# Depth-Dependent Concentrations of *E. coli* in Agricultural Irrigation Ponds

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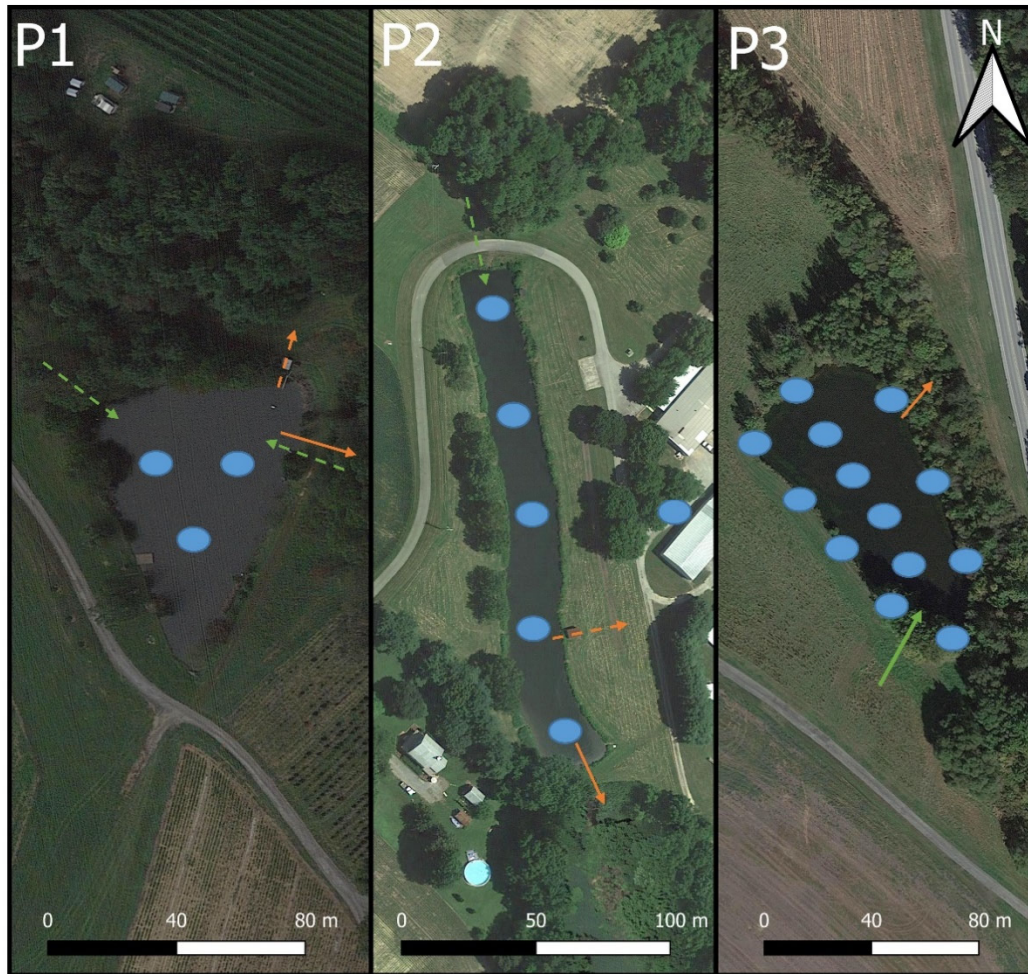
## Supplemental Figures



**Figure S1.** Sampling map of the three ponds in the study. Sampling sites are marked with blue dots. Ephemeral and constant inflows are marked with dashed and solid green arrows, respectively. Ephemeral and constant outflows are marked with dashed and solid orange arrows, respectively.

| Parameter | Pond 1 | | Pond 2 | | | | | | Pond 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9/6/2019 | **7/23/2020** | 9/15/2019 | 9/21/2019 | 7/15/2020 | **8/10/2020** | **8/26/2020** | **7/15/2021** | 8/12/2020 | 7/7/2021 | 8/13/2021 |
| °C | -0.236 | **-0.601** | -0.016 | 0.061 | -0.089 | **-0.790** | **-0.496** | **-0.745** | 0.012 | -0.183 | -0.037 |
| DO | **-0.384** | **-0.478** | 0.066 | -0.203 | -0.122 | **-0.754** | **-0.371** | **-0.719** | 0.022 | 0.037 | -0.161 |
| SPC | 0.231 | -0.173 | 0.023 | 0.316 | -0.039 | **0.440** | **0.642** | **0.605** | -0.214 | -0.018 | -0.168 |
| pH | **-0.351** | **-0.512** | -0.030 | -0.121 | -0.133 | **-0.830** | **-0.433** | **-0.718** | -0.034 | 0.098 | -0.114 |
| NTU | 0.044 | **0.502** | 0.072 | 0.150 | 0.062 | **0.542** | 0.112 | **0.407** | 0.281 | 0.288 | 0.089 |
| PC | -0.100 | 0.309 | -0.227 | 0.161 | 0.019 | **-0.433** | **-0.268** | **-0.570** | 0.039 | **0.285** | -0.073 |
| CHL | 0.229 | 0.323 | -0.163 | 0.099 | 0.033 | **-0.383** | -0.210 | **-0.480** | -0.093 | **0.316** | -0.034 |
| ƒDOM | 0.053 | 0.265 | -0.051 | -0.035 | 0.194 | 0.244 | 0.257 | **0.650** | -0.073 | 0.062 | 0.034 |
| PAR | -0.249 | **-0.497** | 0.316 | -0.114 | -0.043 | **-0.729** | **-0.344** | **-0.757** | 0.040 | -0.095 | **0.311** |
| TC | -0.116 | **0.440** | | | -0.189 | -0.062 | -0.022 | **0.499** | | 0.168 | |
| TOC | -0.010 | 0.165 | | | -0.131 | -0.063 | -0.049 | **0.312** | | 0.281 | |
| TIC | -0.115 | **0.542** | | | -0.205 | -0.104 | 0.086 | **0.503** | | 0.016 | |
| TnB | -0.177 | -0.149 | | | 0.052 | -0.166 | 0.163 | **0.389** | | 0.249 | |
| NO3 | | 0.085 | | | -0.034 | | **0.397** | | | -0.130 | 0.183 |
| NH3 | | -0.157 | 0.270 | 0.148 | 0.206 | -0.240 | 0.114 | **0.492** | | | |
| OP | | | 0.110 | 0.024 | -0.050 | -0.091 | 0.155 | **0.536** | | 0.170 | |

**Figure S2.** Spearman correlation coefficients ($r_s$) between concentrations of *E. coli* and water quality parameters. Observation dates on which *E. coli* concentrations were found to significantly differ by either time of day, water sampling depth, or both are shown in **bold**. Coefficient values in bold indicate a significant relationship ($p < 0.05$). °C = temperature (°C), DO = dissolved oxygen (mg L-1), SPC = specific conductance (μS cm-1), pH (unitless), PC = phycocyanin (relative fluorescence unit (RFU)), CHL = chlorophyll-a (RFU), ƒDOM = fluorescent dissolved organic matter (μg L-1), TC = total carbon (mg L-1), TIC = total inorganic carbon (mg L-1), TOC = total organic carbon (mg L-1), TnB = total bound nitrogen (mg L-1), PAR = photosynthetic active radiation (μmol m² s-1), NH₃ = ammonia (mg L-1), NO₃ = nitrate (mg L-1), OP = orthophosphate (mg L-1).