = 0.018    | rho = 0.308<br>p = 0.06       |                               |
| Soil Organic Matter (g/kg)                    | rho = -0.204<br>p = 0.219   | rho = 0.853<br>p < 0.001      | rho = -0.124<br>p = 0.46      |
| Soil Organic Matter (mg/cc)                   | rho = 0.419<br>p = 0.009    | rho = 0.651<br>p < 0.001      | rho = 0.292<br>p = 0.075      |
| Soil Moisture Content (%)                     | rho = -0.352<br>p = 0.03    | rho = 0.766<br>p < 0.001      | rho = -0.261<br>p = 0.113     |
| Soil pH (SU)                                  | rho = -0.035<br>p = 0.836   | rho = -0.631<br>p < 0.001     | rho = -0.162<br>p = 0.332     |
| Soil Bulk Density (g/cc)                      | rho = 0.38<br>p = 0.019     | rho = -0.757<br>p < 0.001     | rho = 0.284<br>p = 0.085      |
| Floc Methylmercury (ng/g)                     | rho = -0.326<br>p = 0.112   | rho = 0.06<br>p = 0.775       | rho = 0.156<br>p = 0.457      |
| Floc Total Mercury (ng/g)                     | rho = 0.224<br>p = 0.282    | rho = 0.313<br>p = 0.128      | rho = 0.196<br>p = 0.347      |
| Floc Total Carbon (g/kg)                      | rho = 0.224<br>p = 0.533    | rho = 0.661<br>p = 0.038      | rho = 0.188<br>p = 0.603      |
| Floc Total Nitrogen (g/kg)                    | rho = 0.176<br>p = 0.627    | rho = 0.624<br>p = 0.054      | rho = 0.176<br>p = 0.627      |
| Floc Total Phosphorus (mg/kg)                 | rho = 0.273<br>p = 0.446    | rho = 0.661<br>p = 0.038      | rho = 0.394<br>p = 0.26       |
| Floc Organic Matter (g/kg)                    | rho = 0.261<br>p = 0.467    | rho = 0.673<br>p = 0.033      | rho = 0.261<br>p = 0.467      |
| Floc Chlorophyll a (mg/kg)                    | rho = 0.648<br>p = 0.043    | rho = -0.091<br>p = 0.803     | rho = 0.2<br>p = 0.58         |
| Benthic Periphyton Methylmercury (ng/g)       | rho = 0.025<br>p = 0.908    | rho = 0.477<br>p = 0.018      | rho = 0<br>p = 0.998          |
| Benthic Periphyton Total Mercury (ng/g)       | rho = 0.426<br>p = 0.038    | rho = 0.351<br>p = 0.092      | rho = -0.028<br>p = 0.897     |
| Benthic Periphyton Total Carbon (g/kg)        | rho = 0.045<br>p = 0.845    | rho = 0.334<br>p = 0.139      | rho = -0.458<br>p = 0.037     |
| Benthic Periphyton Total Nitrogen (g/kg)      | rho = 0.326<br>p = 0.149    | rho = 0.217<br>p = 0.345      | rho = -0.177<br>p = 0.444     |
| Benthic Periphyton Total Phosphorus (mg/kg)   | rho = 0.479<br>p = 0.028    | rho = 0.301<br>p = 0.184      | rho = 0.114<br>p = 0.622      |
| Benthic Periphyton Organic Matter (g/kg)      | rho = 0.125<br>p = 0.58     | rho = 0.301<br>p = 0.174      | rho = -0.287<br>p = 0.195     |
| Benthic Periphyton Chlorophyll a (mg/kg)      | rho = 0.159<br>p = 0.479    | rho = 0.48<br>p = 0.024       | rho = -0.015<br>p = 0.948     |
| Water Column Periphyton Methylmercury (ng/g)  | rho = -0.032<br>p = 0.87    | rho = 0.252<br>p = 0.195      | rho = 0.04<br>p = 0.84        |
| Water Column Periphyton Methylmercury (ng/cc) | rho = 0.119<br>p = 0.555    | rho = -0.178<br>p = 0.374     | rho = 0.22<br>p = 0.269       |
| Water Column Periphyton Total Mercury (ng/g)  | rho = -0.034<br>p = 0.862   | rho = 0.436<br>p = 0.02       | rho = 0.243<br>p = 0.213      |
| Water Column Periphyton Total Mercury (ng/cc) | rho = -0.063<br>p = 0.753   | rho = 0.155<br>p = 0.44       | rho = 0.287<br>p = 0.147      |
| Water Column Periphyton Total Carbon (g/kg)   | rho = 0.223<br>p = 0.265    | rho = 0.525<br>p = 0.005      | rho = 0.174<br>p = 0.385      |
| Water Column Periphyton Total Carbon (mg/cc)  | rho = 0.004<br>p = 0.986    | rho = -0.509<br>p = 0.007     | rho = 0.052<br>p = 0.796      |

|                                                     | Soil Total Nitrogen (mg/cc) | Soil Total Phosphorus (mg/kg) | Soil Total Phosphorus (µg/cc) |
|-----------------------------------------------------|-----------------------------|-------------------------------|-------------------------------|
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = 0.206<br>p = 0.293    | rho = 0.508<br>p = 0.006      | rho = 0.183<br>p = 0.35       |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = -0.073<br>p = 0.712   | rho = -0.357<br>p = 0.062     | rho = -0.031<br>p = 0.877     |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.151<br>p = 0.451    | rho = 0.48<br>p = 0.011       | rho = 0.458<br>p = 0.016      |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = 0.004<br>p = 0.986    | rho = 0.103<br>p = 0.609      | rho = 0.561<br>p = 0.002      |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.361<br>p = 0.064    | rho = 0.535<br>p = 0.004      | rho = 0.211<br>p = 0.29       |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0<br>p = 1            | rho = 0.741<br>p < 0.001      | rho = 0.14<br>p = 0.485       |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.048<br>p = 0.812   | rho = -0.539<br>p = 0.004     | rho = 0.034<br>p = 0.868      |
| Vegetation Total Carbon (g/kg)                      | rho = 0.158<br>p = 0.451    | rho = -0.33<br>p = 0.107      | rho = -0.184<br>p = 0.38      |
| Vegetation Total Nitrogen (g/kg)                    | rho = -0.062<br>p = 0.77    | rho = 0.109<br>p = 0.603      | rho = 0.053<br>p = 0.801      |
| Vegetation Total Phosphorus (mg/kg)                 | rho = -0.415<br>p = 0.039   | rho = 0.575<br>p = 0.003      | rho = 0.044<br>p = 0.835      |

|                                                | Soil Organic Matter (g/kg) | Soil Organic Matter (mg/cc) | Soil Moisture Content (%) |
|------------------------------------------------|----------------------------|-----------------------------|---------------------------|
| Soil Organic Matter (g/kg)                     |                            |                             |                           |
| Soil Organic Matter (mg/cc)                    | rho = 0.644<br>p < 0.001   |                             |                           |
| Soil Moisture Content (%)                      | rho = 0.965<br>p < 0.001   | rho = 0.465<br>p = 0.003    |                           |
| Soil pH (SU)                                   | rho = -0.585<br>p < 0.001  | rho = -0.541<br>p < 0.001   | rho = -0.482<br>p = 0.002 |
| Soil Bulk Density (g/cc)                       | rho = -0.959<br>p < 0.001  | rho = -0.447<br>p = 0.005   | rho = -0.995<br>p < 0.001 |
| Floc Methylmercury (ng/g)                      | rho = -0.055<br>p = 0.795  | rho = -0.229<br>p = 0.27    | rho = 0.006<br>p = 0.978  |
| Floc Total Mercury (ng/g)                      | rho = 0.241<br>p = 0.246   | rho = 0.24<br>p = 0.248     | rho = 0.165<br>p = 0.432  |
| Floc Total Carbon (g/kg)                       | rho = 0.661<br>p = 0.038   | rho = 0.091<br>p = 0.803    | rho = 0.709<br>p = 0.022  |
| Floc Total Nitrogen (g/kg)                     | rho = 0.661<br>p = 0.038   | rho = 0.018<br>p = 0.96     | rho = 0.721<br>p = 0.019  |
| Floc Total Phosphorus (mg/kg)                  | rho = 0.588<br>p = 0.074   | rho = 0.103<br>p = 0.777    | rho = 0.539<br>p = 0.108  |
| Floc Organic Matter (g/kg)                     | rho = 0.673<br>p = 0.033   | rho = 0.103<br>p = 0.777    | rho = 0.697<br>p = 0.025  |
| Floc Chlorophyll a (mg/kg)                     | rho = -0.091<br>p = 0.803  | rho = 0.212<br>p = 0.556    | rho = -0.139<br>p = 0.701 |
| Benthic Periphyton Methylmercury (ng/g)        | rho = 0.488<br>p = 0.015   | rho = 0.4<br>p = 0.053      | rho = 0.357<br>p = 0.087  |
| Benthic Periphyton Total Mercury (ng/g)        | rho = 0.384<br>p = 0.064   | rho = 0.596<br>p = 0.002    | rho = 0.182<br>p = 0.395  |
| Benthic Periphyton Total Carbon (g/kg)         | rho = 0.636<br>p = 0.002   | rho = 0.464<br>p = 0.034    | rho = 0.566<br>p = 0.007  |
| Benthic Periphyton Total Nitrogen (g/kg)       | rho = 0.417<br>p = 0.06    | rho = 0.552<br>p = 0.009    | rho = 0.249<br>p = 0.276  |
| Benthic Periphyton Total Phosphorus (mg/kg)    | rho = 0.334<br>p = 0.139   | rho = 0.56<br>p = 0.008     | rho = 0.131<br>p = 0.571  |
| Benthic Periphyton Organic Matter (g/kg)       | rho = 0.535<br>p = 0.01    | rho = 0.475<br>p = 0.026    | rho = 0.452<br>p = 0.035  |
| Benthic Periphyton Chlorophyll a (mg/kg)       | rho = 0.51<br>p = 0.015    | rho = 0.594<br>p = 0.004    | rho = 0.365<br>p = 0.095  |
| Water Column Periphyton Methylmercury (ng/g)   | rho = 0.243<br>p = 0.213   | rho = 0.173<br>p = 0.379    | rho = 0.248<br>p = 0.204  |
| Water Column Periphyton Methylmercury (ng/cc)  | rho = -0.238<br>p = 0.232  | rho = -0.079<br>p = 0.694   | rho = -0.242<br>p = 0.224 |
| Water Column Periphyton Total Mercury (ng/g)   | rho = 0.235<br>p = 0.229   | rho = 0.135<br>p = 0.494    | rho = 0.2<br>p = 0.307    |
| Water Column Periphyton Total Mercury (ng/cc)  | rho = -0.347<br>p = 0.076  | rho = -0.347<br>p = 0.076   | rho = -0.299<br>p = 0.13  |
| Water Column Periphyton Total Carbon (g/kg)    | rho = 0.438<br>p = 0.022   | rho = 0.442<br>p = 0.021    | rho = 0.321<br>p = 0.102  |
| Water Column Periphyton Total Carbon (mg/cc)   | rho = -0.607<br>p < 0.001  | rho = -0.526<br>p = 0.005   | rho = -0.564<br>p = 0.002 |
| Water Column Periphyton Total Nitrogen (g/kg)  | rho = 0.458<br>p = 0.014   | rho = 0.488<br>p = 0.008    | rho = 0.369<br>p = 0.053  |
| Water Column Periphyton Total Nitrogen (mg/cc) | rho = -0.422<br>p = 0.025  | rho = -0.36<br>p = 0.06     | rho = -0.381<br>p = 0.046 |

|                                                     | Soil Organic Matter (g/kg) | Soil Organic Matter (mg/cc) | Soil Moisture Content (%) |
|-----------------------------------------------------|----------------------------|-----------------------------|---------------------------|
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.253<br>p = 0.203   | rho = 0.397<br>p = 0.04     | rho = 0.129<br>p = 0.52   |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = -0.2<br>p = 0.317    | rho = -0.028<br>p = 0.889   | rho = -0.254<br>p = 0.202 |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.452<br>p = 0.018   | rho = 0.47<br>p = 0.013     | rho = 0.339<br>p = 0.084  |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.648<br>p < 0.001   | rho = 0.555<br>p = 0.003    | rho = 0.531<br>p = 0.004  |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.605<br>p < 0.001  | rho = -0.521<br>p = 0.005   | rho = -0.537<br>p = 0.004 |
| Vegetation Total Carbon (g/kg)                      | rho = -0.262<br>p = 0.206  | rho = -0.056<br>p = 0.791   | rho = -0.264<br>p = 0.202 |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.209<br>p = 0.315   | rho = 0.161<br>p = 0.441    | rho = 0.202<br>p = 0.333  |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.605<br>p = 0.001   | rho = 0.32<br>p = 0.119     | rho = 0.591<br>p = 0.002  |

|                                                  | Soil pH(SU)           | Soil Bulk Density (g/cc) | Floc Methylmercury (ng/g) |
|--------------------------------------------------|-----------------------|--------------------------|---------------------------|
| Soil pH(SU)                                      |                       |                          |                           |
| Soil Bulk Density (g/cc)                         | rho=0.494<br>p=0.002  |                          |                           |
| Floc Methylmercury (ng/g)                        | rho=0.096<br>p=0.647  | rho=0.018<br>p=0.93      |                           |
| Floc Total Mercury (ng/g)                        | rho=-0.41<br>p=0.042  | rho=-0.169<br>p=0.419    | rho=-0.297<br>p=0.149     |
| Floc Total Carbon (g/kg)                         | rho=-0.697<br>p=0.025 | rho=-0.709<br>p=0.022    | rho=0.195<br>p=0.59       |
| Floc Total Nitrogen (g/kg)                       | rho=-0.661<br>p=0.038 | rho=-0.721<br>p=0.019    | rho=0.182<br>p=0.614      |
| Floc Total Phosphorus (mg/kg)                    | rho=-0.818<br>p=0.004 | rho=-0.539<br>p=0.108    | rho=0.079<br>p=0.828      |
| Floc Organic Matter (g/kg)                       | rho=-0.685<br>p=0.029 | rho=-0.697<br>p=0.025    | rho=0.146<br>p=0.688      |
| Floc Chlorophyll a (mg/kg)                       | rho=-0.042<br>p=0.907 | rho=0.139<br>p=0.701     | rho=0.109<br>p=0.763      |
| Benthic Periphyton Methylmercury (ng/g)          | rho=-0.268<br>p=0.206 | rho=-0.371<br>p=0.075    | rho=0.129<br>p=0.706      |
| Benthic Periphyton Total Mercury (ng/g)          | rho=-0.814<br>p<0.001 | rho=-0.194<br>p=0.364    | rho=-0.569<br>p=0.068     |
| Benthic Periphyton Total Carbon (g/kg)           | rho=-0.772<br>p<0.001 | rho=-0.566<br>p=0.007    | rho=-0.243<br>p=0.529     |
| Benthic Periphyton Total Nitrogen (g/kg)         | rho=-0.824<br>p<0.001 | rho=-0.239<br>p=0.297    | rho=-0.276<br>p=0.472     |
| Benthic Periphyton Total Phosphorus (mg/kg)      | rho=-0.76<br>p<0.001  | rho=-0.156<br>p=0.5      | rho=-0.151<br>p=0.699     |
| Benthic Periphyton Organic Matter (g/kg)         | rho=-0.724<br>p<0.001 | rho=-0.451<br>p=0.035    | rho=-0.134<br>p=0.731     |
| Benthic Periphyton Chlorophyll a (mg/kg)         | rho=-0.598<br>p=0.003 | rho=-0.376<br>p=0.084    | rho=0.05<br>p=0.898       |
| Water Column Periphyton Methylmercury (ng/g)     | rho=-0.424<br>p=0.024 | rho=-0.233<br>p=0.233    | rho=0.094<br>p=0.719      |
| Water Column Periphyton Methylmercury (ng/cc)    | rho=0.055<br>p=0.784  | rho=0.243<br>p=0.221     | rho=0.294<br>p=0.269      |
| Water Column Periphyton Total Mercury (ng/g)     | rho=-0.6<br>p<0.001   | rho=-0.181<br>p=0.357    | rho=-0.262<br>p=0.31      |
| Water Column Periphyton Total Mercury (ng/cc)    | rho=-0.022<br>p=0.915 | rho=0.305<br>p=0.122     | rho=-0.032<br>p=0.905     |
| Water Column Periphyton Total Carbon (g/kg)      | rho=-0.757<br>p<0.001 | rho=-0.288<br>p=0.145    | rho=-0.31<br>p=0.242      |
| Water Column Periphyton Total Carbon (mg/cc)     | rho=0.548<br>p=0.003  | rho=0.561<br>p=0.002     | rho=0.363<br>p=0.167      |
| Water Column Periphyton Total Nitrogen (g/kg)    | rho=-0.807<br>p<0.001 | rho=-0.34<br>p=0.076     | rho=-0.304<br>p=0.252     |
| Water Column Periphyton Total Nitrogen (mg/cc)   | rho=0.22<br>p=0.26    | rho=0.377<br>p=0.048     | rho=0.223<br>p=0.407      |
| Water Column Periphyton Total Phosphorus (mg/kg) | rho=-0.689<br>p<0.001 | rho=-0.103<br>p=0.611    | rho=-0.159<br>p=0.555     |
| Water Column Periphyton Total Phosphorus (μg/cc) | rho=-0.243<br>p=0.223 | rho=0.282<br>p=0.154     | rho=0.221<br>p=0.41       |

|                                                  | Soil pH(SU)               | Soil Bulk Density (g/cc)  | Floc Methylmercury (ng/g) |
|--------------------------------------------------|---------------------------|---------------------------|---------------------------|
| Water Column Periphyton<br>Organic Matter (g/kg) | rho = -0.801<br>p < 0.001 | rho = -0.294<br>p = 0.136 | rho = -0.269<br>p = 0.314 |
| Water Column Periphyton<br>Chlorophyll a (mg/kg) | rho = -0.683<br>p < 0.001 | rho = -0.531<br>p = 0.004 | rho = -0.31<br>p = 0.243  |
| Water Column Periphyton<br>Bulk Density (g/cc)   | rho = 0.642<br>p < 0.001  | rho = 0.531<br>p = 0.004  | rho = 0.417<br>p = 0.108  |
| Vegetation Total Carbon (g/kg)                   | rho = 0.12<br>p = 0.569   | rho = 0.284<br>p = 0.169  | rho = -0.12<br>p = 0.647  |
| Vegetation Total Nitrogen (g/kg)                 | rho = -0.182<br>p = 0.384 | rho = -0.158<br>p = 0.451 | rho = 0.171<br>p = 0.512  |
| Vegetation Total Phosphorus (mg/kg)              | rho = -0.49<br>p = 0.013  | rho = -0.565<br>p = 0.003 | rho = 0.211<br>p = 0.416  |

|                                                  | Floc Total Mercury (ng/g) | Floc Total Carbon (g/kg)  | Floc Total Nitrogen (g/kg) |
|--------------------------------------------------|---------------------------|---------------------------|----------------------------|
| Floc Total Mercury (ng/g)                        |                           |                           |                            |
| Floc Total Carbon (g/kg)                         | rho = 0.491<br>p = 0.15   |                           |                            |
| Floc Total Nitrogen (g/kg)                       | rho = 0.491<br>p = 0.15   | rho = 0.976<br>p < 0.001  |                            |
| Floc Total Phosphorus (mg/kg)                    | rho = 0.576<br>p = 0.082  | rho = 0.867<br>p = 0.001  | rho = 0.83<br>p = 0.003    |
| Floc Organic Matter (g/kg)                       | rho = 0.479<br>p = 0.162  | rho = 0.988<br>p < 0.001  | rho = 0.988<br>p < 0.001   |
| Floc Chlorophyll a (mg/kg)                       | rho = -0.139<br>p = 0.701 | rho = 0.309<br>p = 0.385  | rho = 0.309<br>p = 0.385   |
| Benthic Periphyton Methylmercury (ng/g)          | rho = -0.255<br>p = 0.449 | rho = 1<br>p < 0.001      | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton Total Mercury (ng/g)          | rho = 0.709<br>p = 0.015  | rho = 0.4<br>p = 0.6      | rho = 0.2<br>p = 0.8       |
| Benthic Periphyton Total Carbon (g/kg)           | rho = 0.517<br>p = 0.154  | rho = 0.8<br>p = 0.2      | rho = 1<br>p < 0.001       |
| Benthic Periphyton Total Nitrogen (g/kg)         | rho = 0.567<br>p = 0.112  | rho = 0.8<br>p = 0.2      | rho = 1<br>p < 0.001       |
| Benthic Periphyton Total Phosphorus (mg/kg)      | rho = 0.383<br>p = 0.308  | rho = 1<br>p < 0.001      | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton Organic Matter (g/kg)         | rho = 0.367<br>p = 0.332  | rho = 1<br>p < 0.001      | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton Chlorophyll a (mg/kg)         | rho = 0.017<br>p = 0.966  | rho = 0.8<br>p = 0.2      | rho = 0.4<br>p = 0.6       |
| Water Column Periphyton Methylmercury (ng/g)     | rho = 0.394<br>p = 0.118  | rho = 0.75<br>p = 0.02    | rho = 0.7<br>p = 0.036     |
| Water Column Periphyton Methylmercury (ng/cc)    | rho = 0.024<br>p = 0.931  | rho = 0.524<br>p = 0.183  | rho = 0.405<br>p = 0.32    |
| Water Column Periphyton Total Mercury (ng/g)     | rho = 0.558<br>p = 0.02   | rho = 0.433<br>p = 0.244  | rho = 0.517<br>p = 0.154   |
| Water Column Periphyton Total Mercury (ng/cc)    | rho = 0.159<br>p = 0.557  | rho = -0.095<br>p = 0.823 | rho = -0.071<br>p = 0.867  |
| Water Column Periphyton Total Carbon (g/kg)      | rho = 0.639<br>p = 0.008  | rho = 0.762<br>p = 0.028  | rho = 0.786<br>p = 0.021   |
| Water Column Periphyton Total Carbon (mg/cc)     | rho = -0.578<br>p = 0.019 | rho = -0.19<br>p = 0.651  | rho = -0.31<br>p = 0.456   |
| Water Column Periphyton Total Nitrogen (g/kg)    | rho = 0.624<br>p = 0.01   | rho = 0.905<br>p = 0.002  | rho = 0.881<br>p = 0.004   |
| Water Column Periphyton Total Nitrogen (mg/cc)   | rho = -0.488<br>p = 0.055 | rho = 0.19<br>p = 0.651   | rho = 0.048<br>p = 0.911   |
| Water Column Periphyton Total Phosphorus (mg/kg) | rho = 0.479<br>p = 0.06   | rho = 0.738<br>p = 0.037  | rho = 0.714<br>p = 0.047   |
| Water Column Periphyton Total Phosphorus (µg/cc) | rho = -0.065<br>p = 0.812 | rho = 0.262<br>p = 0.531  | rho = 0.143<br>p = 0.736   |
| Water Column Periphyton Organic Matter (g/kg)    | rho = 0.615<br>p = 0.011  | rho = 0.786<br>p = 0.021  | rho = 0.762<br>p = 0.028   |
| Water Column Periphyton Chlorophyll a (mg/kg)    | rho = 0.506<br>p = 0.046  | rho = 0.333<br>p = 0.42   | rho = 0.262<br>p = 0.531   |

|                                                | Floc Total Mercury (ng/g) | Floc Total Carbon (g/kg) | Floc Total Nitrogen (g/kg) |
|------------------------------------------------|---------------------------|--------------------------|----------------------------|
| Water Column Periphyton<br>Bulk Density (g/cc) | rho = -0.652<br>p = 0.006 | rho = -0.287<br>p = 0.49 | rho = -0.419<br>p = 0.301  |
| Vegetation Total Carbon (g/kg)                 | rho = 0.215<br>p = 0.408  | rho = 0.143<br>p = 0.787 | rho = 0.2<br>p = 0.704     |
| Vegetation Total Nitrogen (g/kg)               | rho = 0.495<br>p = 0.043  | rho = 0.2<br>p = 0.704   | rho = 0.257<br>p = 0.623   |
| Vegetation Total Phosphorus (mg/kg)            | rho = 0.458<br>p = 0.064  | rho = 0.486<br>p = 0.329 | rho = 0.6<br>p = 0.208     |

|                                                     | Floc Total Phosphorus (mg/kg) | Floc Organic Matter (g/kg) | Floc Chlorophyll a (mg/kg) |
|-----------------------------------------------------|-------------------------------|----------------------------|----------------------------|
| Floc Total Phosphorus (mg/kg)                       |                               |                            |                            |
| Floc Organic Matter (g/kg)                          | rho = 0.879<br>p < 0.001      |                            |                            |
| Floc Chlorophyll a (mg/kg)                          | rho = 0.103<br>p = 0.777      | rho = 0.345<br>p = 0.328   |                            |
| Benthic Periphyton<br>Methylmercury (ng/g)          | rho = 0.8<br>p = 0.2          | rho = 1<br>p < 0.001       | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton<br>Total Mercury (ng/g)          | rho = 0.8<br>p = 0.2          | rho = 0.4<br>p = 0.6       | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton<br>Total Carbon (g/kg)           | rho = 0.4<br>p = 0.6          | rho = 0.8<br>p = 0.2       | rho = 0.4<br>p = 0.6       |
| Benthic Periphyton<br>Total Nitrogen (g/kg)         | rho = 0.4<br>p = 0.6          | rho = 0.8<br>p = 0.2       | rho = 0.4<br>p = 0.6       |
| Benthic Periphyton<br>Total Phosphorus (mg/kg)      | rho = 0.8<br>p = 0.2          | rho = 1<br>p < 0.001       | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho = 0.8<br>p = 0.2          | rho = 1<br>p < 0.001       | rho = 0.8<br>p = 0.2       |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho = 1<br>p < 0.001          | rho = 0.8<br>p = 0.2       | rho = 1<br>p < 0.001       |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = 0.917<br>p < 0.001      | rho = 0.75<br>p = 0.02     | rho = 0.067<br>p = 0.865   |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = 0.738<br>p = 0.037      | rho = 0.524<br>p = 0.183   | rho = 0.5<br>p = 0.207     |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = 0.367<br>p = 0.332      | rho = 0.433<br>p = 0.244   | rho = 0.067<br>p = 0.865   |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = 0<br>p = 1              | rho = -0.095<br>p = 0.823  | rho = -0.048<br>p = 0.911  |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = 0.714<br>p = 0.047      | rho = 0.762<br>p = 0.028   | rho = 0.667<br>p = 0.071   |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = -0.024<br>p = 0.955     | rho = -0.19<br>p = 0.651   | rho = -0.024<br>p = 0.955  |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = 0.857<br>p = 0.007      | rho = 0.905<br>p = 0.002   | rho = 0.857<br>p = 0.007   |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = 0.452<br>p = 0.26       | rho = 0.19<br>p = 0.651    | rho = 0.31<br>p = 0.456    |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.905<br>p = 0.002      | rho = 0.738<br>p = 0.037   | rho = 0.643<br>p = 0.086   |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = 0.643<br>p = 0.086      | rho = 0.262<br>p = 0.531   | rho = 0.238<br>p = 0.57    |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.81<br>p = 0.015       | rho = 0.786<br>p = 0.021   | rho = 0.738<br>p = 0.037   |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.571<br>p = 0.139      | rho = 0.333<br>p = 0.42    | rho = 0.333<br>p = 0.42    |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.06<br>p = 0.888      | rho = -0.287<br>p = 0.49   | rho = -0.144<br>p = 0.734  |
| Vegetation Total Carbon (g/kg)                      | rho = 0.486<br>p = 0.329      | rho = 0.2<br>p = 0.704     | rho = -0.371<br>p = 0.468  |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.371<br>p = 0.468      | rho = 0.257<br>p = 0.623   | rho = 0.2<br>p = 0.704     |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.657<br>p = 0.156      | rho = 0.6<br>p = 0.208     | rho = 0.314<br>p = 0.544   |

|                                                     | Benthic Periphyton<br>Methylmercury (ng/g) | Benthic Periphyton<br>Total Mercury (ng/g) | Benthic Periphyton<br>Total Carbon (g/kg) | Benthic Periphyton<br>Total Nitrogen (g/kg) |
|-----------------------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------------------------|---------------------------------------------|
| Benthic Periphyton<br>Methylmercury (ng/g)          |                                            |                                            |                                           |                                             |
| Benthic Periphyton<br>Total Mercury (ng/g)          | rho = 0.352<br>p = 0.091                   |                                            |                                           |                                             |
| Benthic Periphyton<br>Total Carbon (g/kg)           | rho = 0.29<br>p = 0.203                    | rho = 0.565<br>p = 0.008                   |                                           |                                             |
| Benthic Periphyton<br>Total Nitrogen (g/kg)         | rho = 0.247<br>p = 0.281                   | rho = 0.706<br>p < 0.001                   | rho = 0.834<br>p < 0.001                  |                                             |
| Benthic Periphyton<br>Total Phosphorus (mg/kg)      | rho = 0.31<br>p = 0.171                    | rho = 0.71<br>p < 0.001                    | rho = 0.556<br>p = 0.011                  | rho = 0.878<br>p < 0.001                    |
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho = 0.359<br>p = 0.101                   | rho = 0.563<br>p = 0.006                   | rho = 0.947<br>p < 0.001                  | rho = 0.864<br>p < 0.001                    |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho = 0.468<br>p = 0.028                   | rho = 0.435<br>p = 0.043                   | rho = 0.657<br>p = 0.001                  | rho = 0.444<br>p = 0.044                    |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = 0.449<br>p = 0.047                   | rho = 0.397<br>p = 0.083                   | rho = 0.494<br>p = 0.037                  | rho = 0.51<br>p = 0.03                      |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = 0.242<br>p = 0.305                   | rho = -0.018<br>p = 0.94                   | rho = -0.137<br>p = 0.587                 | rho = -0.072<br>p = 0.776                   |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = 0.139<br>p = 0.559                   | rho = 0.649<br>p = 0.002                   | rho = 0.339<br>p = 0.169                  | rho = 0.448<br>p = 0.062                    |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = -0.128<br>p = 0.591                  | rho = 0.158<br>p = 0.506                   | rho = -0.267<br>p = 0.284                 | rho = -0.207<br>p = 0.409                   |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = 0.284<br>p = 0.225                   | rho = 0.827<br>p < 0.001                   | rho = 0.717<br>p < 0.001                  | rho = 0.794<br>p < 0.001                    |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = -0.216<br>p = 0.36                   | rho = -0.426<br>p = 0.061                  | rho = -0.655<br>p = 0.003                 | rho = -0.719<br>p < 0.001                   |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = 0.351<br>p = 0.119                   | rho = 0.794<br>p < 0.001                   | rho = 0.702<br>p < 0.001                  | rho = 0.775<br>p < 0.001                    |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = -0.105<br>p = 0.65                   | rho = -0.136<br>p = 0.557                  | rho = -0.262<br>p = 0.278                 | rho = -0.434<br>p = 0.063                   |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.194<br>p = 0.412                   | rho = 0.598<br>p = 0.005                   | rho = 0.41<br>p = 0.091                   | rho = 0.657<br>p = 0.003                    |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = -0.091<br>p = 0.702                  | rho = 0.159<br>p = 0.502                   | rho = -0.168<br>p = 0.505                 | rho = -0.009<br>p = 0.971                   |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.244<br>p = 0.3                     | rho = 0.881<br>p < 0.001                   | rho = 0.763<br>p < 0.001                  | rho = 0.837<br>p < 0.001                    |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.388<br>p = 0.091                   | rho = 0.618<br>p = 0.004                   | rho = 0.695<br>p = 0.001                  | rho = 0.567<br>p = 0.014                    |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.183<br>p = 0.439                  | rho = -0.597<br>p = 0.005                  | rho = -0.719<br>p < 0.001                 | rho = -0.795<br>p < 0.001                   |
| Vegetation Total Carbon (g/kg)                      | rho = -0.442<br>p = 0.099                  | rho = -0.302<br>p = 0.274                  | rho = 0<br>p = 1                          | rho = 0.022<br>p = 0.943                    |
| Vegetation Total Nitrogen (g/kg)                    | rho = -0.014<br>p = 0.96                   | rho = -0.111<br>p = 0.694                  | rho = 0.429<br>p = 0.143                  | rho = 0.358<br>p = 0.23                     |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.22<br>p = 0.43                     | rho = 0.396<br>p = 0.143                   | rho = 0.665<br>p = 0.013                  | rho = 0.731<br>p = 0.005                    |

|                                                     | Benthic Periphyton<br>Total Phosphorus (mg/kg) | Benthic Periphyton<br>Organic Matter (g/kg) | Benthic Periphyton<br>Chlorophyll a (mg/kg) |
|-----------------------------------------------------|------------------------------------------------|---------------------------------------------|---------------------------------------------|
| Benthic Periphyton<br>Total Phosphorus (mg/kg)      |                                                |                                             |                                             |
| Benthic Periphyton<br>Organic Matter (g/kg)         | rho = 0.555<br>p = 0.009                       |                                             |                                             |
| Benthic Periphyton<br>Chlorophyll a (mg/kg)         | rho = 0.342<br>p = 0.13                        | rho = 0.635<br>p = 0.002                    |                                             |
| Water Column Periphyton<br>Methylmercury (ng/g)     | rho = 0.416<br>p = 0.086                       | rho = 0.604<br>p = 0.006                    | rho = 0.407<br>p = 0.084                    |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = 0.031<br>p = 0.903                       | rho = -0.042<br>p = 0.864                   | rho = 0.086<br>p = 0.726                    |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = 0.457<br>p = 0.056                       | rho = 0.378<br>p = 0.11                     | rho = 0.188<br>p = 0.441                    |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = -0.03<br>p = 0.906                       | rho = -0.216<br>p = 0.375                   | rho = -0.221<br>p = 0.363                   |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = 0.641<br>p = 0.004                       | rho = 0.782<br>p < 0.001                    | rho = 0.344<br>p = 0.149                    |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = -0.461<br>p = 0.054                      | rho = -0.681<br>p = 0.001                   | rho = -0.307<br>p = 0.201                   |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = 0.693<br>p = 0.001                       | rho = 0.777<br>p < 0.001                    | rho = 0.469<br>p = 0.037                    |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = -0.291<br>p = 0.226                      | rho = -0.311<br>p = 0.182                   | rho = -0.027<br>p = 0.91                    |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.787<br>p < 0.001                       | rho = 0.493<br>p = 0.032                    | rho = 0.409<br>p = 0.082                    |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = 0.17<br>p = 0.499                        | rho = -0.109<br>p = 0.658                   | rho = 0.128<br>p = 0.601                    |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.748<br>p < 0.001                       | rho = 0.818<br>p < 0.001                    | rho = 0.449<br>p = 0.054                    |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.556<br>p = 0.017                       | rho = 0.654<br>p = 0.002                    | rho = 0.774<br>p < 0.001                    |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.53<br>p = 0.024                       | rho = -0.753<br>p < 0.001                   | rho = -0.311<br>p = 0.195                   |
| Vegetation Total Carbon (g/kg)                      | rho = -0.186<br>p = 0.564                      | rho = 0.036<br>p = 0.908                    | rho = -0.168<br>p = 0.584                   |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.273<br>p = 0.391                       | rho = 0.371<br>p = 0.212                    | rho = -0.003<br>p = 0.993                   |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.622<br>p = 0.031                       | rho = 0.703<br>p = 0.007                    | rho = 0.181<br>p = 0.553                    |

|                                                     | Water Column Periphyton<br>Methylmercury (ng/g) | Water Column Periphyton<br>Methylmercury (ng/cc) | Water Column Periphyton<br>Total Mercury (ng/g) |
|-----------------------------------------------------|-------------------------------------------------|--------------------------------------------------|-------------------------------------------------|
| Water Column Periphyton<br>Methylmercury (ng/g)     |                                                 |                                                  |                                                 |
| Water Column Periphyton<br>Methylmercury (ng/cc)    | rho = 0.735<br>p < 0.001                        |                                                  |                                                 |
| Water Column Periphyton<br>Total Mercury (ng/g)     | rho = 0.28<br>p = 0.15                          | rho = -0.143<br>p = 0.478                        |                                                 |
| Water Column Periphyton<br>Total Mercury (ng/cc)    | rho = -0.118<br>p = 0.558                       | rho = 0.101<br>p = 0.616                         | rho = 0.551<br>p = 0.003                        |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = 0.491<br>p = 0.009                        | rho = -0.027<br>p = 0.892                        | rho = 0.706<br>p < 0.001                        |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = -0.337<br>p = 0.085                       | rho = 0.301<br>p = 0.127                         | rho = -0.434<br>p = 0.024                       |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = 0.529<br>p = 0.005                        | rho = 0.054<br>p = 0.788                         | rho = 0.723<br>p < 0.001                        |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = -0.13<br>p = 0.517                        | rho = 0.374<br>p = 0.055                         | rho = -0.189<br>p = 0.345                       |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.512<br>p = 0.006                        | rho = 0.126<br>p = 0.53                          | rho = 0.743<br>p < 0.001                        |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = 0.324<br>p = 0.099                        | rho = 0.347<br>p = 0.076                         | rho = 0.454<br>p = 0.018                        |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.492<br>p = 0.009                        | rho = -0.001<br>p = 0.998                        | rho = 0.658<br>p < 0.001                        |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.36<br>p = 0.065                         | rho = -0.169<br>p = 0.398                        | rho = 0.612<br>p < 0.001                        |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.376<br>p = 0.054                       | rho = 0.275<br>p = 0.166                         | rho = -0.555<br>p = 0.003                       |
| Vegetation Total Carbon (g/kg)                      | rho = -0.185<br>p = 0.478                       | rho = -0.006<br>p = 0.983                        | rho = -0.292<br>p = 0.255                       |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.141<br>p = 0.588                        | rho = 0.234<br>p = 0.383                         | rho = 0.166<br>p = 0.524                        |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.489<br>p = 0.046                        | rho = -0.059<br>p = 0.829                        | rho = 0.773<br>p < 0.001                        |

|                                                     | Water Column Periphyton<br>Total Mercury (ng/cc) | Water Column Periphyton<br>Total Carbon (g/kg) | Water Column Periphyton<br>Total Carbon (mg/cc) |
|-----------------------------------------------------|--------------------------------------------------|------------------------------------------------|-------------------------------------------------|
| Water Column Periphyton<br>Total Mercury (ng/cc)    |                                                  |                                                |                                                 |
| Water Column Periphyton<br>Total Carbon (g/kg)      | rho = 0.01<br>p = 0.961                          |                                                |                                                 |
| Water Column Periphyton<br>Total Carbon (mg/cc)     | rho = 0.368<br>p = 0.059                         | rho = -0.608<br>p < 0.001                      |                                                 |
| Water Column Periphyton<br>Total Nitrogen (g/kg)    | rho = 0.082<br>p = 0.683                         | rho = 0.943<br>p < 0.001                       | rho = -0.569<br>p = 0.002                       |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = 0.434<br>p = 0.024                         | rho = -0.321<br>p = 0.102                      | rho = 0.877<br>p < 0.001                        |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.237<br>p = 0.233                         | rho = 0.683<br>p < 0.001                       | rho = -0.478<br>p = 0.012                       |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = 0.517<br>p = 0.006                         | rho = 0.209<br>p = 0.296                       | rho = 0.175<br>p = 0.382                        |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = -0.004<br>p = 0.986                        | rho = 0.962<br>p < 0.001                       | rho = -0.562<br>p = 0.002                       |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = -0.107<br>p = 0.596                        | rho = 0.667<br>p < 0.001                       | rho = -0.705<br>p < 0.001                       |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = 0.26<br>p = 0.19                           | rho = -0.762<br>p < 0.001                      | rho = 0.964<br>p < 0.001                        |
| Vegetation Total Carbon (g/kg)                      | rho = -0.153<br>p = 0.571                        | rho = -0.349<br>p = 0.185                      | rho = 0.29<br>p = 0.276                         |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.396<br>p = 0.129                         | rho = -0.147<br>p = 0.587                      | rho = -0.088<br>p = 0.745                       |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.326<br>p = 0.217                         | rho = 0.779<br>p < 0.001                       | rho = -0.75<br>p < 0.001                        |

|                                                     | Water Column Periphyton<br>Total Nitrogen (g/kg) | Water Column Periphyton<br>Total Nitrogen (mg/cc) | Water Column Periphyton<br>Total Phosphorus (mg/kg) |
|-----------------------------------------------------|--------------------------------------------------|---------------------------------------------------|-----------------------------------------------------|
| Water Column Periphyton<br>Total Nitrogen (g/kg)    |                                                  |                                                   |                                                     |
| Water Column Periphyton<br>Total Nitrogen (mg/cc)   | rho = -0.108<br>p = 0.583                        |                                                   |                                                     |
| Water Column Periphyton<br>Total Phosphorus (mg/kg) | rho = 0.793<br>p < 0.001                         | rho = -0.198<br>p = 0.322                         |                                                     |
| Water Column Periphyton<br>Total Phosphorus (µg/cc) | rho = 0.352<br>p = 0.071                         | rho = 0.392<br>p = 0.043                          | rho = 0.704<br>p < 0.001                            |
| Water Column Periphyton<br>Organic Matter (g/kg)    | rho = 0.938<br>p < 0.001                         | rho = -0.295<br>p = 0.136                         | rho = 0.687<br>p < 0.001                            |
| Water Column Periphyton<br>Chlorophyll a (mg/kg)    | rho = 0.615<br>p < 0.001                         | rho = -0.56<br>p = 0.002                          | rho = 0.667<br>p < 0.001                            |
| Water Column Periphyton<br>Bulk Density (g/cc)      | rho = -0.693<br>p < 0.001                        | rho = 0.801<br>p < 0.001                          | rho = -0.548<br>p = 0.003                           |
| Vegetation Total Carbon (g/kg)                      | rho = -0.422<br>p = 0.092                        | rho = 0.205<br>p = 0.43                           | rho = -0.546<br>p = 0.029                           |
| Vegetation Total Nitrogen (g/kg)                    | rho = 0.141<br>p = 0.589                         | rho = -0.044<br>p = 0.866                         | rho = -0.025<br>p = 0.927                           |
| Vegetation Total Phosphorus (mg/kg)                 | rho = 0.809<br>p < 0.001                         | rho = -0.355<br>p = 0.162                         | rho = 0.765<br>p < 0.001                            |

|                                                                  | Water Column Periphyton<br>Total Phosphorus ( $\mu\text{g/cc}$ ) | Water Column Periphyton<br>Organic Matter ( $\text{g/kg}$ ) | Water Column Periphyton<br>Chlorophyll a ( $\text{mg/kg}$ ) |
|------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Water Column Periphyton<br>Total Phosphorus ( $\mu\text{g/cc}$ ) |                                                                  |                                                             |                                                             |
| Water Column Periphyton<br>Organic Matter ( $\text{g/kg}$ )      | $\rho = 0.253$<br>$p = 0.203$                                    |                                                             |                                                             |
| Water Column Periphyton<br>Chlorophyll a ( $\text{mg/kg}$ )      | $\rho = 0.202$<br>$p = 0.313$                                    | $\rho = 0.668$<br>$p < 0.001$                               |                                                             |
| Water Column Periphyton<br>Bulk Density ( $\text{g/cc}$ )        | $\rho = 0.12$<br>$p = 0.552$                                     | $\rho = -0.708$<br>$p < 0.001$                              | $\rho = -0.754$<br>$p < 0.001$                              |
| Vegetation Total Carbon ( $\text{g/kg}$ )                        | $\rho = -0.433$<br>$p = 0.094$                                   | $\rho = -0.374$<br>$p = 0.154$                              | $\rho = -0.496$<br>$p = 0.051$                              |
| Vegetation Total Nitrogen ( $\text{g/kg}$ )                      | $\rho = -0.166$<br>$p = 0.538$                                   | $\rho = -0.084$<br>$p = 0.757$                              | $\rho = -0.203$<br>$p = 0.451$                              |
| Vegetation Total Phosphorus ( $\text{mg/kg}$ )                   | $\rho = 0.468$<br>$p = 0.068$                                    | $\rho = 0.791$<br>$p < 0.001$                               | $\rho = 0.6$<br>$p = 0.014$                                 |

|                                                           | Water Column Periphyton<br>Bulk Density ( $\text{g/cc}$ ) | Vegetation Total<br>Carbon ( $\text{g/kg}$ ) | Vegetation Total<br>Nitrogen ( $\text{g/kg}$ ) |
|-----------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------|------------------------------------------------|
| Water Column Periphyton<br>Bulk Density ( $\text{g/cc}$ ) |                                                           |                                              |                                                |
| Vegetation Total Carbon ( $\text{g/kg}$ )                 | $\rho = 0.279$<br>$p = 0.296$                             |                                              |                                                |
| Vegetation Total Nitrogen ( $\text{g/kg}$ )               | $\rho = -0.062$<br>$p = 0.82$                             | $\rho = 0.175$<br>$p = 0.403$                |                                                |
| Vegetation Total Phosphorus ( $\text{mg/kg}$ )            | $\rho = -0.79$<br>$p < 0.001$                             | $\rho = -0.129$<br>$p = 0.539$               | $\rho = 0.58$<br>$p = 0.002$                   |