***HORT FARM 2020 SAMPLING METADATA***

Chart

Description automatically generatedCompiled by T.J. Butts, January 2022

***Figure 1.*** Hort Farm experimental design 2020

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| **Meterology: weather-station\_data.csv** | | |
| **Column Name** | **Description** | **Details** |
| date\_time | date and time of instrument reading | mm/dd/yyy hh:mm (CST/CDT) |
| doy | julian day of year, 2020 | number |
| wind\_speed | average wind speed during the previous 30-minute measurement period | meters per second (m/s) |
| gust\_speed | speed of the highest three-second wind gust during the previous 30-minute measurement period | meters per second (m/s) |
| par | photosynthetically active radiation | micromoles per meter squared per second (µM m-2 s-1) |
| wind\_z | height of the instruments above the surface of the experimental ponds | meters (m) |

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| **Field Data: hort20\_surface\_dat.csv** | | | |
| **Column Name** | **Description** | **Details** | |
| pond\_id | pond identity | A-F | |
| treatment | did the pond receive a nutrient pulse | pulsed = yes  reference = no | |
| period | sampling period | BASE = conditions prior to first nutrient pulse  PULSE1 = conditions post the first nutrient pulse  PULSE2 = conditions post the second nutrient pulse | |
| doy | julian day of year, 2020 | number | |
| **Column Name** | **Description** | **Units** | **Method** |
| **Measurements averaged between 10 – 30 cm below the surface. Missing data gap-filled.** | | | |
| temp | water temperature | °C | thermister on YSI ProDSS |
| do\_sat | dissolved oxygen saturation | percent saturation | optical dissolved oxygen probe; YSI ProDSS |
| do | dissolved oxygen concentration | milligrams per liter (mg L-1) | optical dissolved oxygen probe; YSI ProDSS |
| ph | acidity | (na) |  |
| chla\_rfu | chlorophyll-*a* | raw fluorescence units (RFU) | total algae probe; YSI ProDSS |
| chla | chlorophyll-*a* concentration | micrograms per liter (µg L-1) | total algae probe; YSI ProDSS |
| cond | conductivity | micro siemens per centimeter (µS/cm) | conductivity probe; YSI ProDSS |
| sp\_cond | specific conductivity (conductivity @ 25C) | micro siemens per centimeter (µS/cm) | conductivity probe; YSI ProDSS |
| phyco\_rfu | phycocyanin | raw fluorescence units (RFU) | total algae probe; YSI ProDSS |
| phyco | phycocyanin concentration | raw fluorescence units (RFU) | total algae probe; YSI ProDSS |
| salinity | salinity | practical salinity unit | conductivity probe; YSI ProDSS |
| cyanofluor\_chl | chlorophyll-*a* | raw fluorescence units (RFU) | handheld cyanofluor |
| tp | total phosphorus concentration | micrograms per liter (µg L-1) | EPA 365.1 v2 (USEPA, 1993) |
| tp\_flag | data quality flag for TP data | a=above detection limit  b=below detection limit; value replaced with 0 | |
| srp | soluble reactive phosphorus | micrograms per liter (µg L-1) | EPA 365.1 v2 (USEPA, 1993) |
| srp\_flag | data quality flag for SRP data | a=above detection limit  b=below detection limit; value replaced with 0 | |
| tn | total nitrogen concentration | milligrams per liter (mg L-1) |  |
| tn\_flag | data quality flag for TN data | a=above detection limit  b=below detection limit; value replaced with 0 | |
| nox | Nitrate (NO3) concentration | milligrams per liter (mg L-1) | second derivative spectroscopy |
| nox\_flag | data quality flag for nitrate | a=above detection limit  b=below detection limit; value replaced with 0 | |
| nhx | ammonium concentration | milligram per liter (mg L-1) |  |
| nhx\_flag | data quality flag for ammonium | a=above detection limit  b=below detection limit; value replaced with 0 | |

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| **Metabolism Data: hort20\_metab\_dat.csv** | | | |
| **Column Name** | **Description** | **Details** | |
| pond\_id | pond identity | A-F | |
| treatment | did the pond receive a nutrient pulse | pulsed = yes  reference = no | |
| period | experimental time period | BASE = conditions prior to first nutrient pulse  PULSE1 = conditions post the first nutrient pulse  PULSE2 = conditions post the second nutrient pulse | |
| doy | julian day of year, 2020 | number | |
| **Column Name** | **Description** | **Units** | **Method** |
| GPP | gross primary production | milligrams of oxygen per liter per day (mg O2 L-1 d-1) | Check with Robert re: modeling method |
| R | respiration |
| NEP | net ecosystem production |
| dosat\_dailyavg | daily average dissolved oxygen saturation | percent saturation | miniDOT optical dissolved oxygen probe |

***Food Web Data***

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| **Fish size: fish\_length\_weight.csv** | | |
| **Column Name** | **Description** | **Details** |
| pond | pond identity | A-F |
| spp | species identity | BLG = bluegill  YEP = yellow perch  LMB = largemouth bass  FHM = fathead minnow  BMB = bigmouth buffalo |
| length | fish total length | millimeters |
| weight | fish body weight | g |
| mortality | observed non-predation mortality | Y=observed  N=non-observed |
| source | waterbody fish was collected from via electroshocking | BC = Brushy Creek Lake  FI = Five Island Lake  BF = Beemer Fisheries |
| doy | julian day of year, 2020 | number |
| experiment | pre- or post-experiment | pre = pre-experiment  post = post-experiment |

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| **Fish diet: gaslav\_clean.csv** | | |
| **Column Name** | **Description** | **Details/Units** |
| pond | pond identity | A-F |
| doy | julian day of year, 2020 | number |
| fish\_id | fish species identity | BLG = bluegill  YEP = yellow perch  LMB = largemouth bass |
| length | fish total length | millimeters |
| weight | fish body weight | g |
| whirlpak | whirlpak number | number |
| diet\_id | description of organism or material present in diet sample | Identified down to closest genera if able, otherwise provided a brief description |
| abundance | numerical abundance of identified organism or material | some organisms could not be individually identified so the description includes the word ‘several’ and abundance was left as 1 unit (e.g. several strands of plant material) |

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| **Periphyton: periphy\_clean.csv** | | | |
| **Column Name** | **Description** | **Details** | |
| pond\_id | pond identity | A-F | |
| launch | julian day of year, 2020 when periphyton samplers were launched | number | |
| collect | julian day of year, 2020 when periphyton samplers were collected | BLG = bluegill  YEP = yellow perch  LMB = largemouth bass | |
| **Column Name** | **Description** | **Units** | **Methods** |
| biomass\_area | areal biomass of periphyton | micrograms of chlorophyll-*a* per centimeters squared (µg cm2) | 14-day incubation on modified Hester-Dendy sampler |

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| **Macrophytes: macrophy\_clean.csv** | | | |
| **Column Name** | **Description** | **Details/Units** | |
| pond\_id | pond identity | A-F | |
| doy | julian day of year, 2020 | number | |
| pot\_fol | species name: *Potamogeton foliosus* | 1 = present, 0 = absent | |
| pot\_nod | species name: *Potamogeton nodosus* | 1 = present, 0 = absent | |
| **Column Name** | **Description** | **Units** | **Methods** |
| biomass | dry-weight biomass | grams (g) | dried for 48 hours at 72 C then weighed |

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| **Zooplankton: hort\_zp\_clean\_11622.csv** | | | |
| **Column Name** | **Description** | **Details/Units** | |
| pond\_id | pond identity | A-F | |
| treatment | julian day of year, 2020 | number | |
| period | did the pond receive a nutrient pulse | pulsed = yes  reference = no | |
| doy | julian day of year, 2020 | number | |
| group | larger taxonomic group | SmCladocera = small cladocerans  Bosmina = *Bosmina*  LgCladocera = large cladocerans  Ceriodaphnia = *Ceriodaphnia*  Chydorus = *Chydorus*  Daphnia = *Daphnia*  Simocephalus = *Simocephalus*  Calanoid = Calanoida  Cyclopoid = Cyclopoida  Nauplii = Nauplii  Rotifer= Rotifera  Ostracod = Ostracoda | |
| taxon | lowest taxonomic identifier | genera for cladocerans and rotifers, order for copepods and ostracods | |
| **Column Name** | **Description** | **Units** | **Methods** |
| biomass | biomass density | micrograms per liter (µg L-1) | length-weight regressions |

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| **Macroinvertebrates: TBD** | | |
| **Column Name** | **Description** | **Details/Units** |