***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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| **Field Data: surface\_nutrients\_chla.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** |
| Chla\_10\_30 | chlorophyll-*a* concentration average between 10 – 30 cm. Missing data (B151; C231 averaged preceding and succeeding date to fill) | micrograms per liter (µg L-1) | total algae probe; YSI ProDSS |
| tp | total phosphorus concentration | micrograms per liter (µg L-1) | EPA 365.1 v2 (USEPA, 1993) |
| tp\_flag | data quality flag for TP data | b=below detection limit; value replaced with Long term – Minimum Detection Limit | |
| srp | soluble reactive phosphorus | micrograms per liter (µg L-1) | EPA 365.1 v2 (USEPA, 1993) |
| srp\_flag | data quality flag for SRP data | b=below detection limit; value replaced with Long term – Minimum Detection Limit | |
| tn | total nitrogen concentration | milligrams per liter (mg L-1) |  |
| tn\_flag | data quality flag for TN data | b=below detection limit; value replaced with Long term – Minimum Detection Limit | |
| nox | Nitrate (NO3) concentration | milligrams per liter (mg L-1) | second derivative spectroscopy |
| nox\_flag | data quality flag for nitrate | b=below detection limit; value replaced with Long term – Minimum Detection Limit | |
| nhx | ammonium concentration | milligram per liter (mg L-1) |  |
| nhx\_flag | data quality flag for ammonium | b=below detection limit; value replaced with Long term – Minimum Detection Limit | |

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| **Metabolism Data: daily-metabolism\_data\_robertcorrected.csv** | | | |
| **Column Name** | **Description** | **Details** | |
| pond\_id | pond identity | A-F | |
| 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 |
| flag | Data quality flag for erroneous estimate | E=erroneous estimate such as negative GPP or positive R; whole day replaced with NA | |

***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 |
| treatment | experimental designation | reference = received no nutrient pulses  treatment = received both nutrient pulses |
| 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 |
| diet\_id | description of organism or material present in diet sample | Identified down to closest genera if able, otherwise provided a brief description |
| Broad\_taxa | broader taxonomic grouping | 8 groups:   * Zooplankton (zoop) * Macrophyte * Benthos * Fish * Frog * Unknown * NA * phytoplankton |
| 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\_m2 | areal biomass of periphyton | micrograms of chlorophyll-*a* per meter squared (µg m2) | 14-day incubation on modified Hester-Dendy sampler |
| biomass\_area\_cm2 | 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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| **Zooplankton: hort\_zp\_clean\_72622.csv** | | | |
| **Column Name** | **Description** | **Details/Units** | |
| sampleid | sample identification | E = experimental ponds  20 = year  A – F = pond identity  143 = day of year | |
| 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: macroinvert\_density.csv** | | | |
| **Column Name** | **Description** | **Details/Units** | |
| sampleid | sample identification | E = Experimental Ponds  20 = Year (2020)  154 = Julian Day of Year  HS = Hess Sampler | |
| pond\_id | pond identity | A-F | |
| doy | julian day of year, 2020 | number | |
| treatment | julian day of year, 2020 | number | |
| period | did the pond receive a nutrient pulse | pulsed = yes  reference = no | |
| taxa | unique taxa identified within the samples | usually down to family, but sometimes down to order or class | |
| order\_class | order or class of taxa identified | the suffix ‘a’ indicates it is referring to order  the suffix ‘aeta’ or ‘ea’ indicate class or subclass | |
| gear | gear used to sample | Hess sampler (0.3m diameter)– a type of stovepipe sampler | |
| **Column Name** | **Description** | **Units** | **Methods** |
| density | areal density of macroinvertebrate taxa in each experimental pond | individuals per cubic meter (#/m^2) | divide count by sample area |