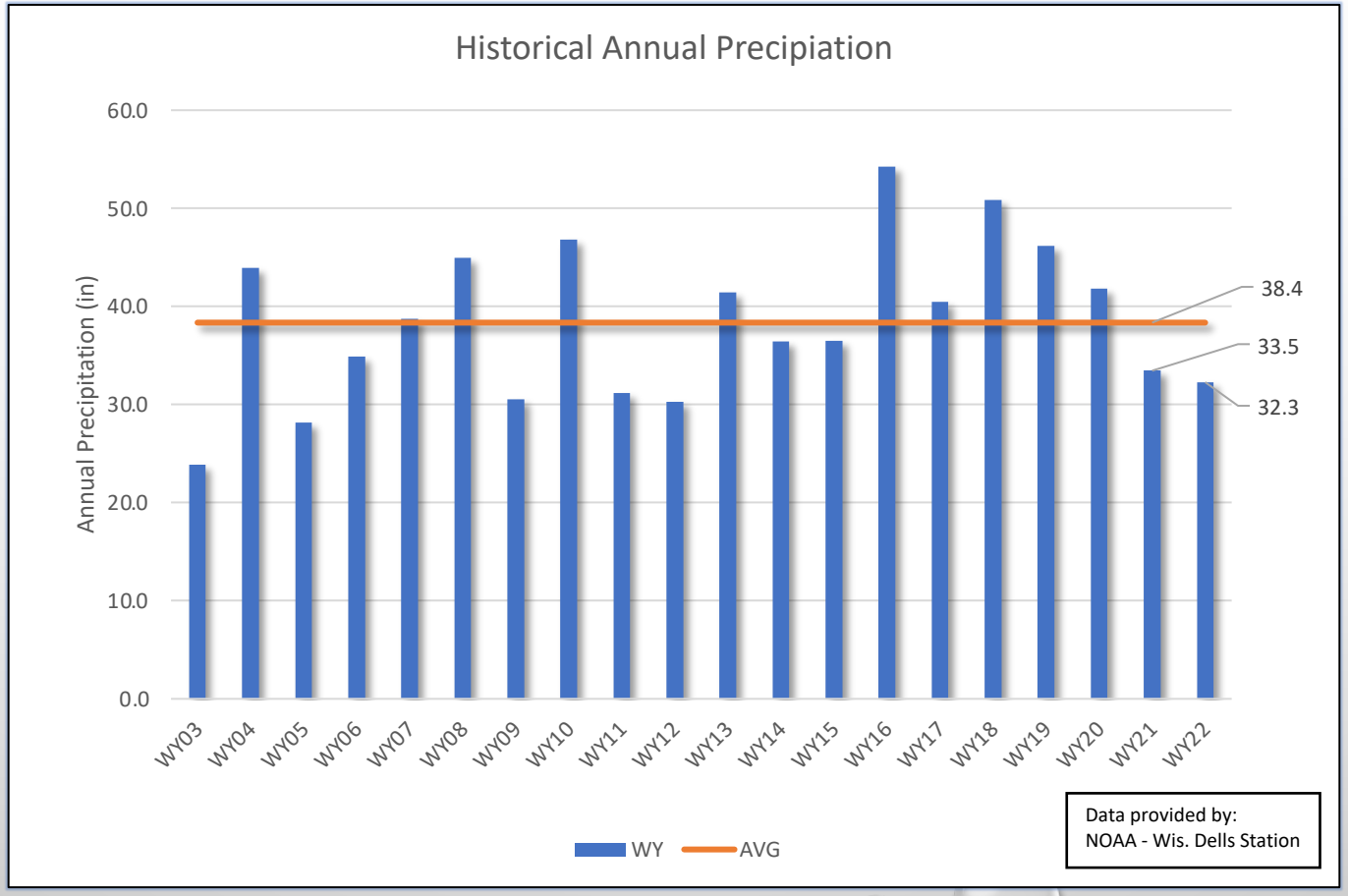
USGS-LAKE REDSTONE WY22 TRIBUTARY MONITORING

Water Year 2022:

- Completed 2nd year of loading data collection on 9/30/22
- Sampled 24 of the ~30 events this year
- Another dry year -- slightly less precip than last year
- WY22 discharge and loads were similar to WY21 loads

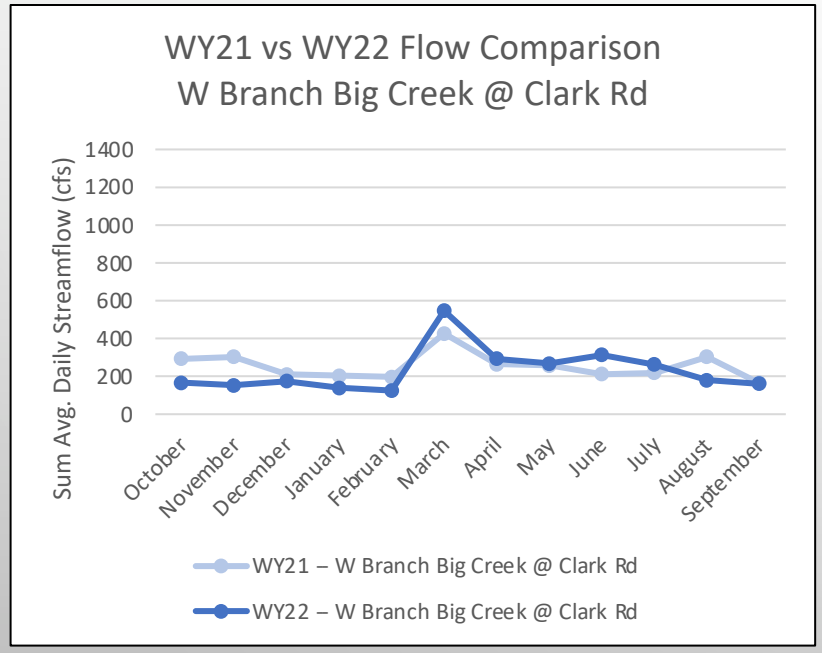
*All data in presentation is preliminary USGS data unless noted otherwise

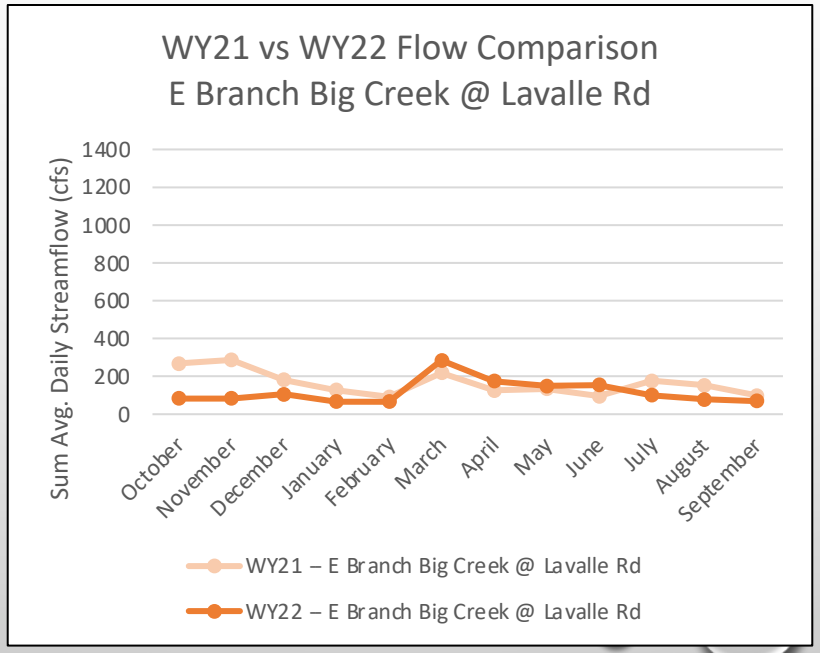
WY22 WAS DRYER THAN AVERAGE AGAIN

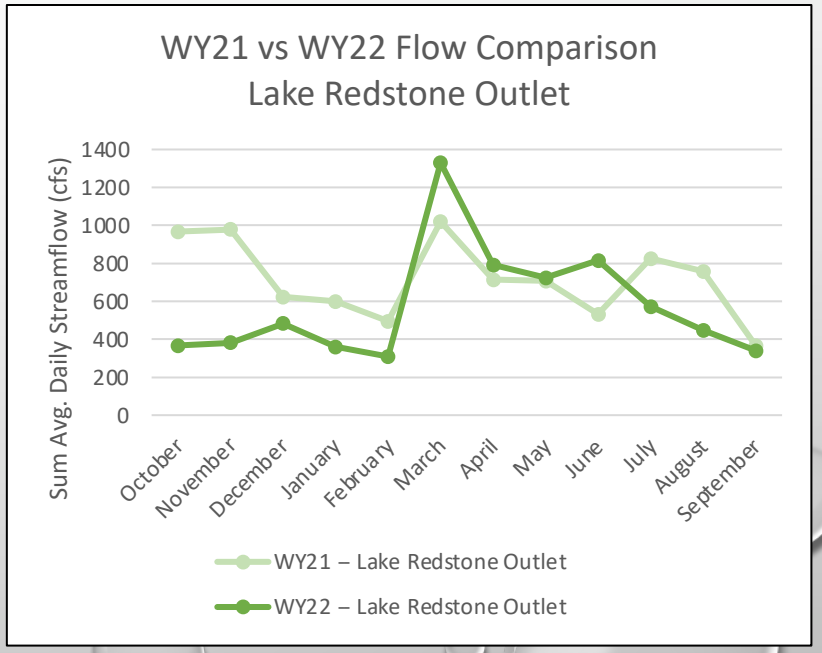


SIMILAR AMOUNT OF RAIN LED TO SIMILAR DISCHARGE

- Large snowmelt events in WY22 led to March being the month with most discharge at all three sites
- Rest of the months saw mostly same or less discharge as WY21

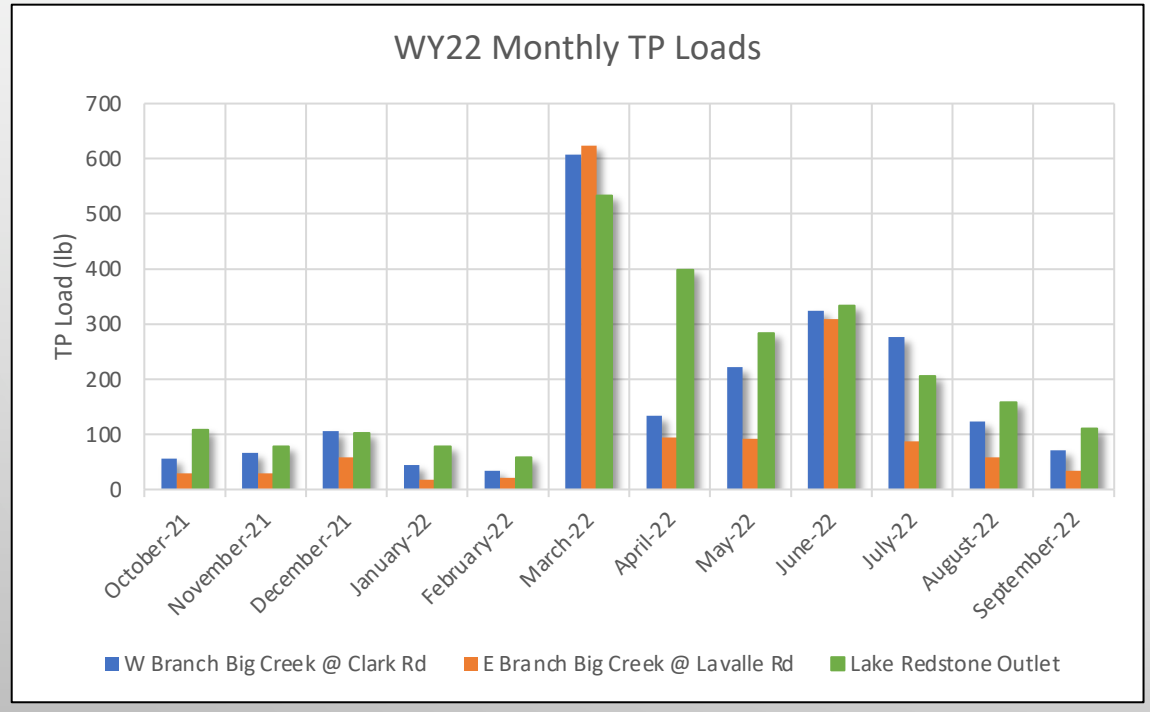


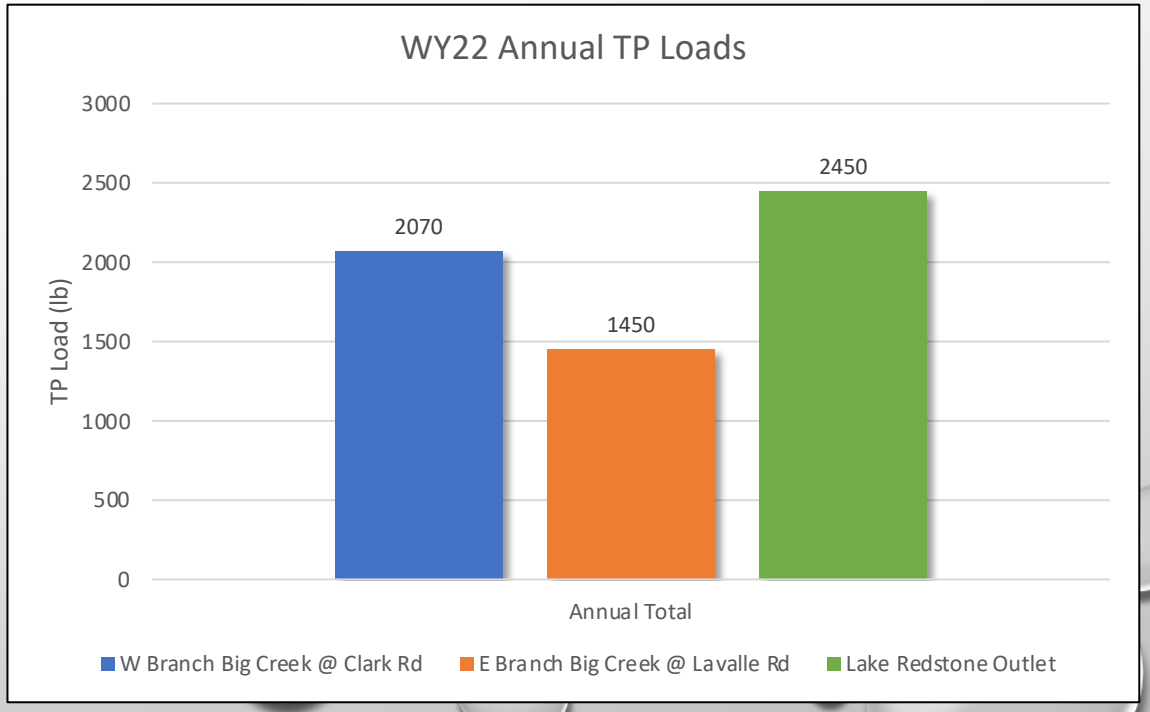




MEASURED WY22 TP LOADS

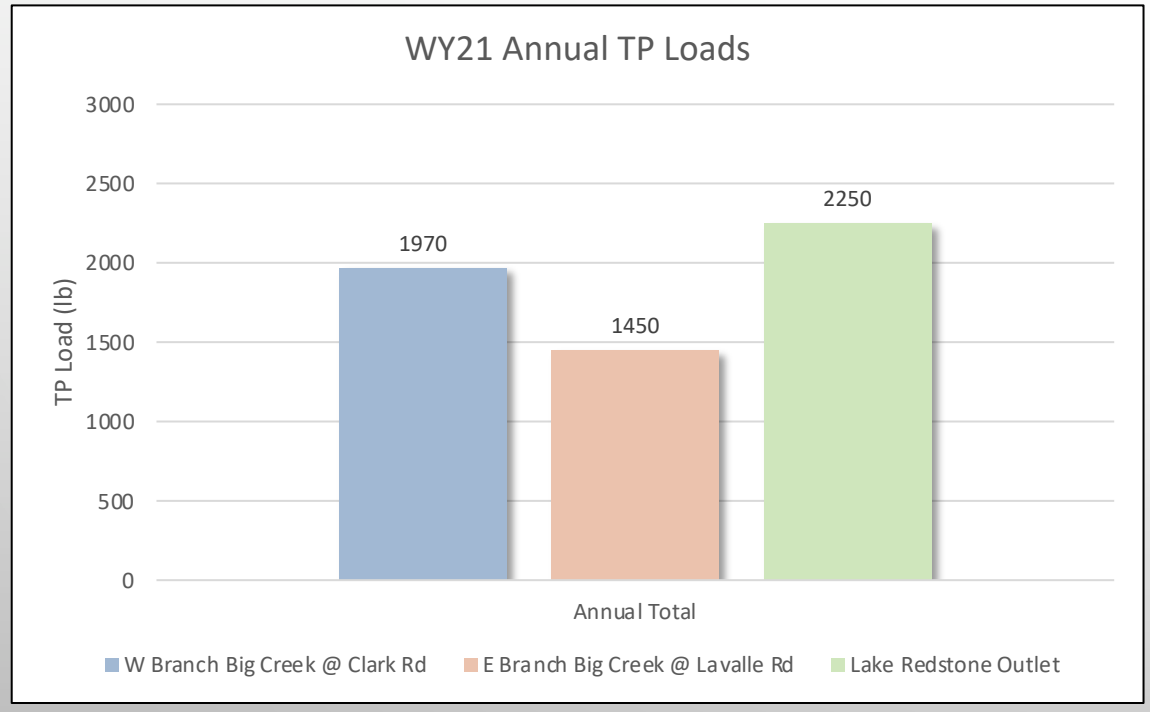
- WY22 Total Phosphorus Load Measured: LR Outlet > W Branch Big Creek > E Branch Big Creek
- (E Branch + W Branch) > Outlet

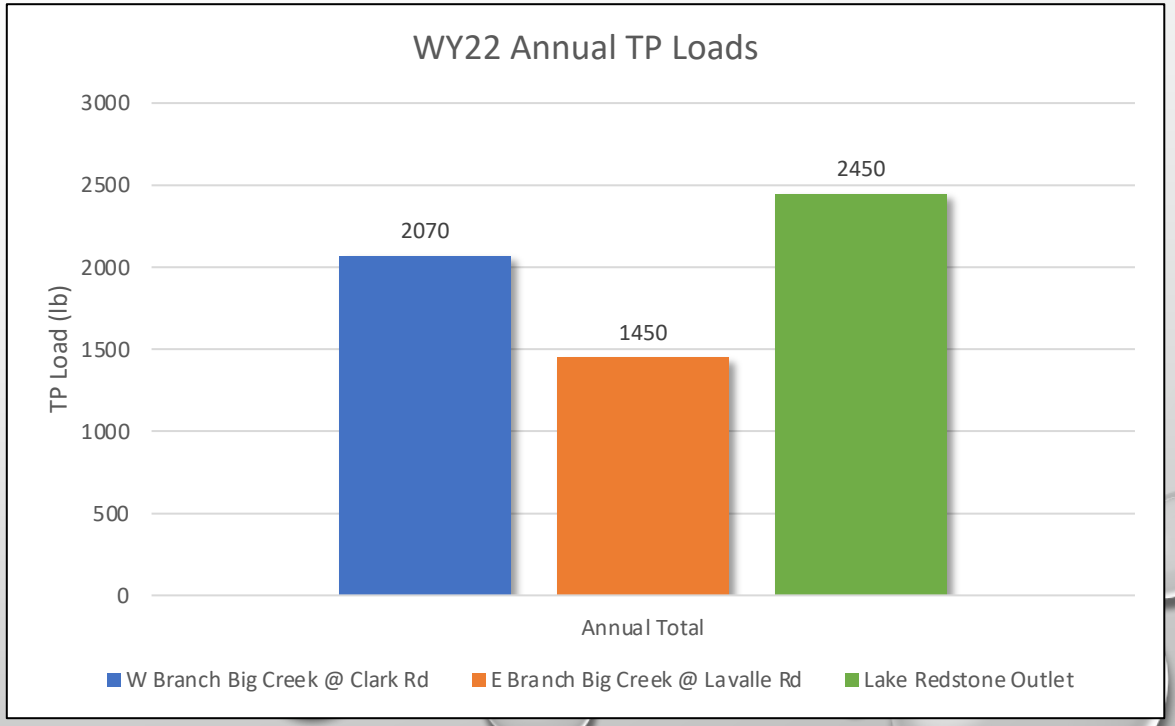




WY21 VS WY22 TP LOADS

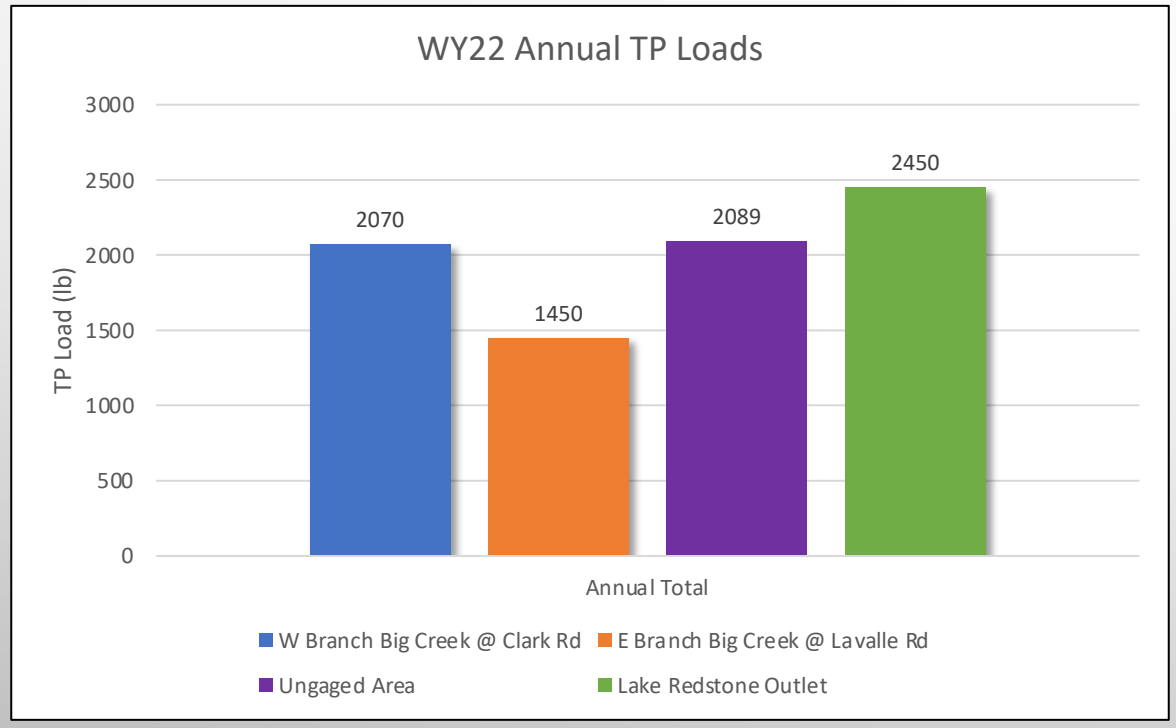
- W Br Big Creek: WY21 → WY22 = +100 lb
- E Br Big Creek: WY21 → WY22 = +0 lb
- Lake Outlet: WY21 → WY22 = +200 lb

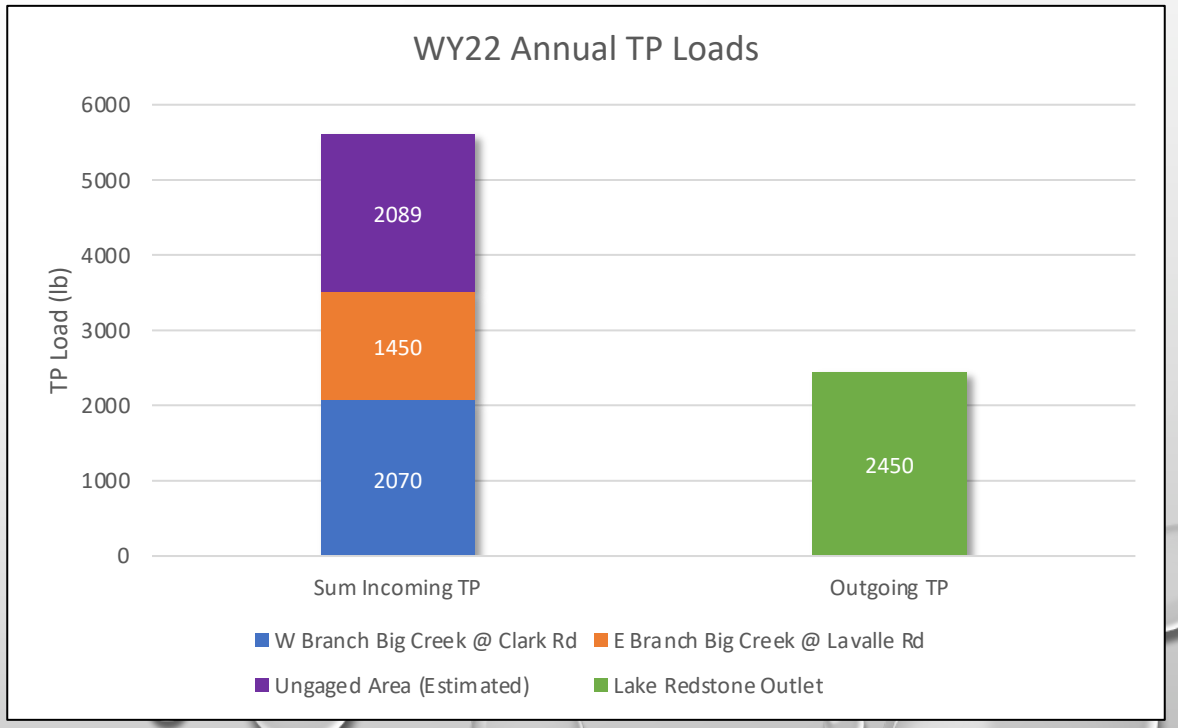




ESTIMATED UNGAUGED WY22 TP LOADS

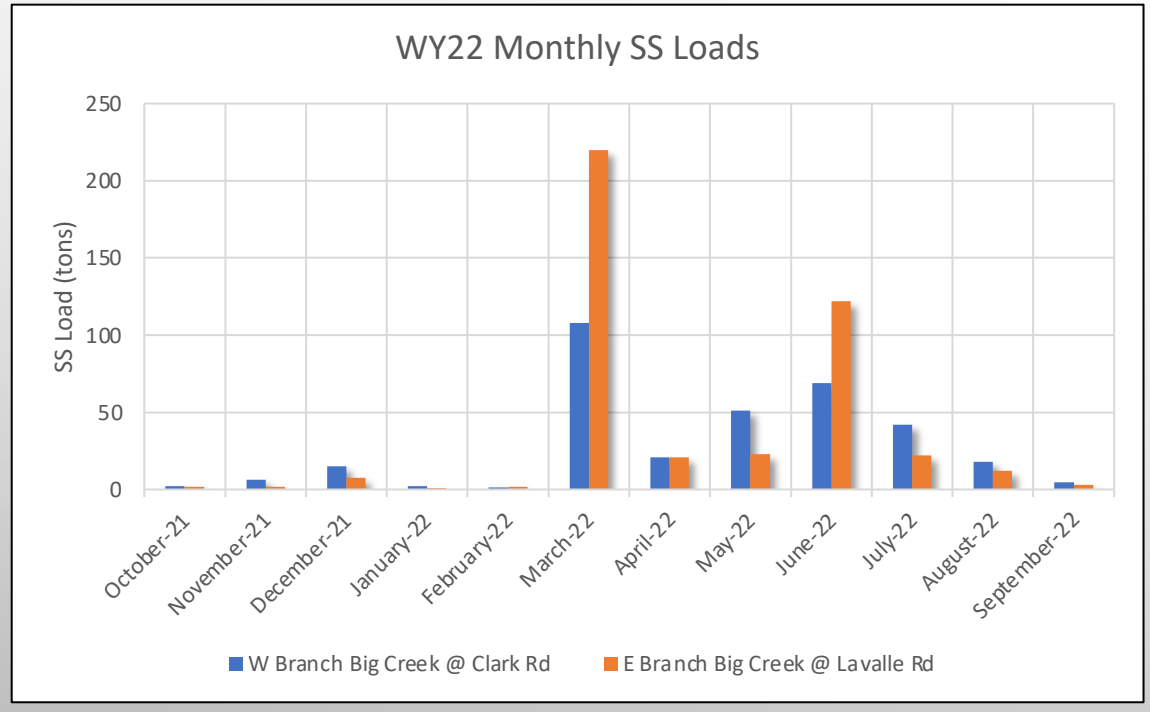
- Estimated Ungauged Flow = Avg Inlet Flow per mi^2 X Ungaged Area = 2370 cfs
- Estimated Unauged TP Delivered = Avg Inlet TP lb delivered per cfs X Ungaged Flow = 2090 lb

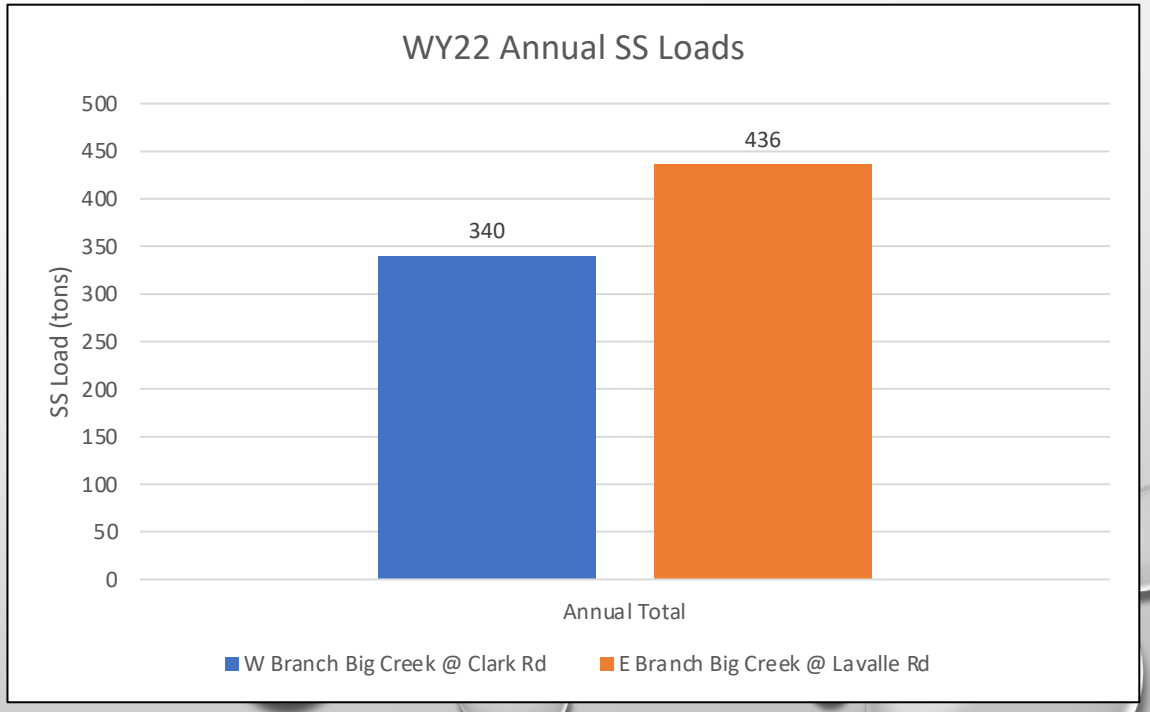




MEASURED WY22 SS LOADS

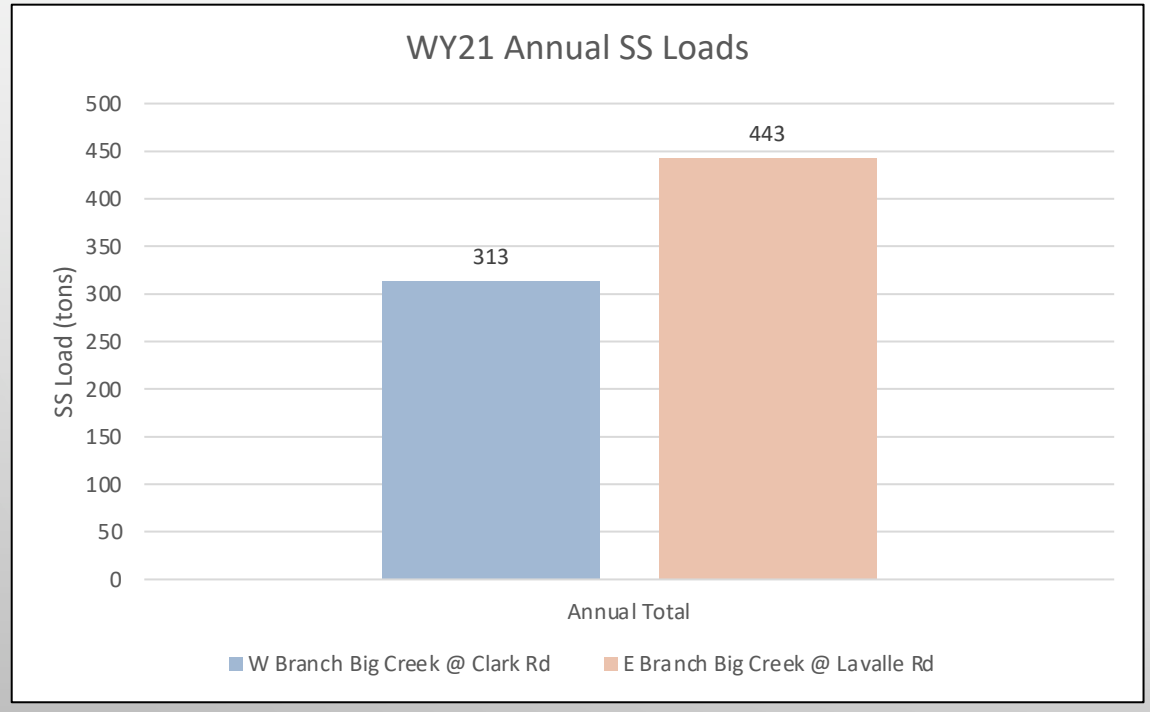
- WY22 Suspended Sediment Load Measured: E Branch Big Creek> W Branch Big Creek > LR Outlet
- (E Branch + W Branch) > Outlet

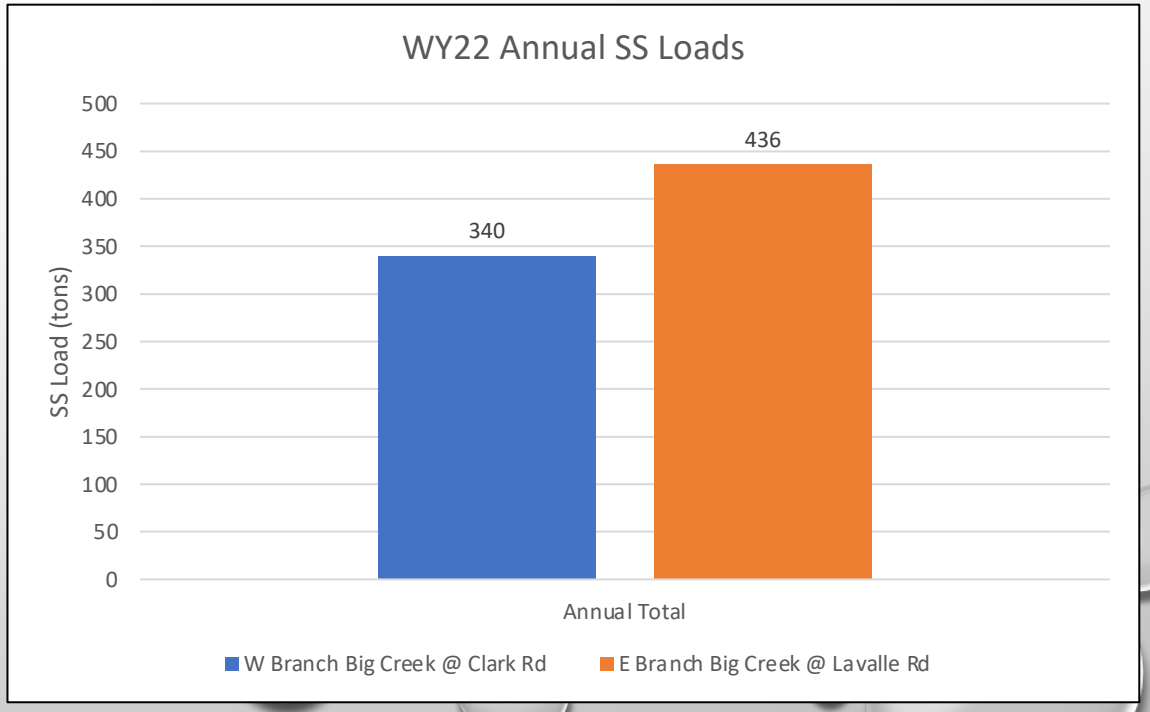




WY21 VS WY22 SS LOADS

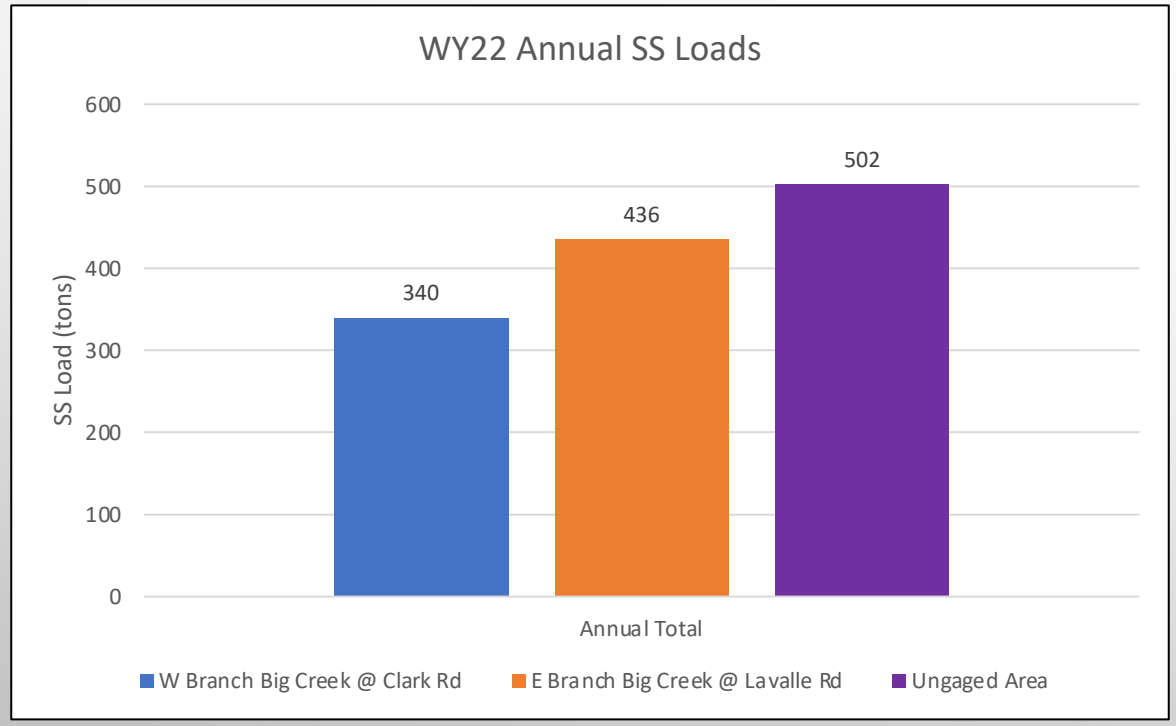
- W Br Big Creek: WY21 → WY22 = +27 tons
- E Br Big Creek: WY21 → WY22 = -7 tons

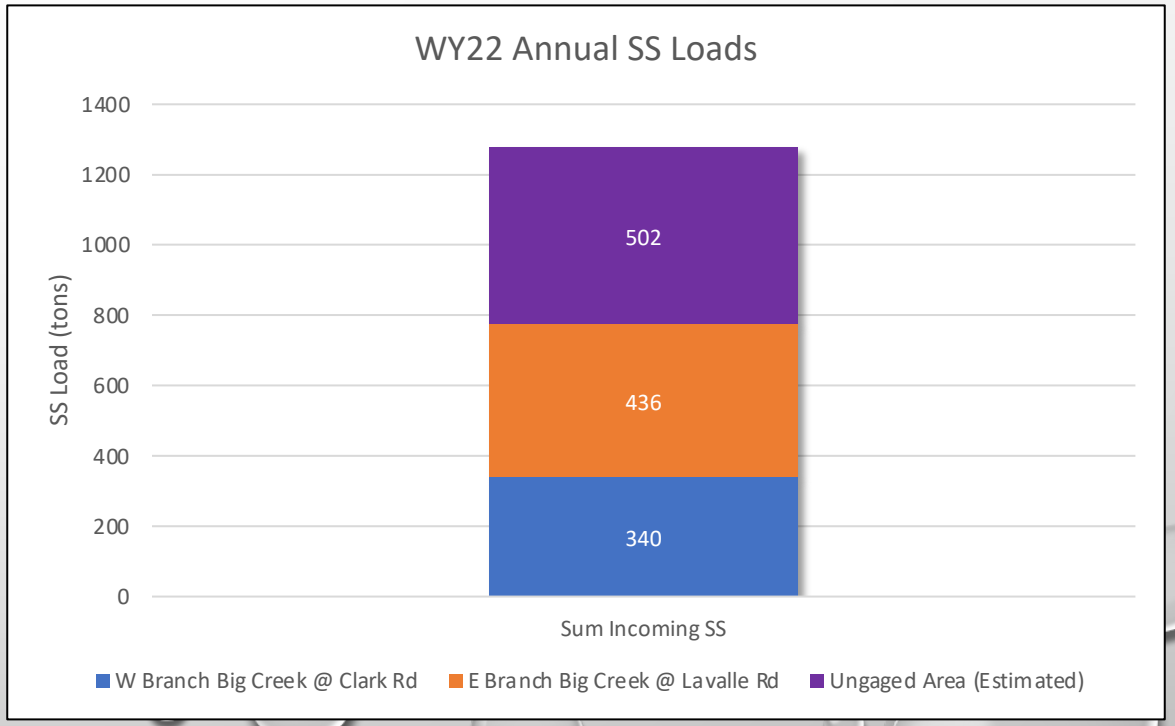




ESTIMATED UNGAUGED WY22 SS LOADS

- Estimated Ungauged Flow = Avg Inlet Flow per mi^2 X Ungaged Area = 2370 cfs
- Estimated Unauged SS Delivered = Avg Inlet SS ton delivered per cfs X Ungaged Flow = 502 tons





FINAL THOUGHTS

Next Steps:

- Planning to soon do some rough calculations to determine discharge and load delivered by the ungagged area to get a sense for our total watershed inflows
- Third (and possibly final) year of loading data collection began Oct. 1
- Together, these three years of tributary loading data should provide a valuable baseline for comparison once BMPs have been implemented in the watershed