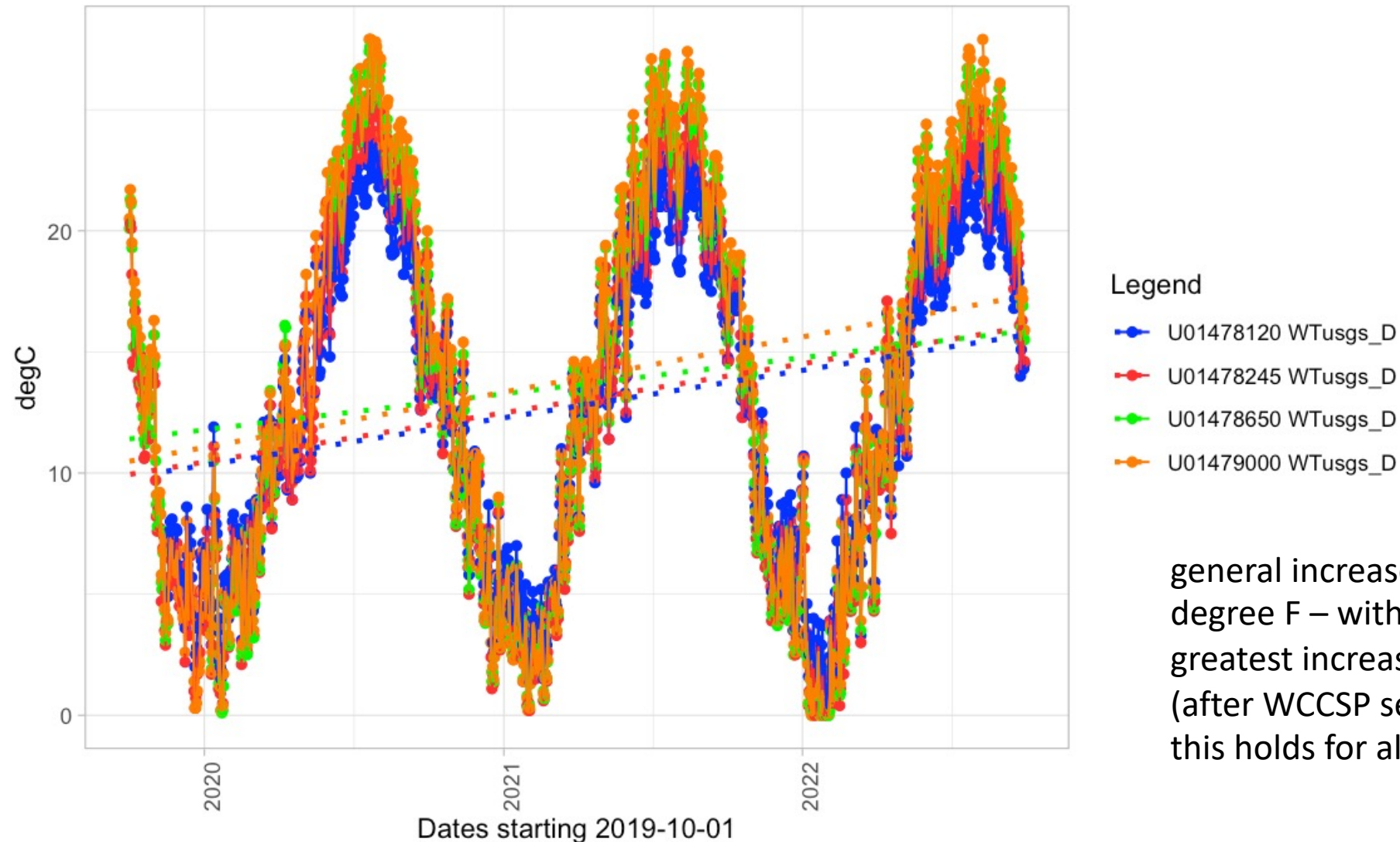# WATER TEMPERATURE

White Clay East USGS(U01478120)
White Clay Strickersville USGS(U01478245), White Clay Newark USGS(U01478650)
White Clay Newark East USGS(U01479000)

Water Temp USGS Day Mean(WTusgs_D) degC

general increase 5 degree C or about 9 degree F – with the golf course seeing the greatest increase and the site at Timothy's (after WCCSP seeing the lowest increase – this holds for all our sites as well

WATER TEMPERATURE

White Clay Strickersville USGS(U01478245)
Watson's Mill(SL109), Egypt Run(SL110)
Rosehill(SL272)

Water Temp USGS Day Mean(WTusgs_D) degC
Water Temp(WT) degC
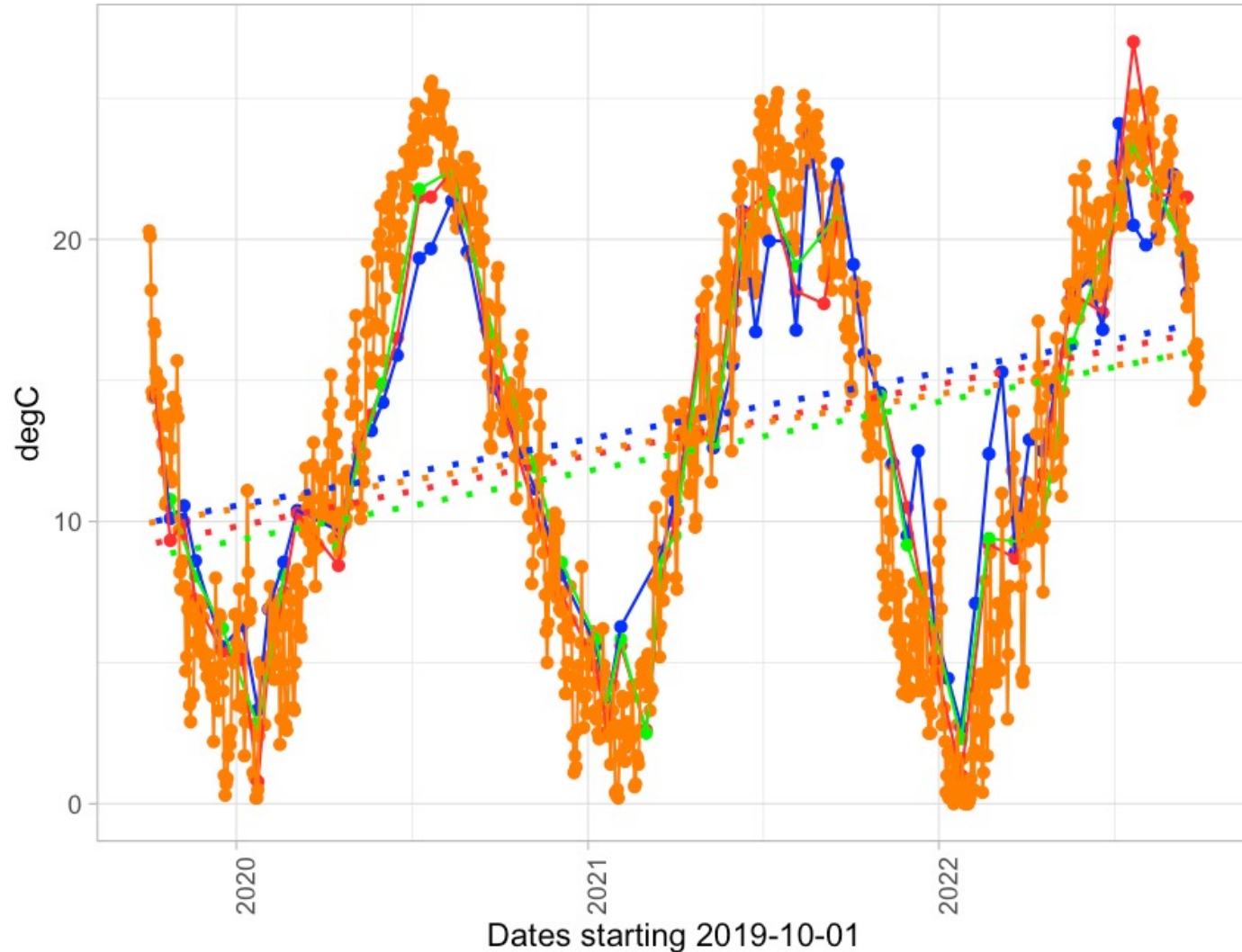
Legend

- SL109 WT
- SL110 WT
- SL272 WT
- U01478245 WTusgs_D

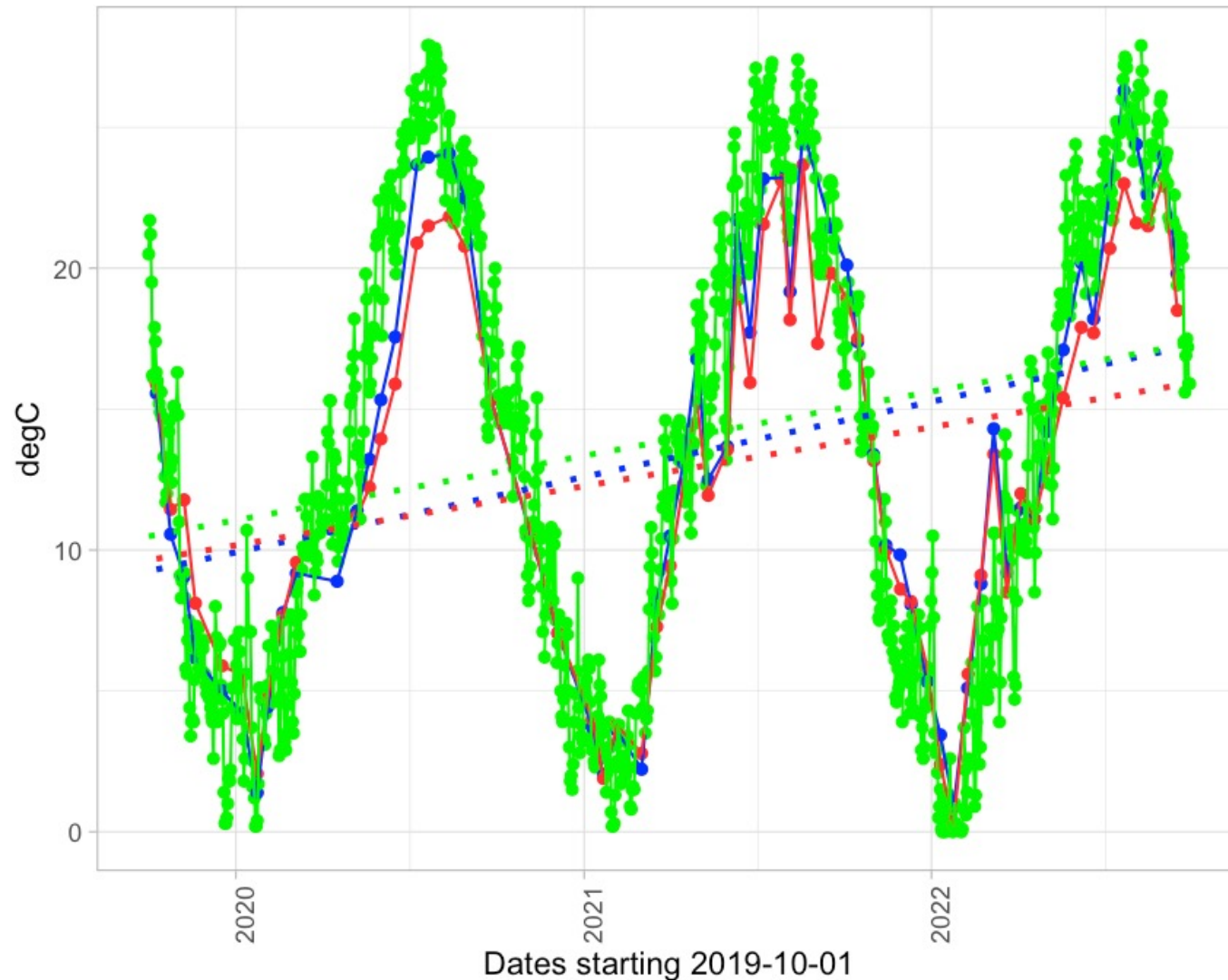PA Tributaries seeing similar trends to USGS gages (9F increase over 3 years)

WATER TEMPERATURE
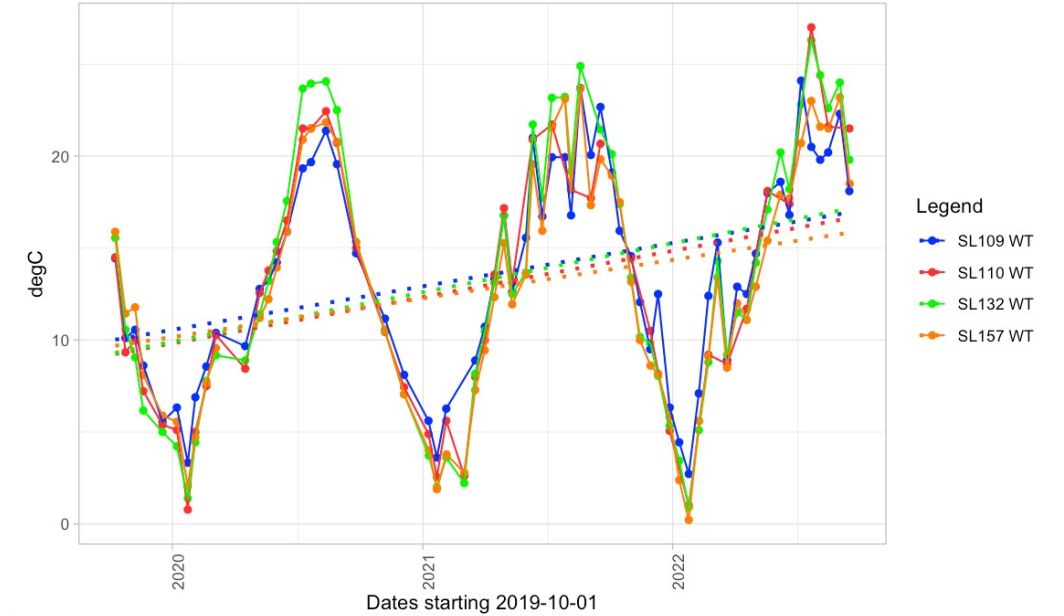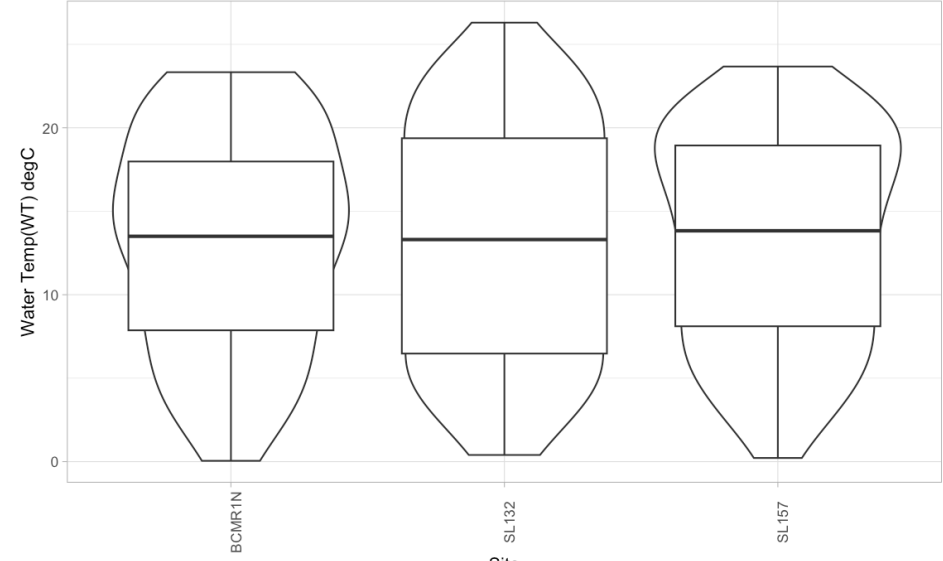

White Clay Newark East USGS(U01479000)
Hickory Hill(SL132), UT Middle Run(SL157)
Water Temp USGS Day Mean(WTusgs_D) degC
Water Temp(WT) degC

degC

Legend
- SL132 WT
- SL157 WT
- U01479000 WTusgs_D

Dates starting 2019-10-01

2020   2021   2022

UT Middle Run(SL157)
Hickory Hill(SL132), Egypt Run(SL110)
Watson's Mill(SL109)
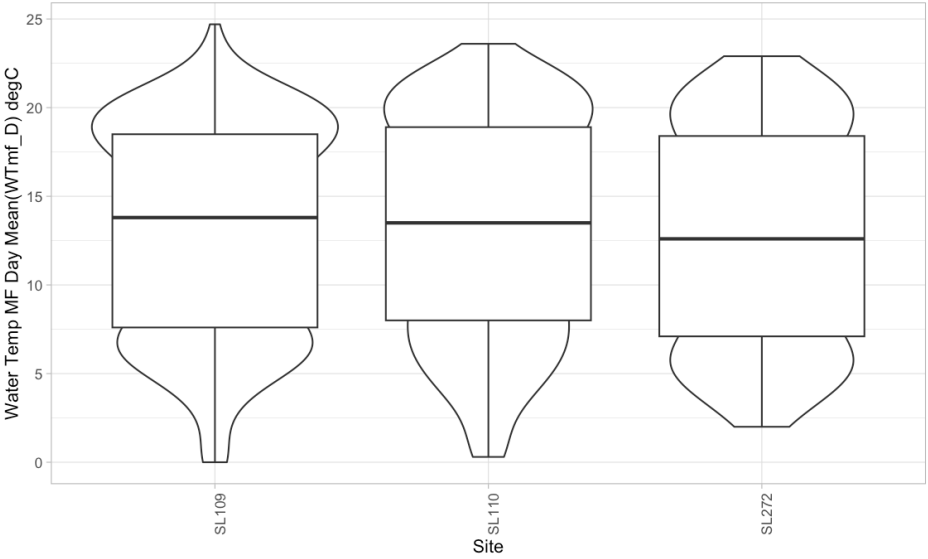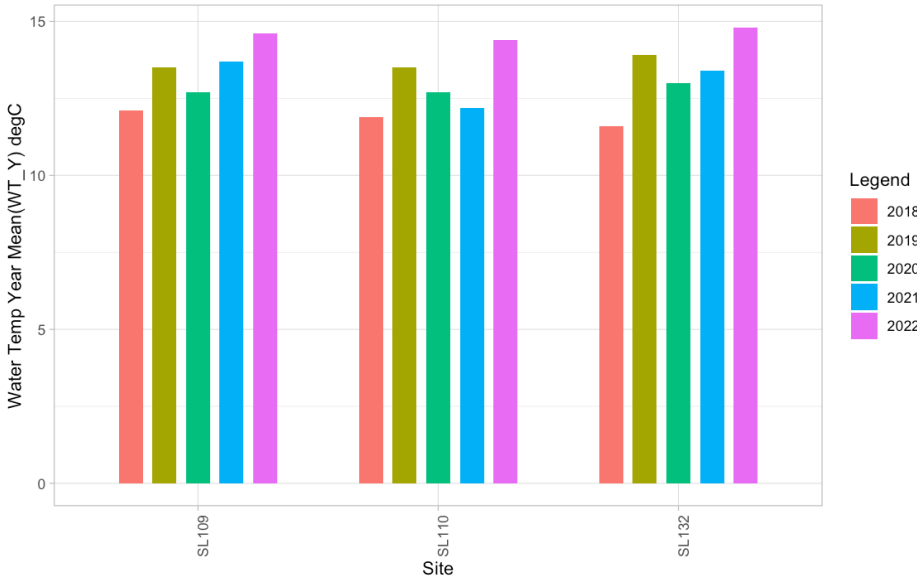Water Temp(WT) degC

degC

Legend
- SL109 WT
- SL110 WT
- SL132 WT
- SL157 WT

Dates starting 2019-10-01

2020   2021   2022

DE Tributaries seeing similar trends to USGS gages (9F increase over 3 years)

WATER TEMPERATURE

WATER TEMPERATURE

Middle Run Papermill(BCMR1N)

Rosehill(SL272)
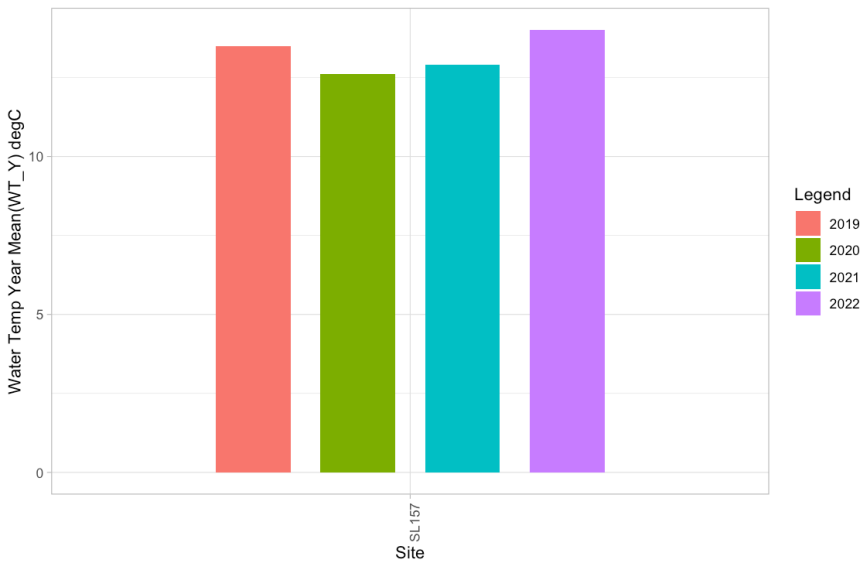
Top yearly mean
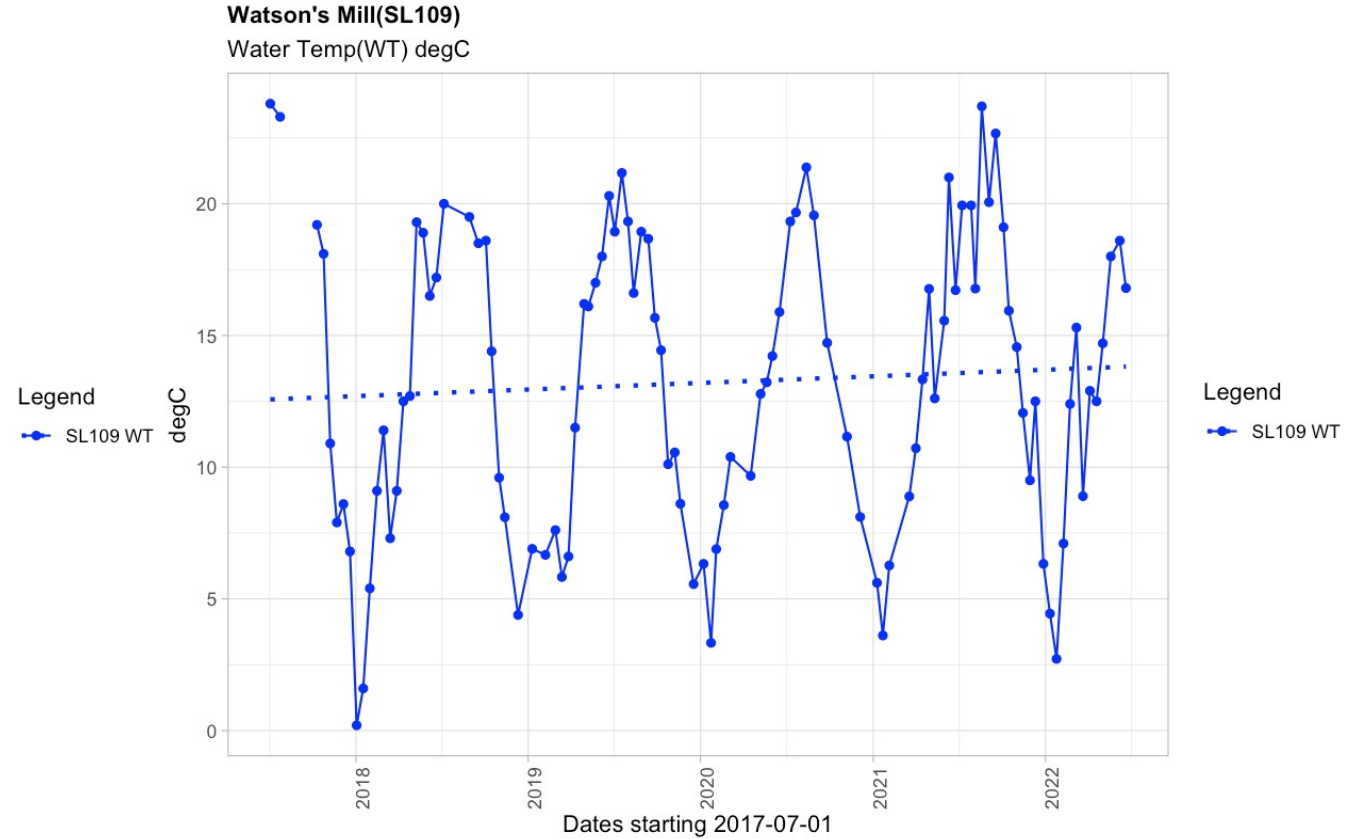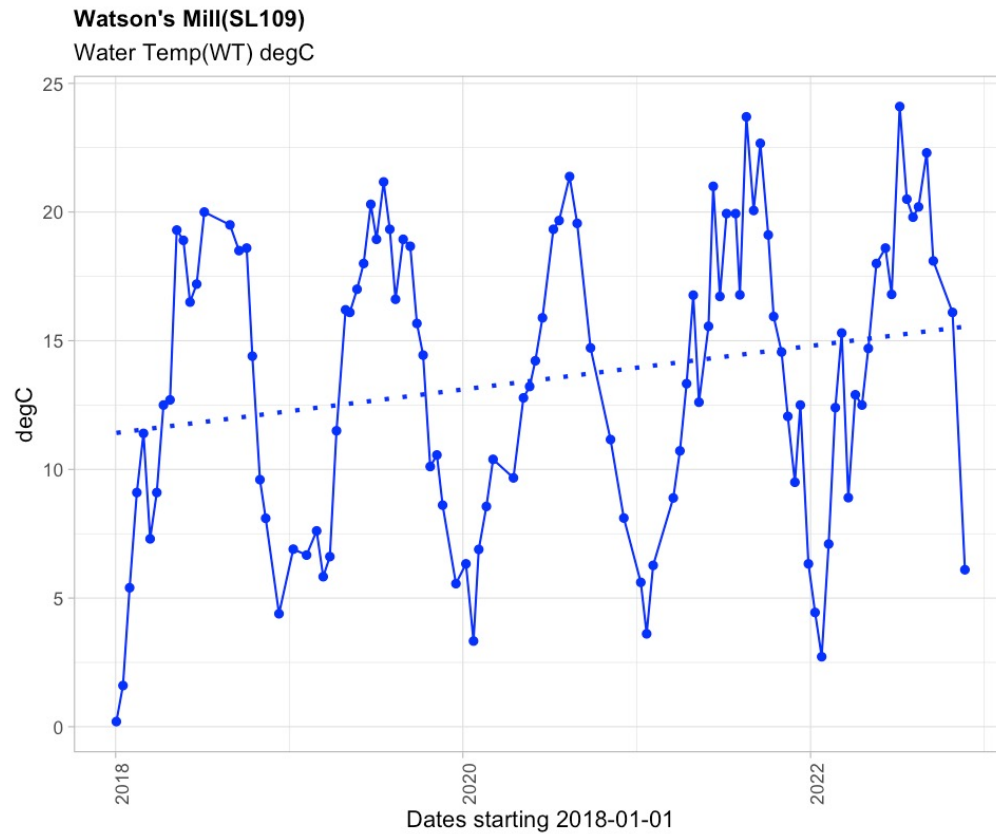Bottom bi-weekly
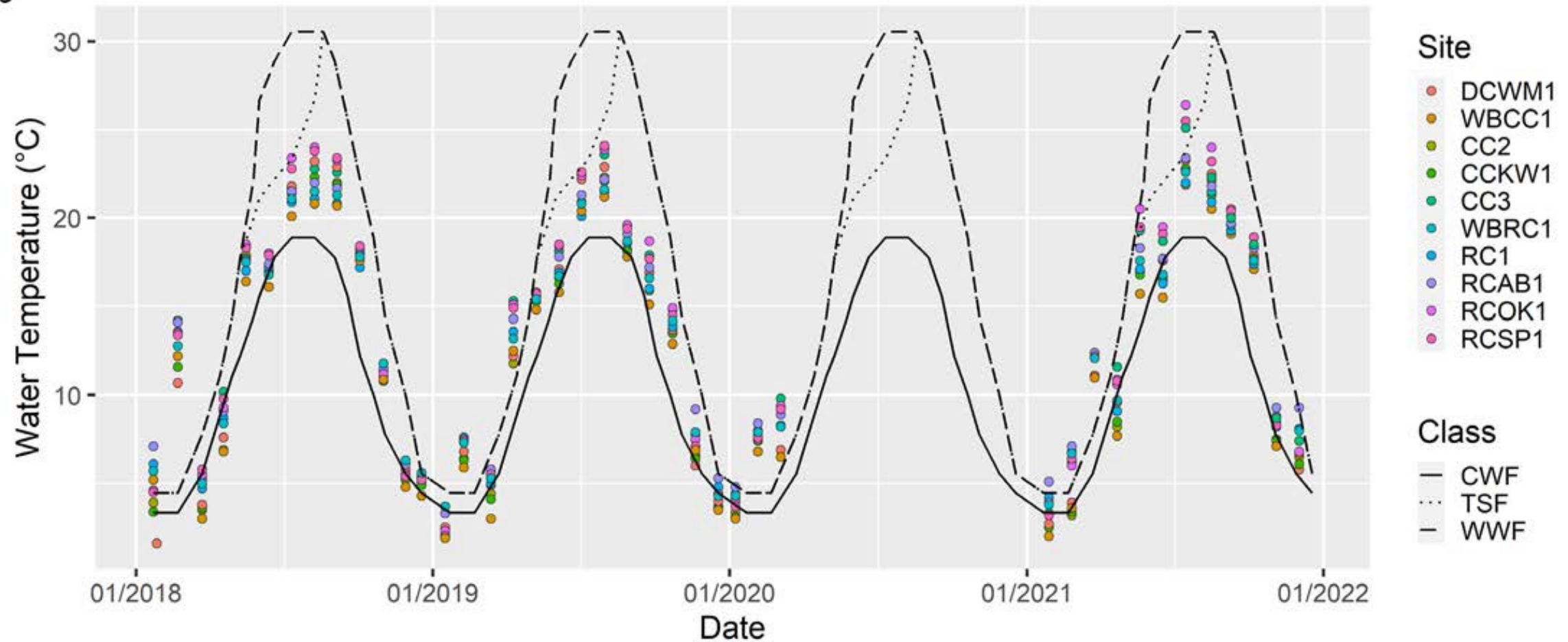measurements
nov-nov
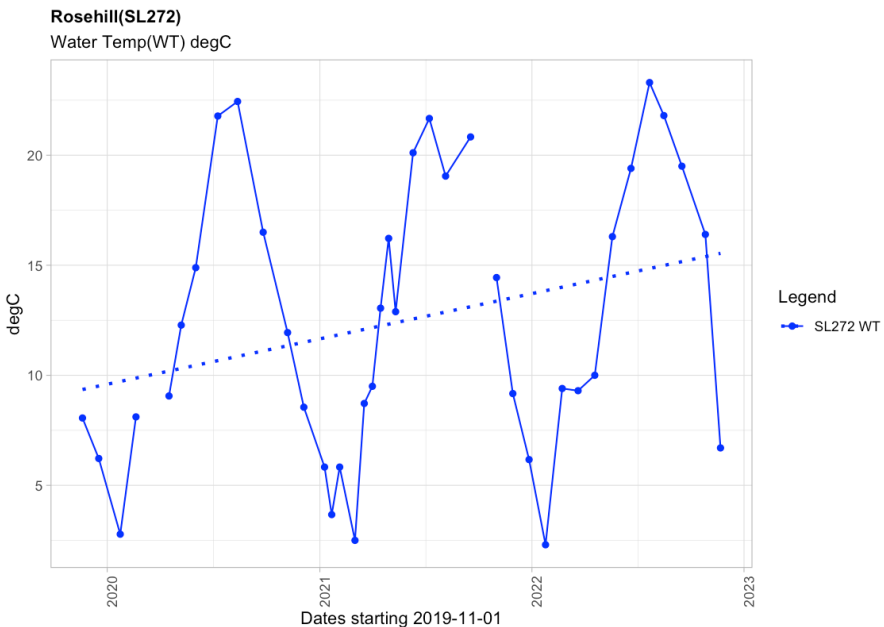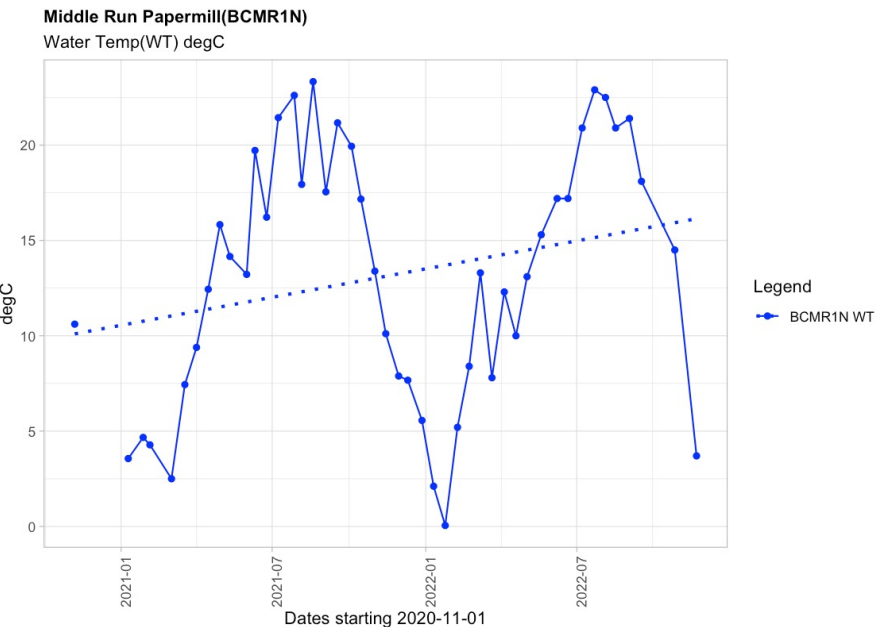
WATER TEMPERATURE

Same site and range- left: jan-dec yearly (5 years just missing december).
Right: july-june yearly (5 years)
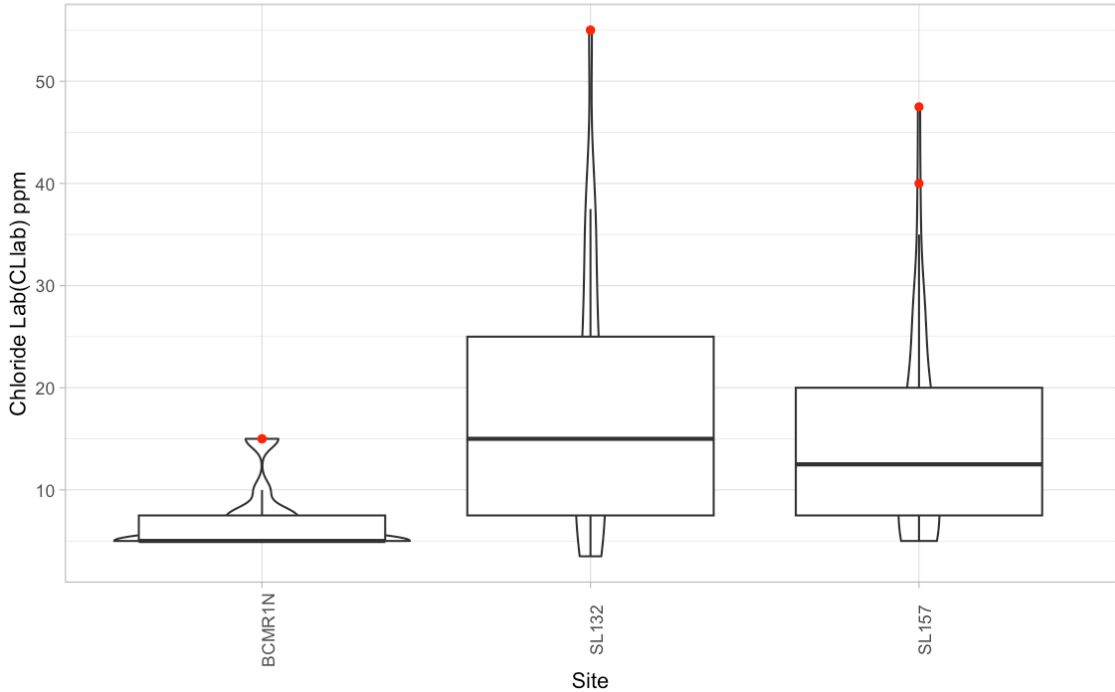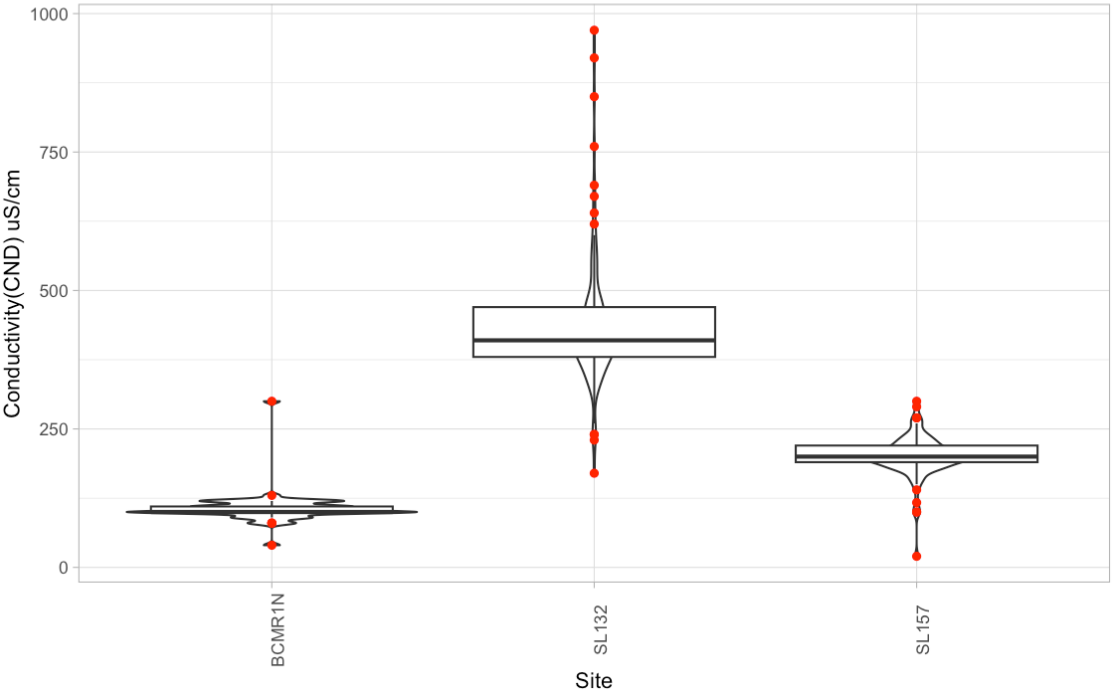
WATER TEMPERATURE

Ideally what I would like to do with water temp but I am not sure how to make this? (from darby creek report)
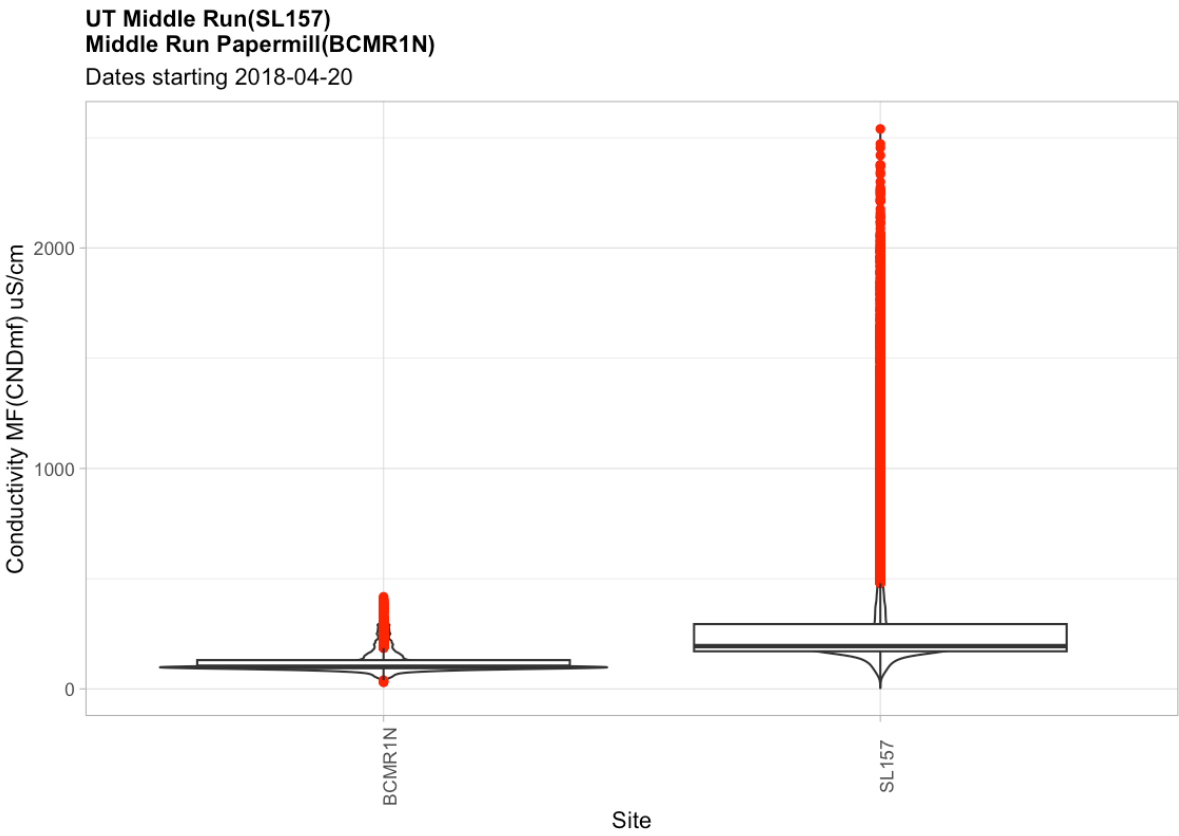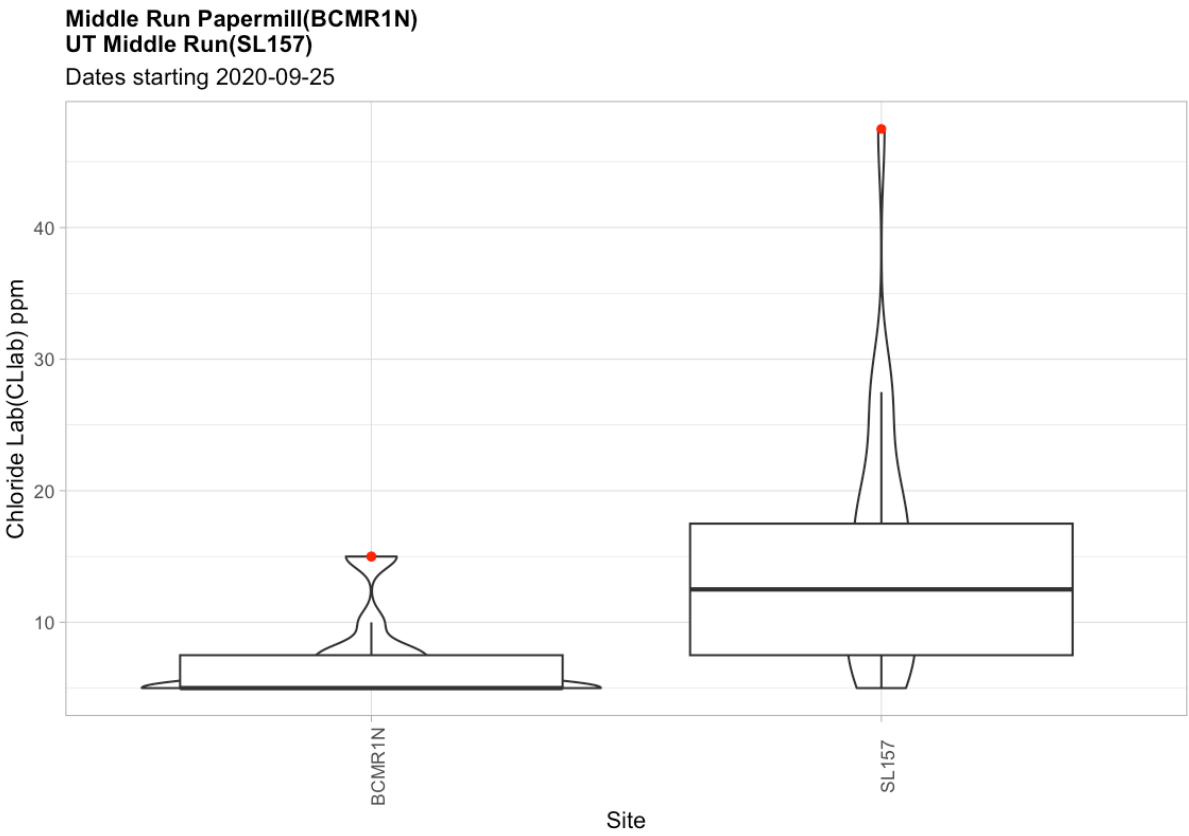
CHLORIDE & CONDUCTIVITY DATA

Hickory Hill(SL132)
UT Middle Run(SL157), Middle Run Papermill(BCMR1N)
Dates starting 2018-07-06

Hickory Hill(SL132)
UT Middle Run(SL157), Middle Run Papermill(BCMR1N)
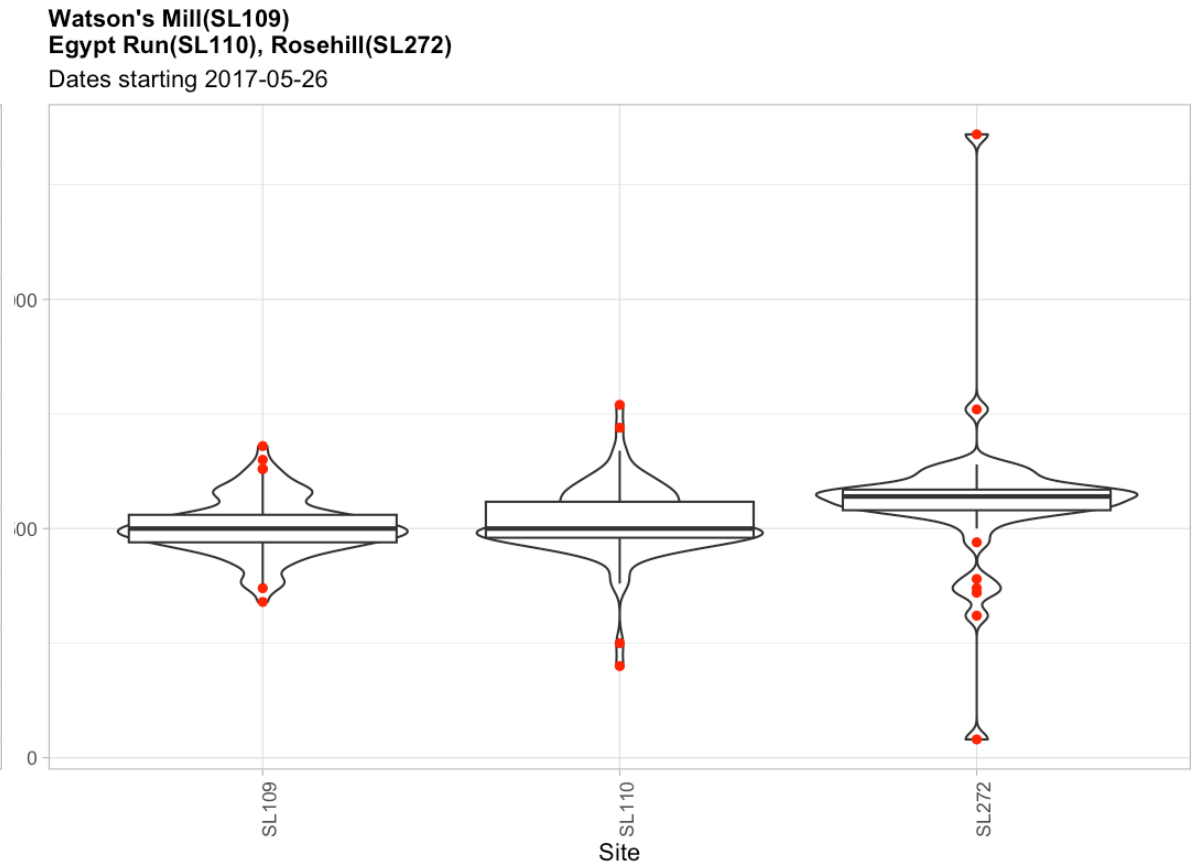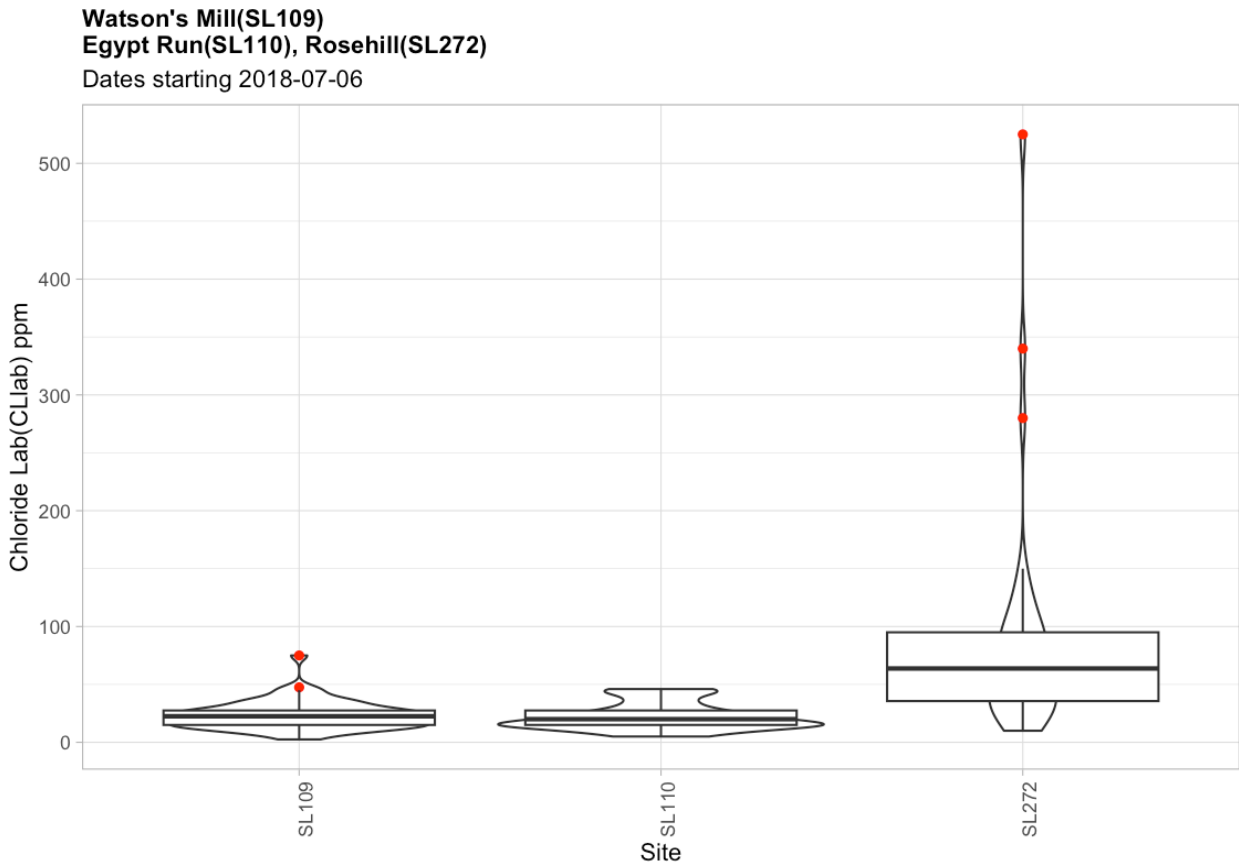Dates starting 2017-10-10

CHLORIDE & CONDUCTIVITY DATA

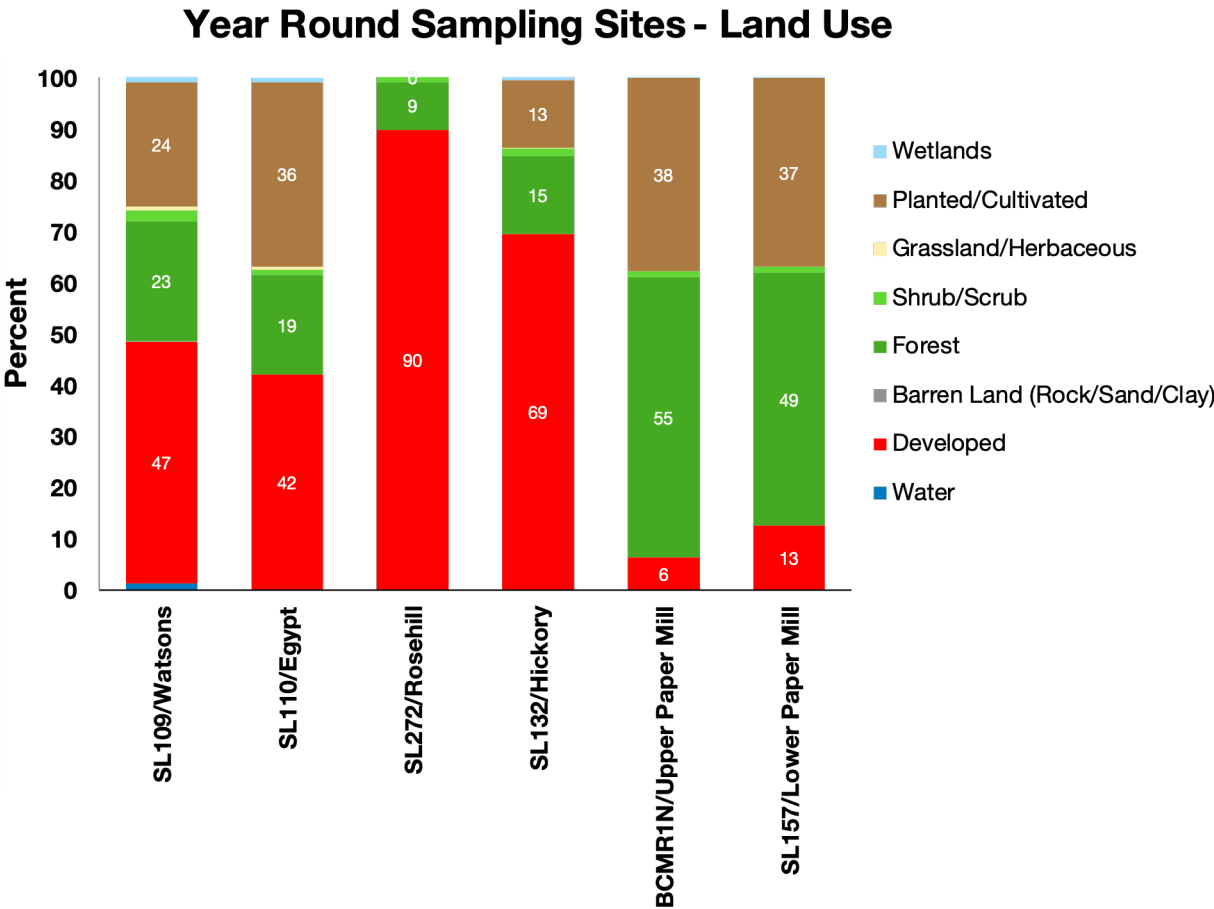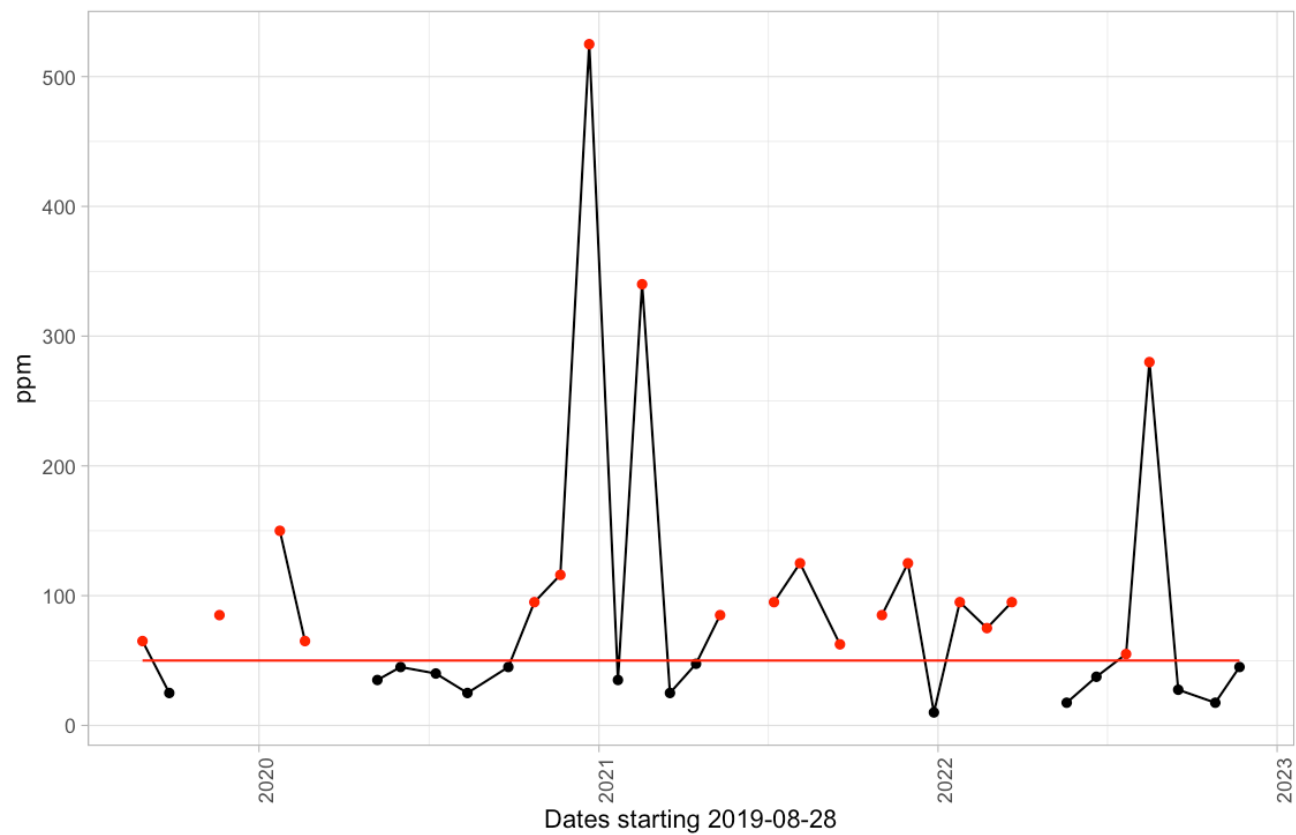

NOTE: ABOVE AND BELOW PAPERMILL ROAD COMPARISONS SAME TRIBUTARY

CHLORIDE & CONDUCTIVITY DATA

Problem site: Rosehill SL272 – CL chronically above 50ppm
– bad for macroinvertebrates (lower IBI scores), SL272 90% IC

Rosehill(SL272)
Chloride Lab(CLlab) ppm, Upper Threshold of 50 WCWS

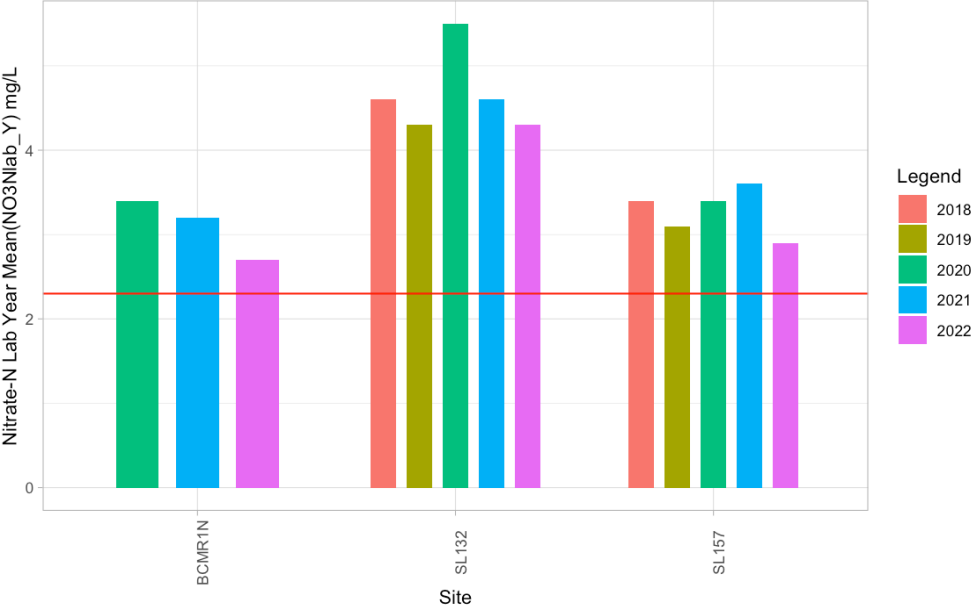Year Round Sampling Sites - Land Use

Only two of six sites the CL trend appears to be increasing: Hickory SL132 (DE) and Watsons SL109 (PA) (Higher or increasing IC)

Hickory Hill(SL132)
Chloride Lab(CLlab) ppm

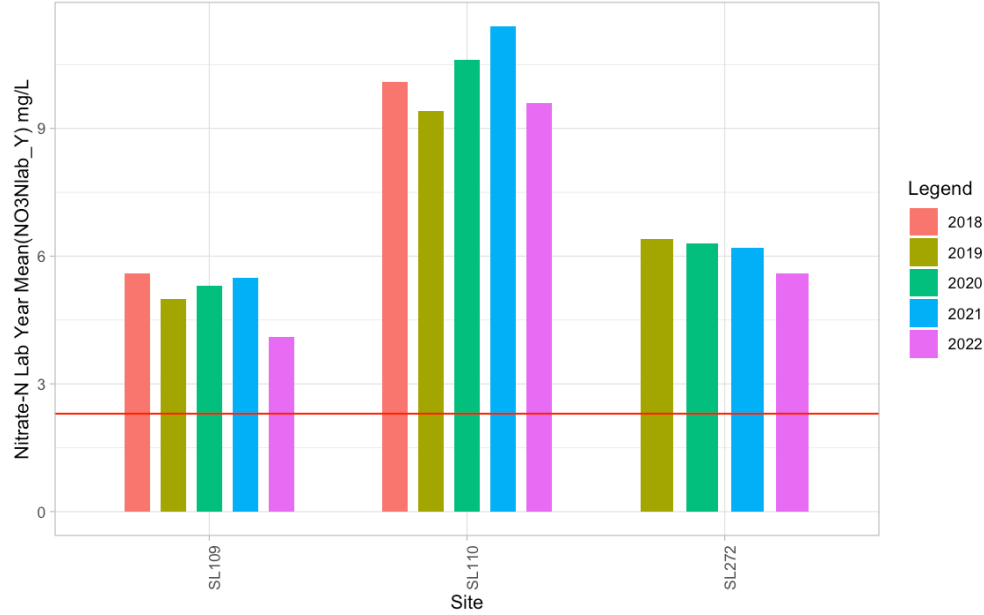Watson's Mill(SL109)
Chloride Lab(CLlab) ppm
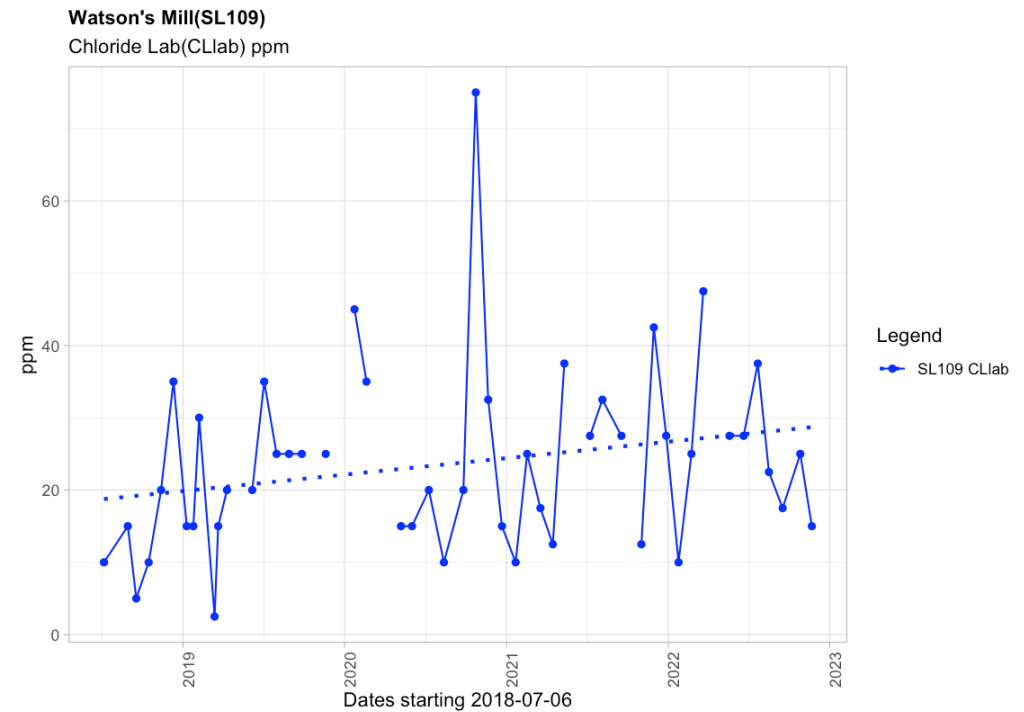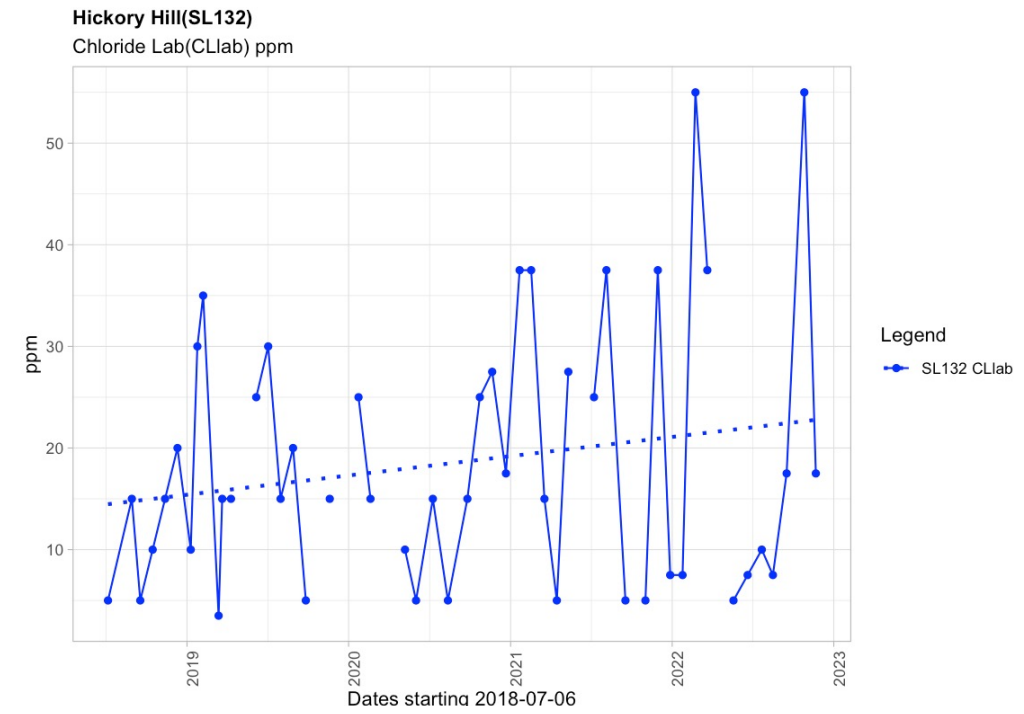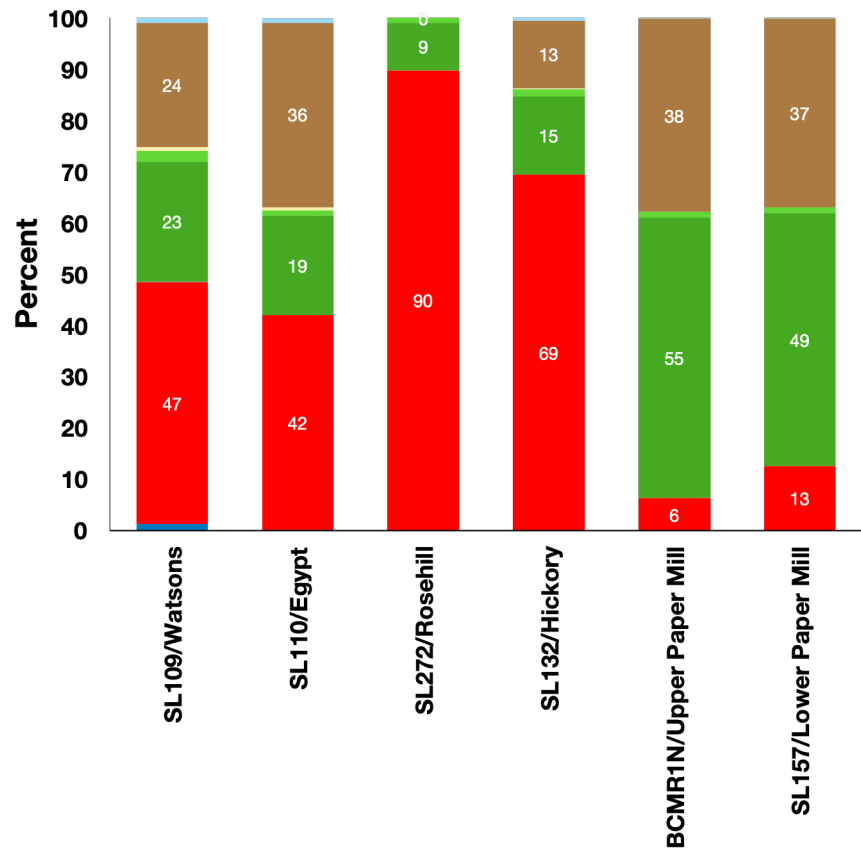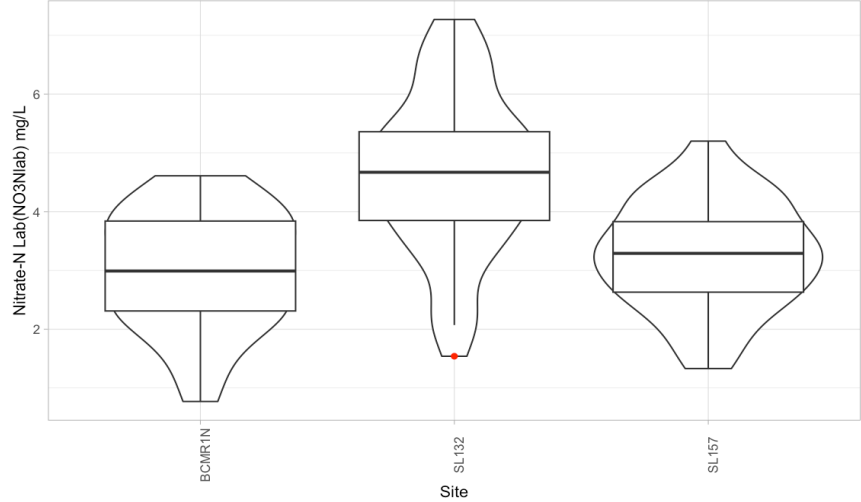
NUTRIENT DATA: NITRATE

Hickory Hill(SL132)
UT Middle Run(SL157), Middle Run Papermill(BCMR1N)
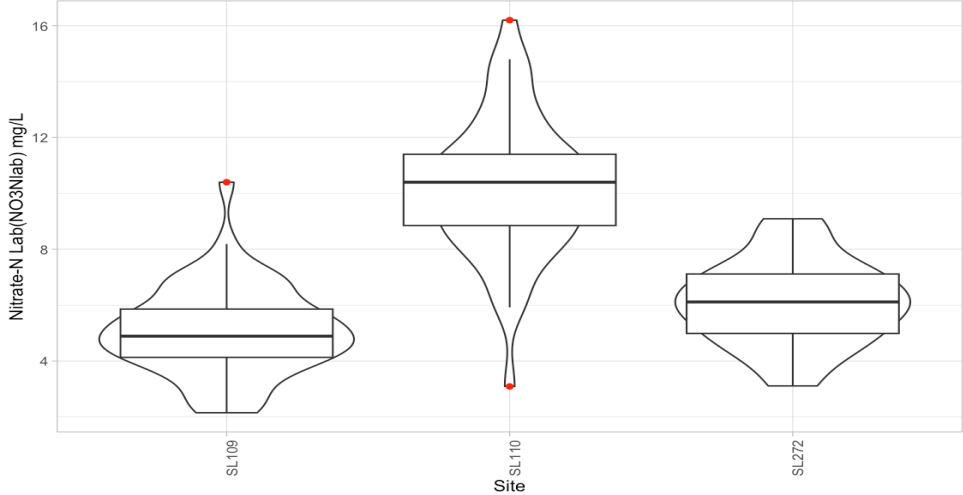Upper Threshold of 2.3 WCWS

Watson's Mill(SL109)
Egypt Run(SL110), Rosehill(SL272)
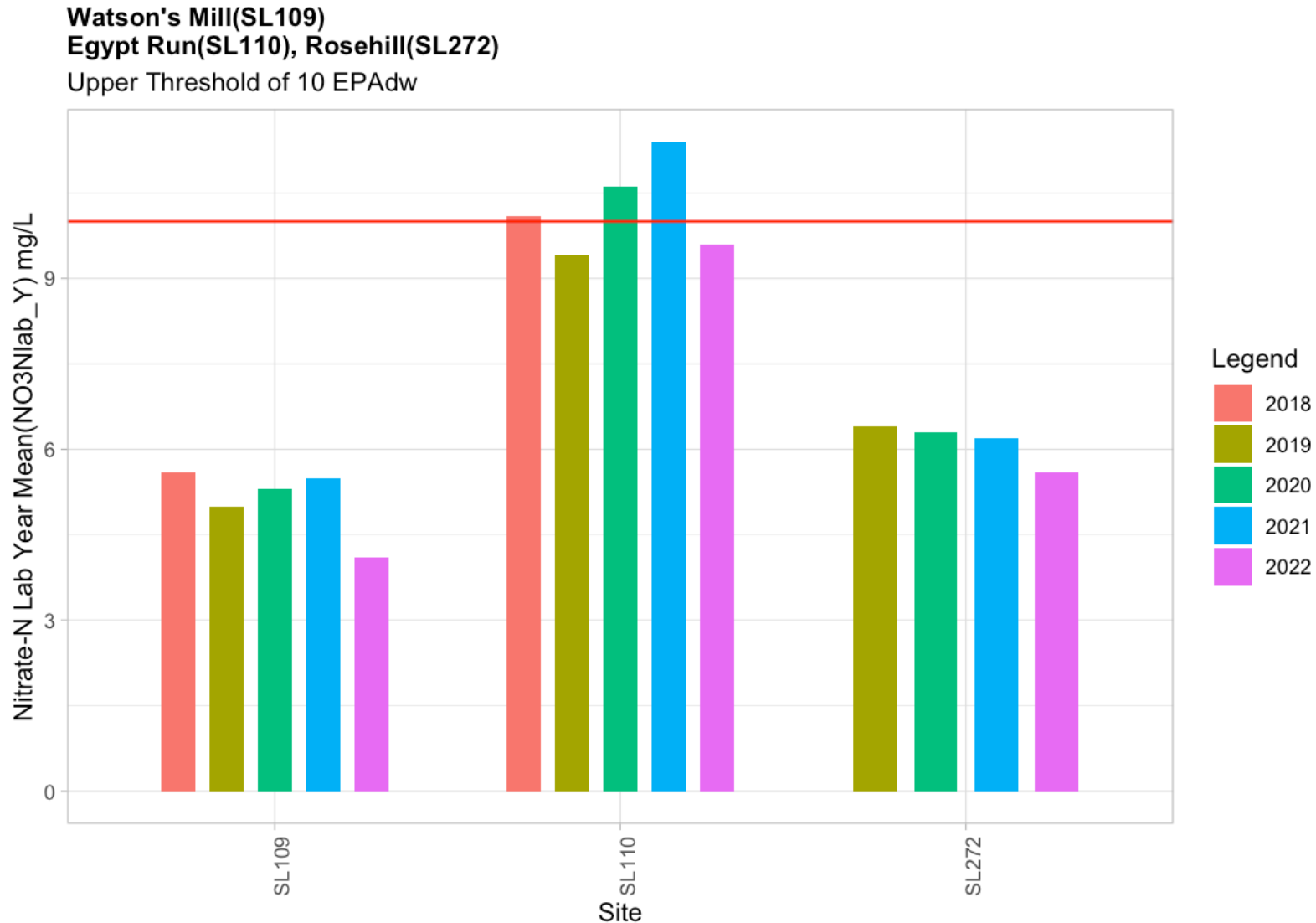Upper Threshold of 2.3 WCWS

Hickory Hill(SL132)
UT Middle Run(SL157), Middle Run Papermill(BCMR1N)
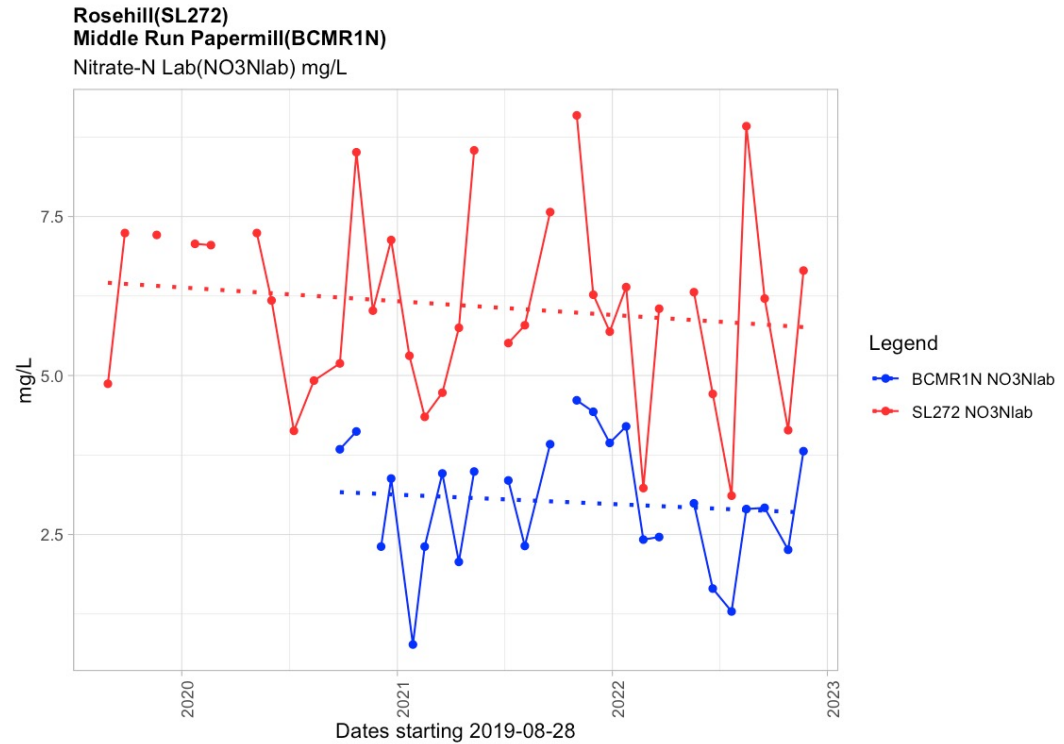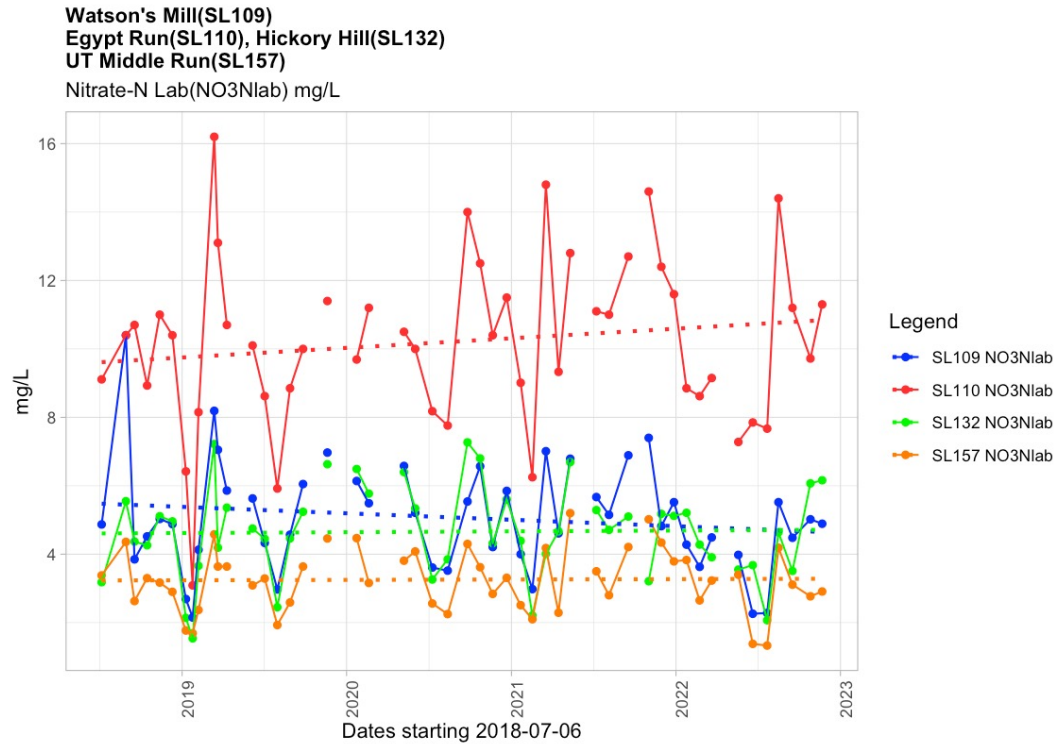Dates starting 2018-07-06

Watson's Mill(SL109)
Egypt Run(SL110), Rosehill(SL272)
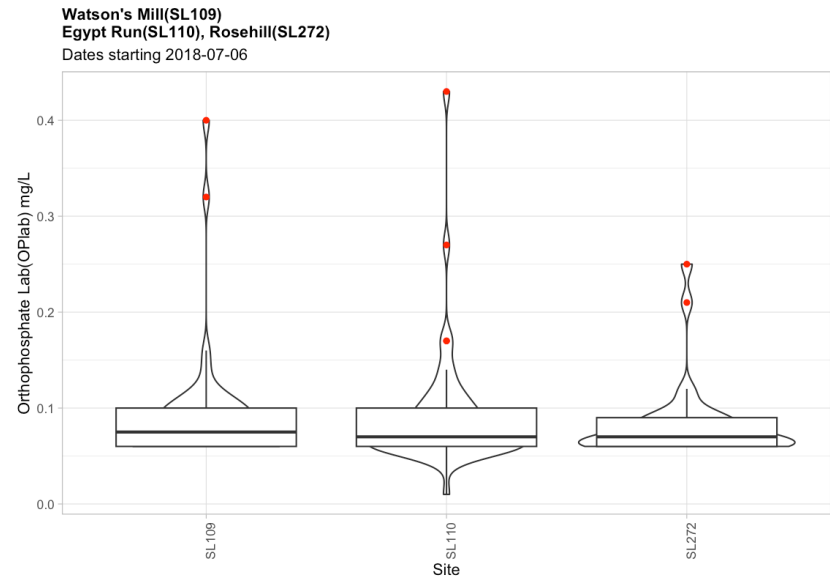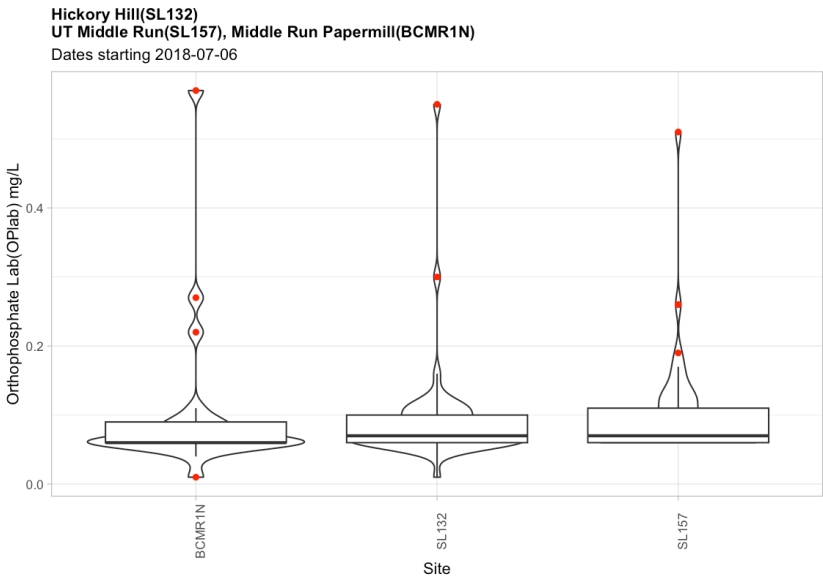Dates starting 2018-07-06

While Nitrate appears to be a problem at all sites, it is especially concerning at Egypt Run (SL110) where it often exceeds EPAs drinking water standards.

GENERAL TRENDS- mostly stable except Egypt Run (SL110) where it is trending upward.

Watson's Mill(SL109)
Egypt Run(SL110), Hickory Hill(SL132)
UT Middle Run(SL157)
Nitrate-N Lab(NO3Nlab) mg/L

Legend
- SL109 NO3Nlab
- SL110 NO3Nlab
- SL132 NO3Nlab
- SL157 NO3Nlab

Dates starting 2018-07-06

Rosehill(SL272)
Middle Run Papermill(BCMR1N)
Nitrate-N Lab(NO3Nlab) mg/L

Legend
- BCMR1N NO3Nlab
- SL272 NO3Nlab

Dates starting 2019-08-28

NUTRIENT DATA: PHOSPHATE
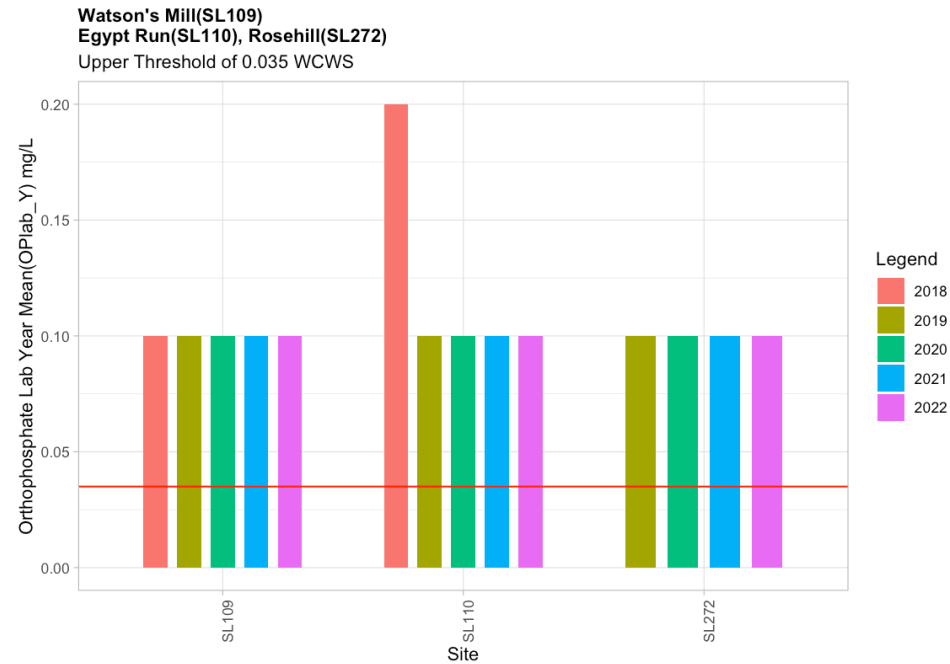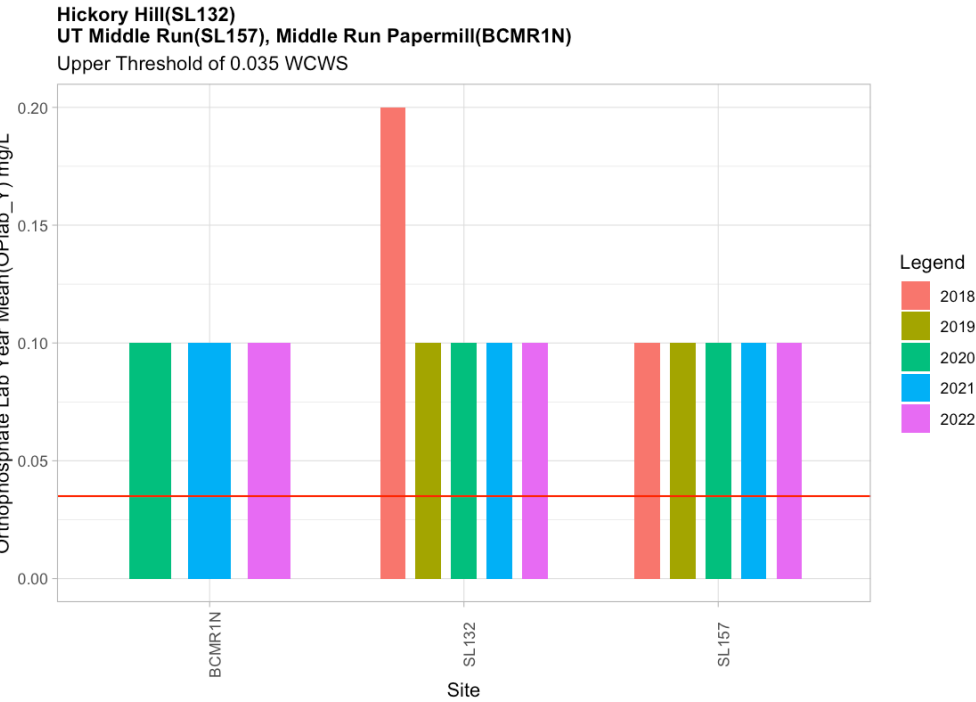
GENERAL TRENDS: PHOSPHATE

Watson's Mill(SL109)
Egypt Run(SL110), Hickory Hill(SL132)
UT Middle Run(SL157)

Orthophosphate Lab(OPlab) mg/L

Rosehill(SL272)
Middle Run Papermill(BCMR1N)

Orthophosphate Lab(OPlab) mg/L
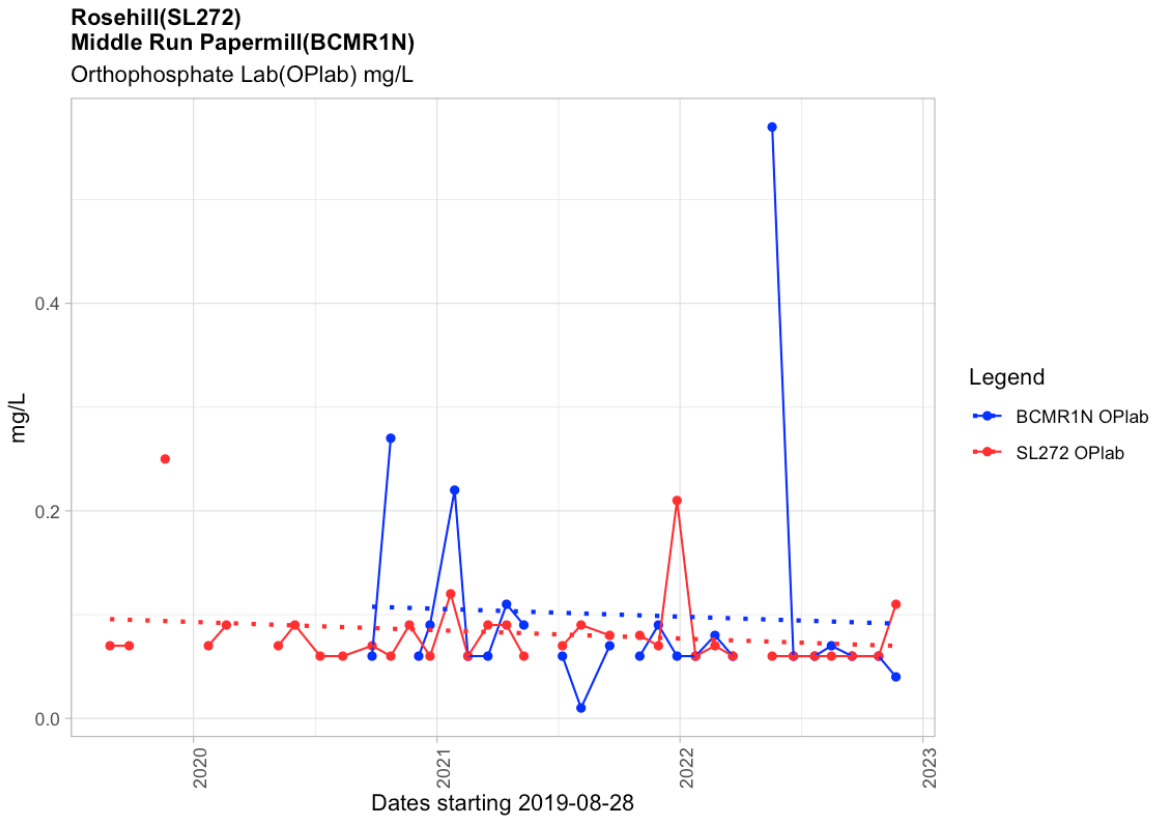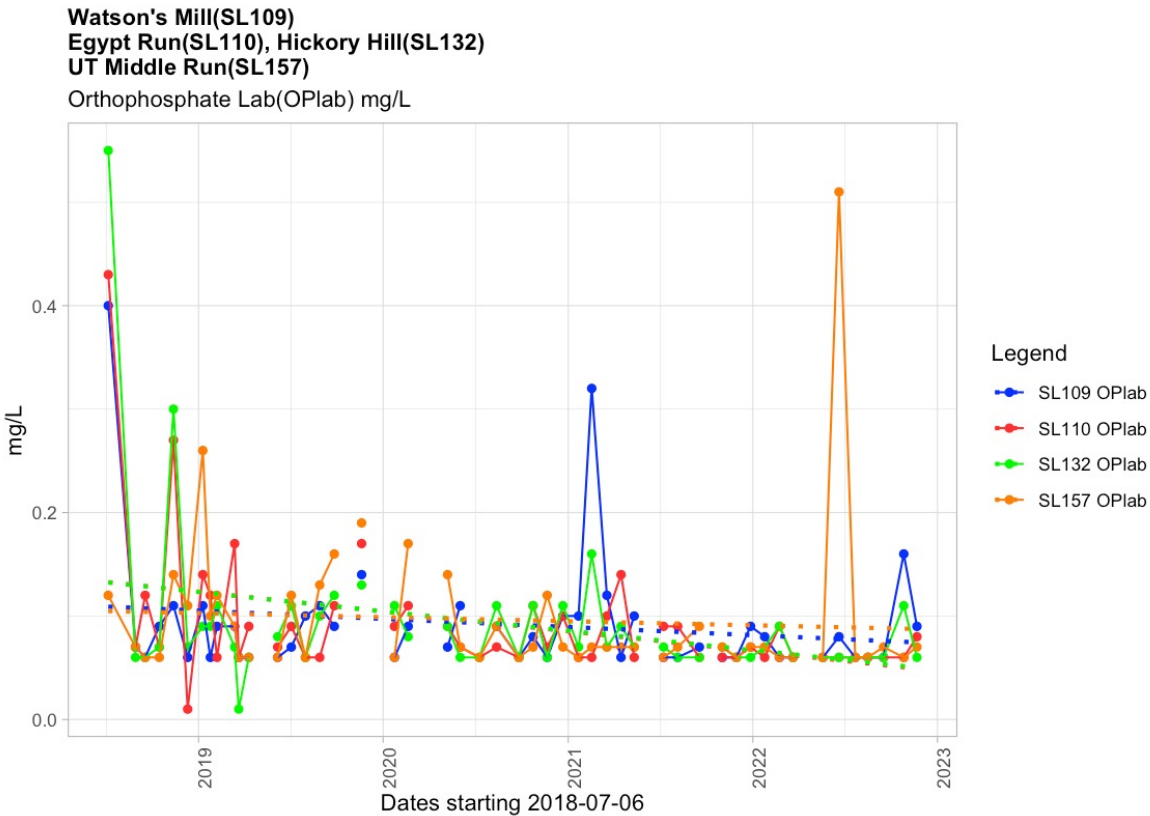
BACTERIA DATA: PA E COLI

PA DEP THRESHOLD 126 CFM

PA Sites E coli Geometric Means 2016-2022
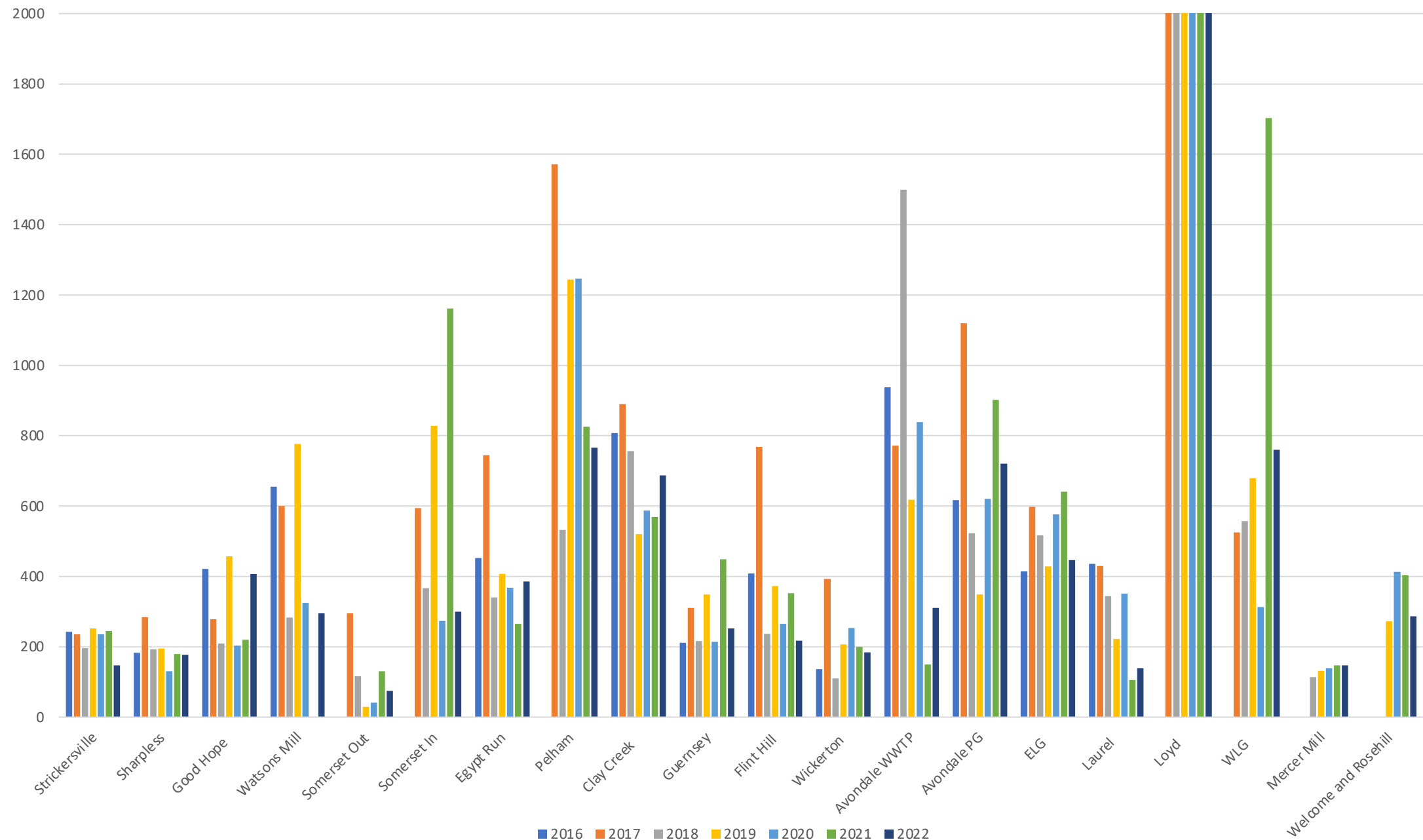
Sites (left to right): Strickersville, Sharpless, Good Hope, Watsons Mill, Somerset Out, Somerset In, Egypt Run, Pelham, Clay Creek, Guernsey, Flint Hill, Wickerton, Avondale WWTP, Avondale PG, ELG, Laurel, Loyd, WLG, Mercer Mill, Welcome and Rosehill

Legend: 2016, 2017, 2018, 2019, 2020, 2021, 2022

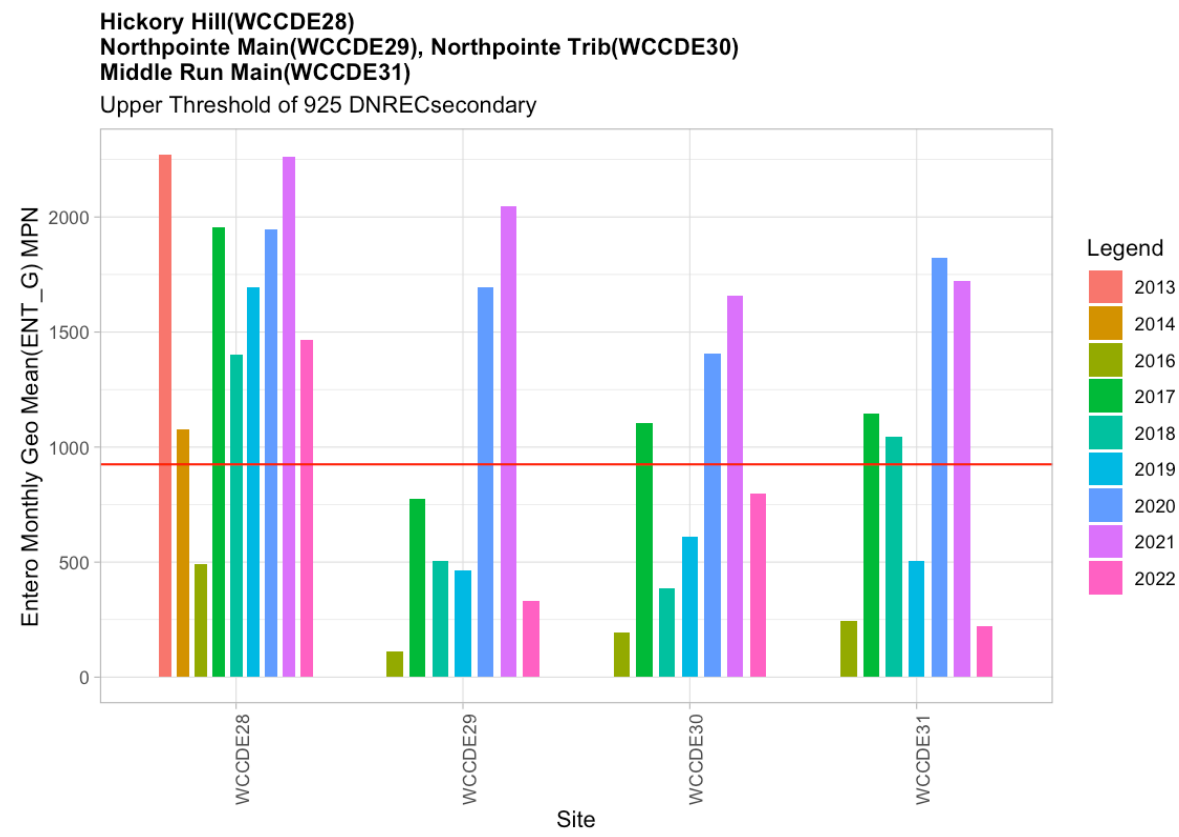BACTERIA DATA: DE ENTEROCCUS

Enteroccus Geometeric Means 2016-2022
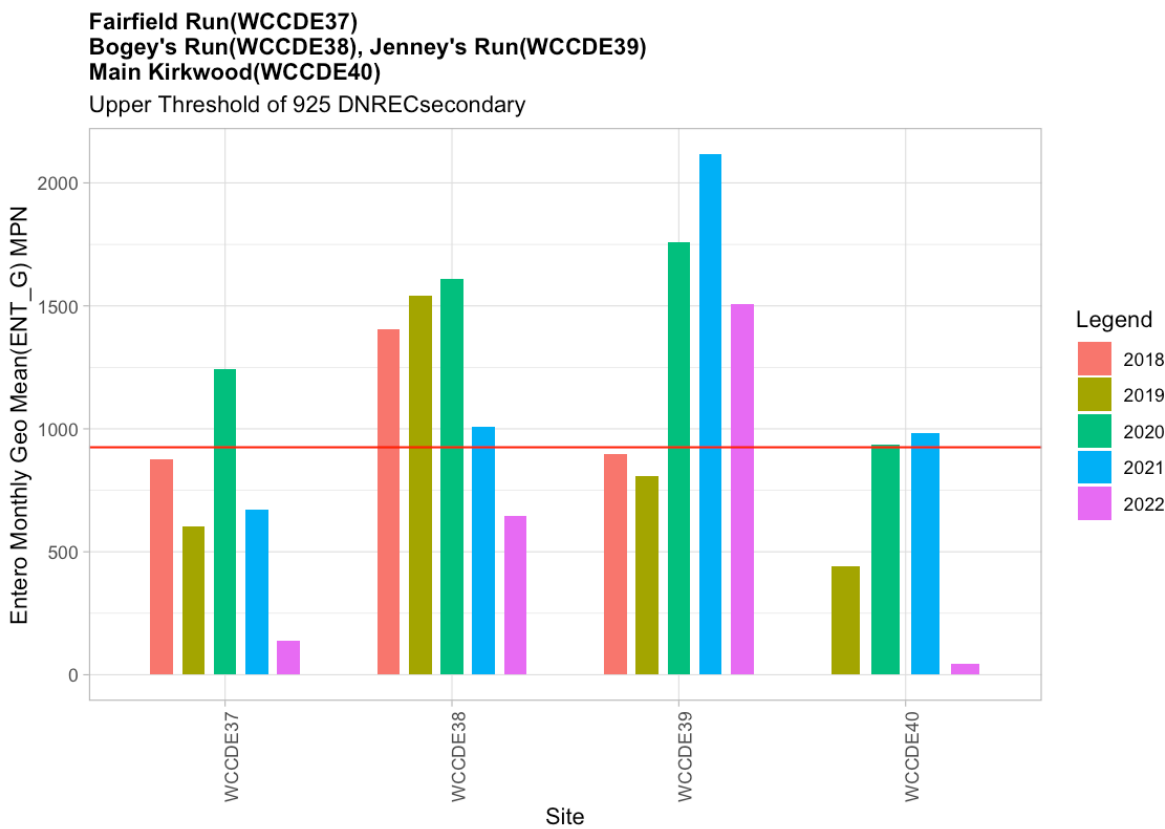
Hickory Hill, Jenney's Run and Blue Hen/Bogy Run appear to have highest counts – Recall only Bogy Run had significant human signal hence the more detailed study.
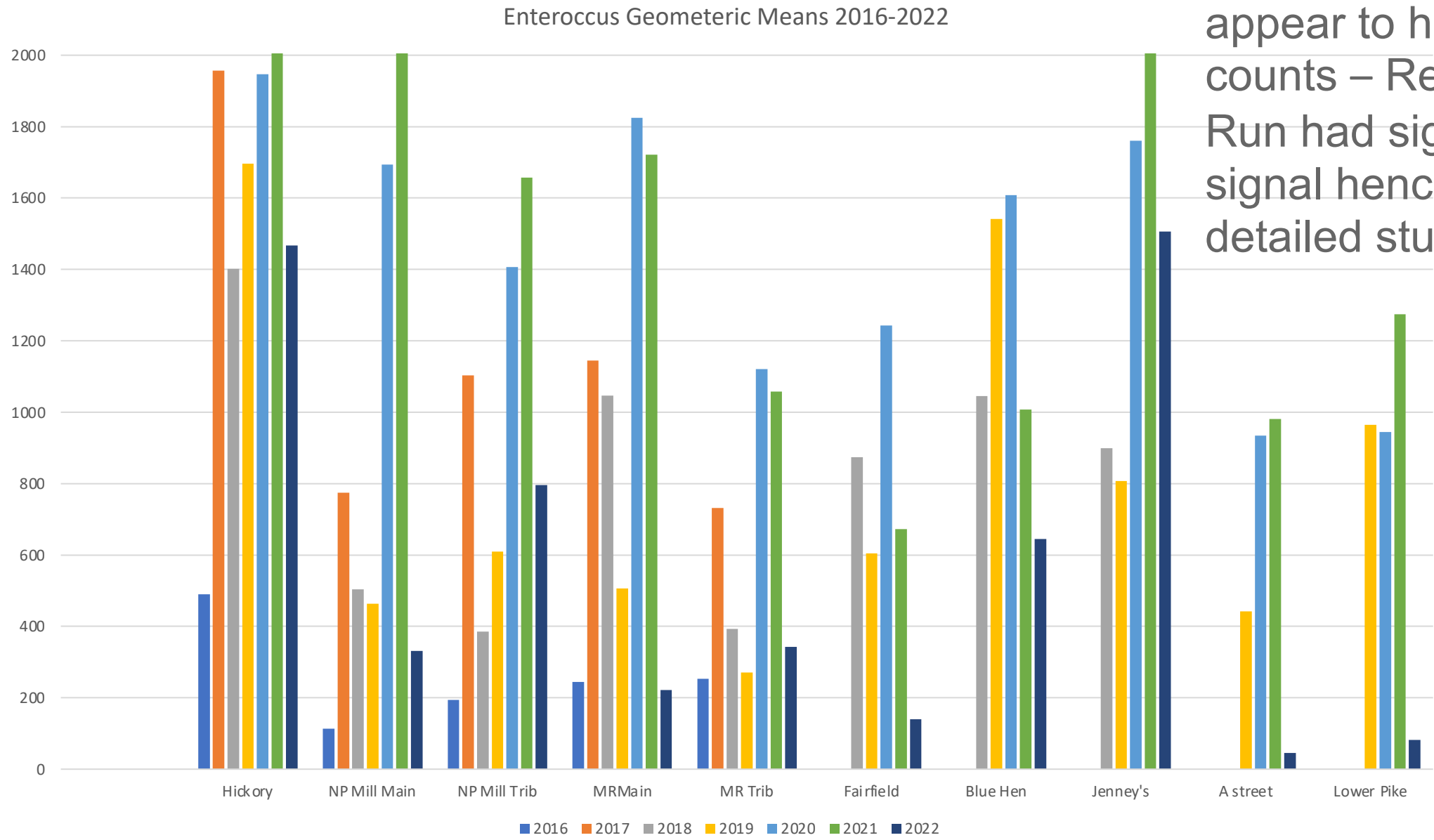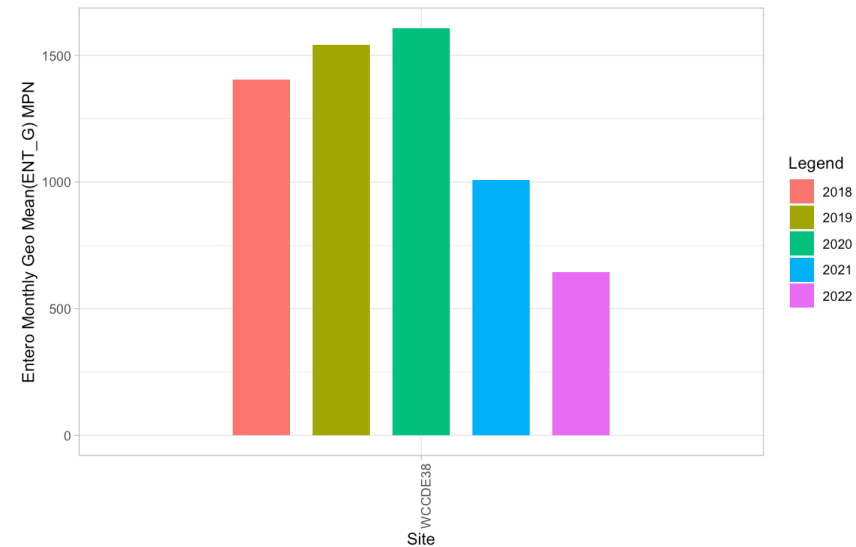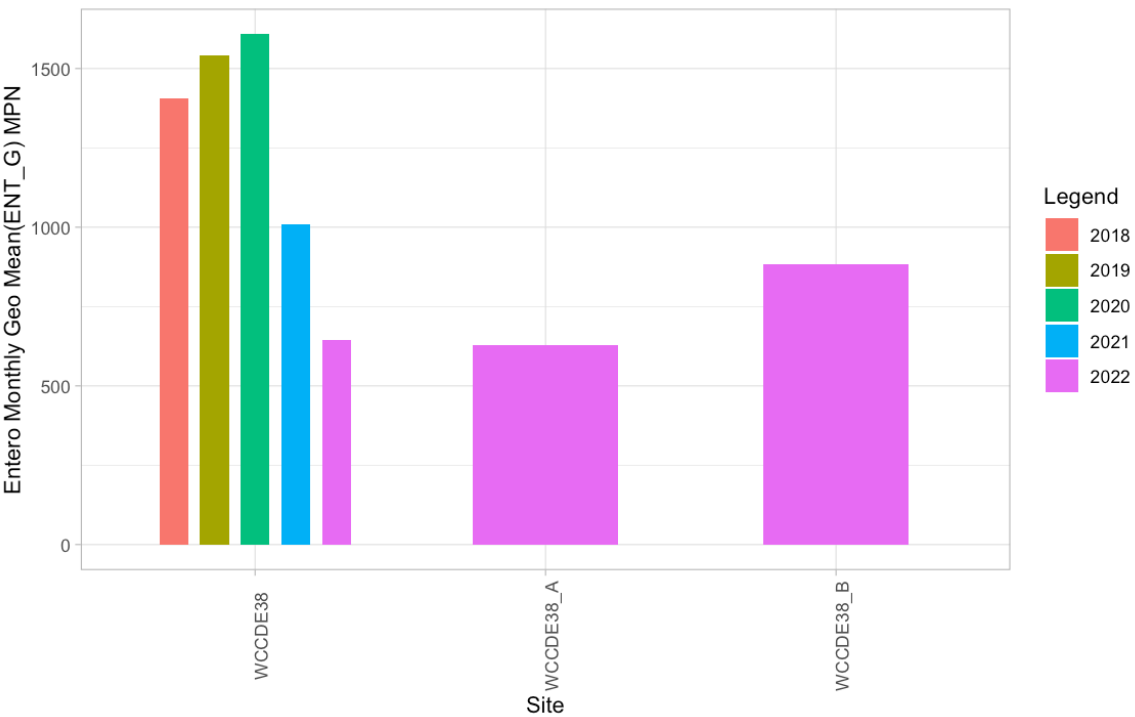
BACTERIA DATA: DE ENTEROCCUS
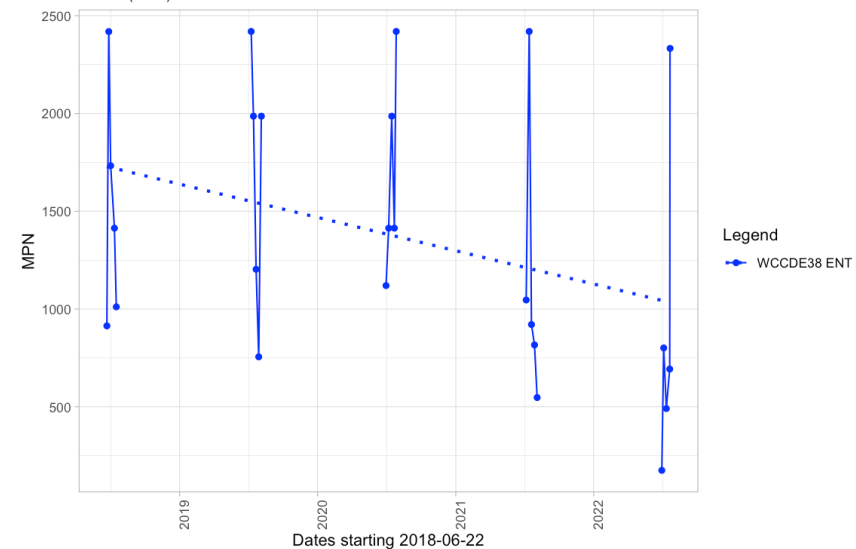
Newark Sites (left) NCC DE Sites (right)

Bogey's Run(WCCDE38)

Bogey's Run(WCCDE38)
Bogey's New London(WCCDE38_A), Bogey's George Wilson(WCCDE38_B)

Bogey's Run(WCCDE38)
Entero(ENT) MPN

IMPERVIOUS COVER (also have % Forest, % Ag, % preserved)

% Impervious by Catchment Above Monitoring Sites, WCC