**Project:** Hort Farm 2020

**Description:** Macrophyte Data Tables for EDI Meta-Data Submission

**Last modified:** 17 January 2022 E. Albright

1. **BIOLOGICAL DATA**

**Table name:** Aquatic macrophyte biomass and canopy height, experimental ponds B and F, May-August 2020

**File name:** biomass\_canopy\_2020.csv

**Table description:** Biweekly measurements of dry biomass and species composition for submersed aquatic macrophytes across an evenly-spaced grid of 18 sites in two experimental ponds. Weekly measurements of water depth and macrophyte canopy height at three additional sites along the north-south axis of each pond. Hand-entered and QAQC-ed by Ellen Albright.

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| **Column name** | **Description** | **Unit or code explanation or date format** | **Missing value code** |
| doy | Julian day of year |  |  |
| pond | Categorical identifier for each experimental pond | ***B*** = pond “B”, second pond from the far western edge of the row of ponds  ***F*** = pond “F” eastern-most pond |  |
| site\_type | Qualitative description of sampling site | ***Biomass*** = site where we measured biomass (manual profiles as well)  ***Canopy*** = site where we measured canopy height (sensor stations) |  |
| site\_id | Categorical identifier for each sampling site | E.g., B1 = Site 1 in pond “B”  No. ***1-18*** = biomass  ***19*** = deep site canopy  ***20*** = middle site canopy  ***21*** = shallow site canopy |  |
| p\_foliosus | Presence vs absence of leafy pondweed (*Potamogeton foliosus*) | ***0*** = species absent  ***1*** = species present | NA |
| p\_nodosus | Presence vs absence of long-leaf pondweed (*Potamogeton nodosus*) | ***0*** = species absent  ***1*** = species present | NA |
| depth\_m | Depth of water column at the sampling site | Unit: meters (m) | NA |
| canopy\_m | Height of submersed macrophyte canopy measured as the distance from the sediment surface to the top of the canopy. | Unit: meters (m) | NA |
| canopy\_flag | Data flag for canopy height | ***a*** = macrophytes present, but less than 1 m. Water not clear enough to take measurement  ***b*** = true zero, no plants present |  |
| biomass\_g | Dry biomass of all above-sediment plant tissue in a ~0.4 square-meter patch at the sampling point | Unit: grams (g) | NA |
| biomass\_flag | Data flag for biomass | ***b*** = true zero, no plants present |  |

1. **HIGH FREQUENCY TEMPERATURE DATA**

**Table name:** High frequency temperature profiles across experimental ponds B and F, May-August 2020

**File name:** temp\_profiles\_2020.csv

**Table description:** High frequency (every 30 minutes) temperature measurements at discrete points in the water column at 3 sites along the north-south axis of two experimental ponds using HOBO Pendant Temperature Data Loggers. Compiled and cleaned by Ellen Albright (script “PondPhysics\_2020\_DataCleaning.R”)

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| **Column name** | **Description** | **Unit or code explanation or date format** | **Missing value code** |
| datetime | Date and time of instrument measurement | yyyy-mm-dd hh:mm:ss |  |
| doy | Julian day of year | Integer values |  |
| doy\_frac | Julian day of year including time of day as a fraction of a day | e.g. 117.5 = day of year 117 at 12:00pm |  |
| pond | Categorical identifier for each experimental pond | ***B*** = pond “B”, second pond from the far western edge of the row of ponds  ***F*** = pond “F” eastern-most pond |  |
| site\_id | Categorical identifier for each sampling site | ***19*** = deep site  ***20*** = middle site  ***21*** = shallow site |  |
| temp\_depth\_m | Depth in the water column where the temperature data logger was placed, as distance from the surface at 0m | Unit: meters (m)  e.g., temp\_depth\_m = 1.0, data logger was placed 1 meter from the water surface | NA |
| temp\_c | Water temperature | Unit: degrees Celsius (°C) | NA |

1. **MANUAL SONDE PROFILES**

**Table name:** Physical and chemical profiles across experimental ponds B and F, May-August 2020

**File name:** DO\_profiles\_2020.csv

**Table description:** Weekly continuous depth profiles of temperature, dissolved oxygen, chlorophyll a, and phycocyanin, and conductivity measured across an evenly-spaced grid of 18 sites in two experimental ponds using a YSI ProDSS multiparameter sonde. Compiled and cleaned by Ellen Albright (script “PondPhysics\_2020\_DataCleaning.R”)

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| **Column name** | **Description** | **Unit or code explanation or date format** | **Missing value code** |
| doy | Julian day of year |  |  |
| pond | Categorical identifier for each experimental pond | B = pond “B”, second pond from the far western edge of the row of ponds  F = pond “F” eastern-most pond |  |
| site\_id | Categorical identifier for each sampling site | E.g., B1 = Site 1 in pond “B” |  |
| vertical\_m | Depth in the water column as distance from the surface at 0 meters | Unit: meters (m) | NA |
| odo\_mgL | Optical dissolved oxygen concentration | Unit: milligrams per liter (mg/L) | NA |
| odo\_sat | Optical dissolved oxygen saturation | Unit: percent (%) | NA |
| temp\_c | Temperature | Unit: degrees Celsius (°C) | NA |
| barometer | Barometric pressure | Unit: millimeters of mercury (mmHg) | NA |
| sp\_cond | Specific conductivity | Unit: micro-Siemens per centimeter (µS/cm) | NA |
| tds | Total dissolved solids | Unit: milligrams per liter (mg/L) | NA |
| chla\_RFU | Raw chlorophyll a measurement | Unit: relative fluorescence units (RFU) | NA |
| chla\_ugL | Instrument calculated chlorophyll a concentration | Unit: micrograms per liter (µg/L) | NA |
| pc\_RFU | Raw phycocyanin measurement | Unit: relative fluorescence units (RFU) | NA |
| pc\_ugL | Instrument phycocyanin concentration | Unit: micrograms per liter (µg/L) | NA |