

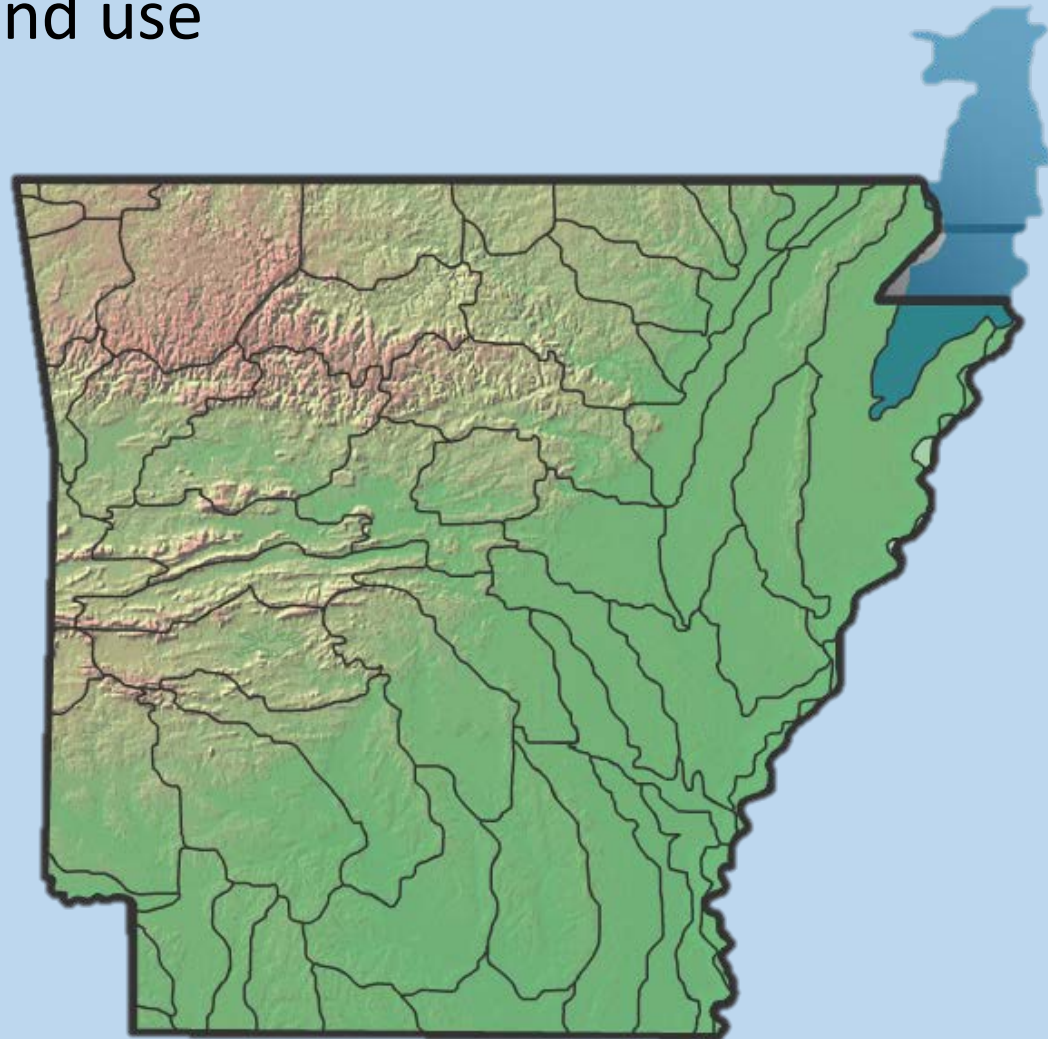
Little River Ditches Watershed Monitoring 14-400

Jennifer L. Bouldin, PhD
Ecotoxicology Research Facility
Arkansas State University



Background

- Primarily agricultural land use
 - 81.4% cropland
 - 11.0% forested
- Sampled weekly when water is present



Measured Parameters

- pH
- Dissolved Oxygen
- Conductance ($\mu\text{S}/\text{cm}$)
- Total Suspended Solids (TSS)
- Turbidity
- Dissolved Nitrate, Nitrite, Orthophosphate
- Total Nitrogen, Total Phosphorus



1



2



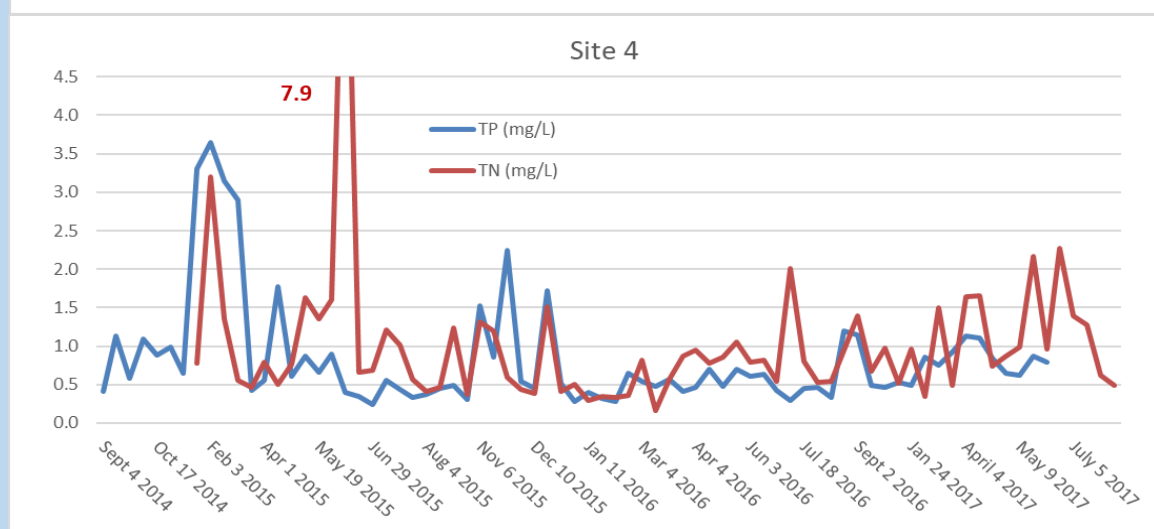
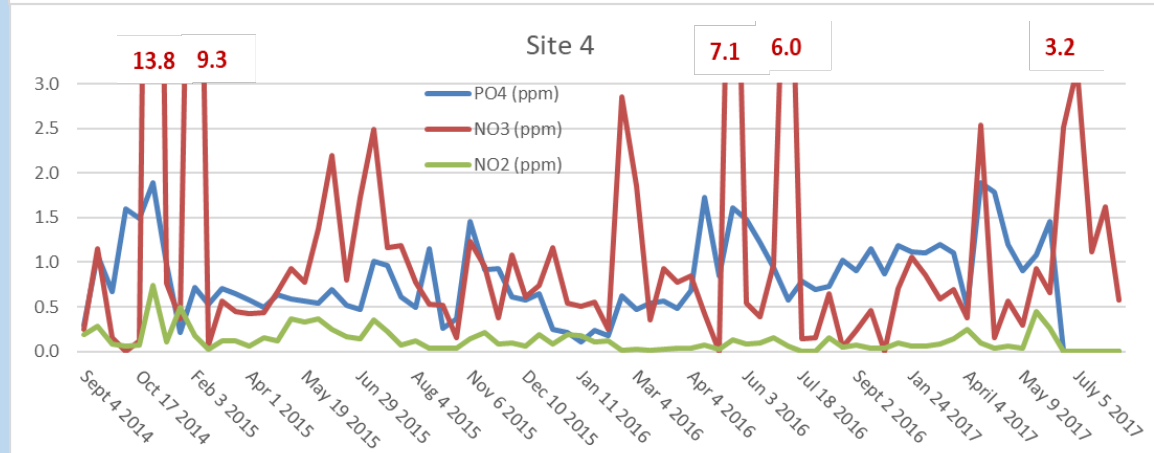
3



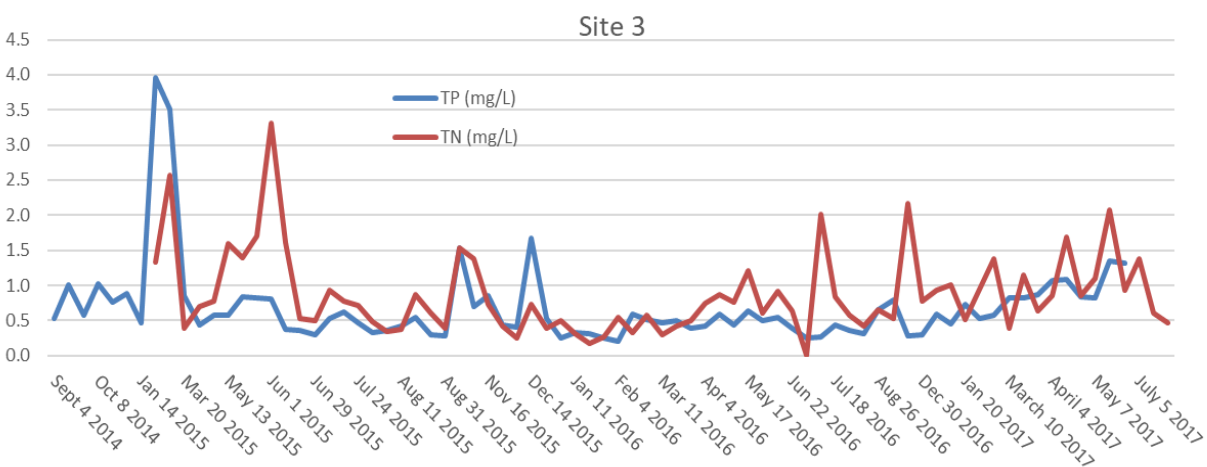
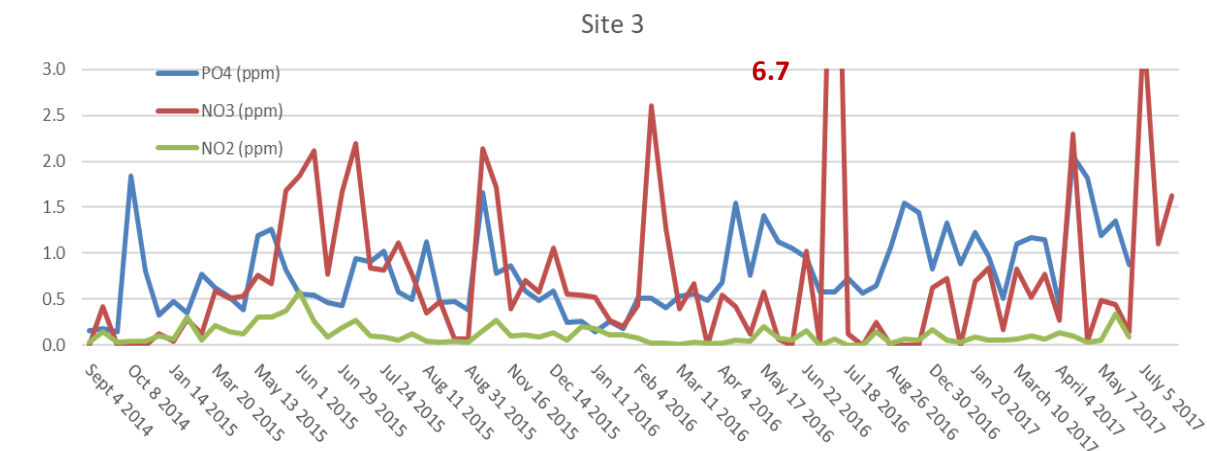
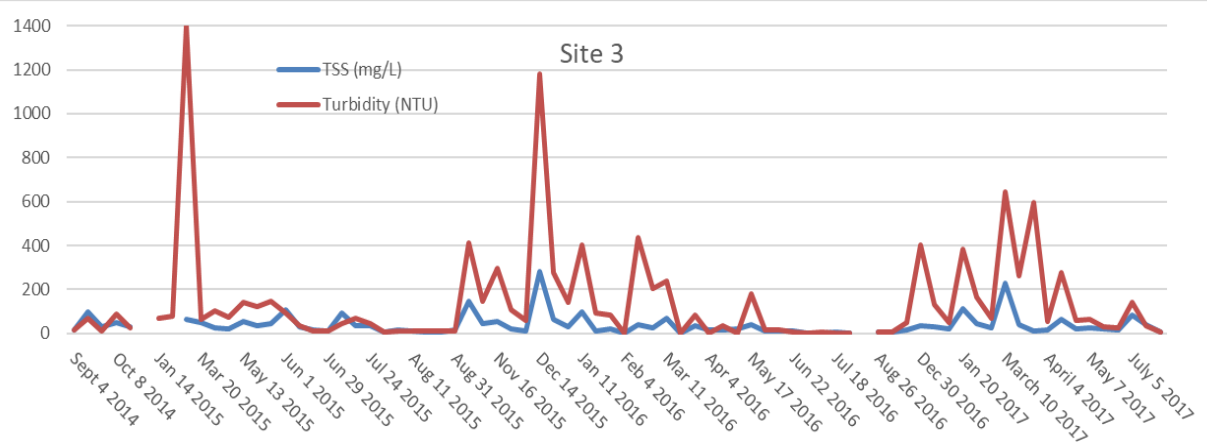
4



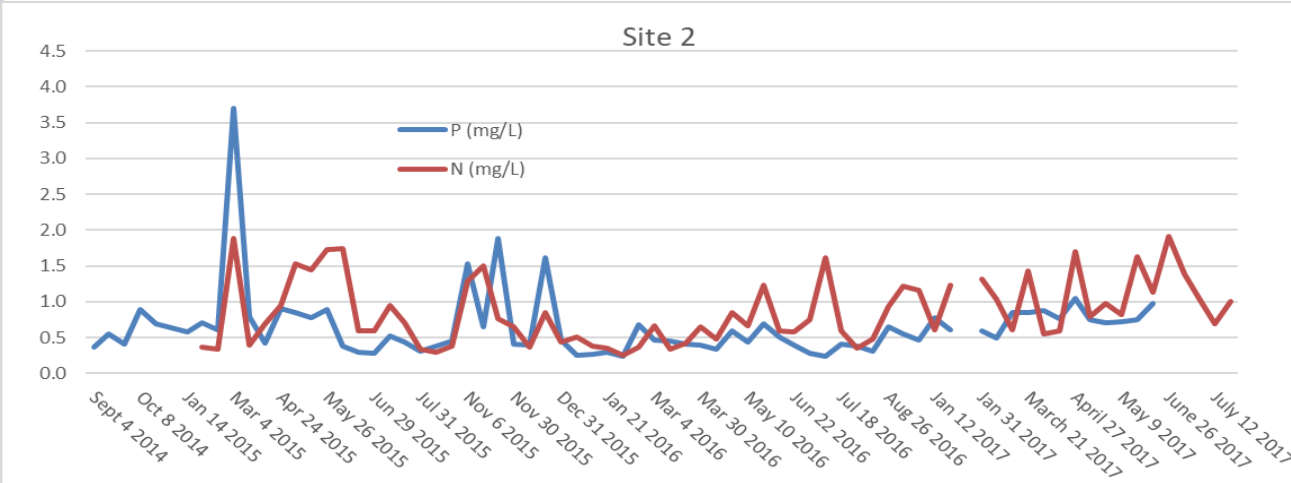
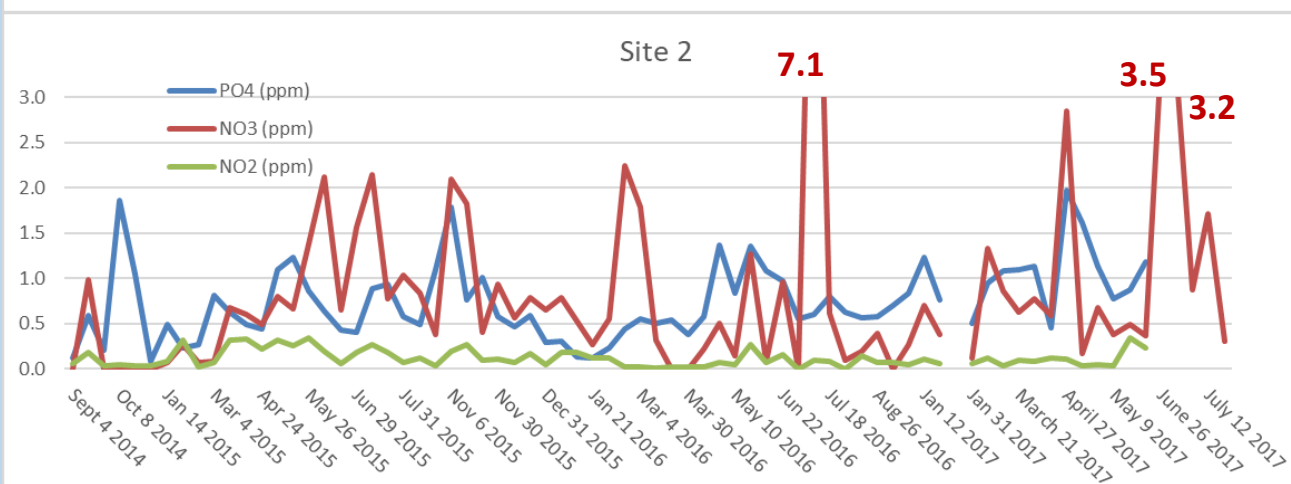
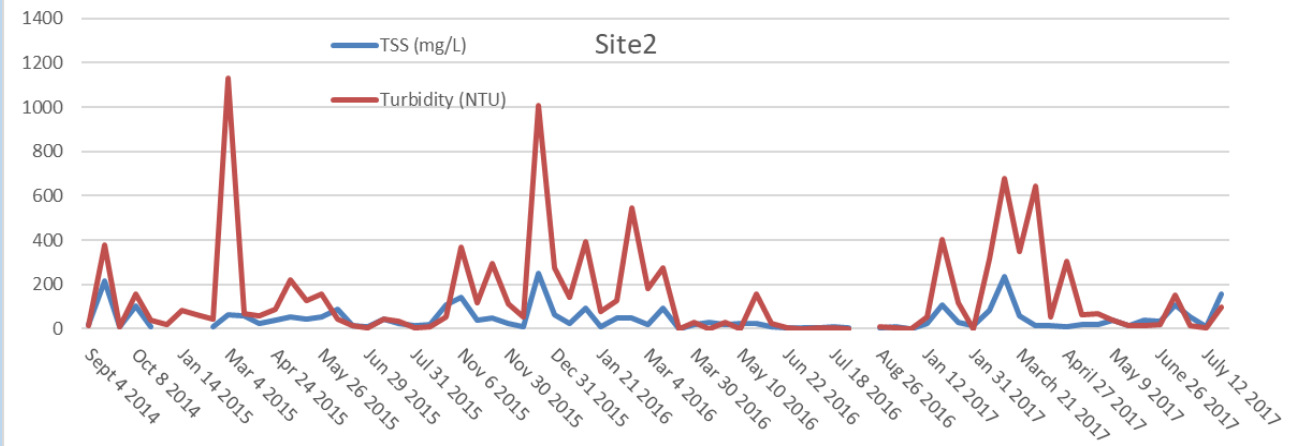
Site 4



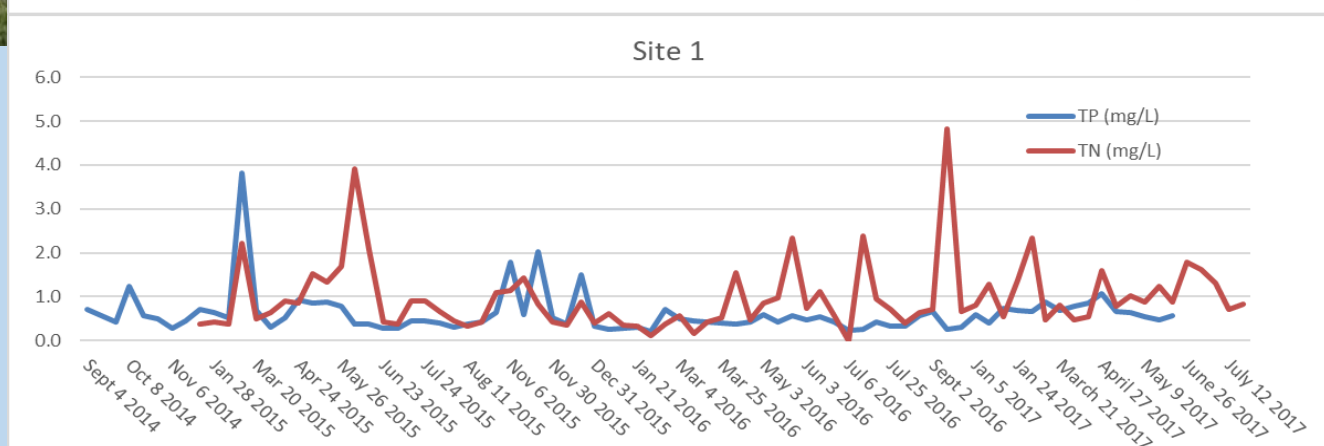
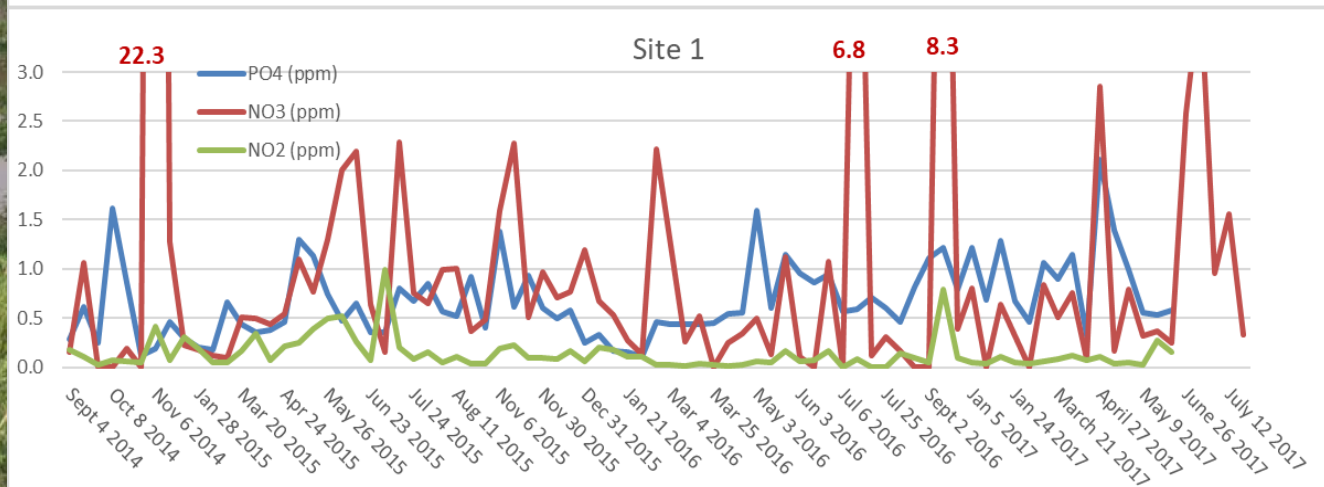
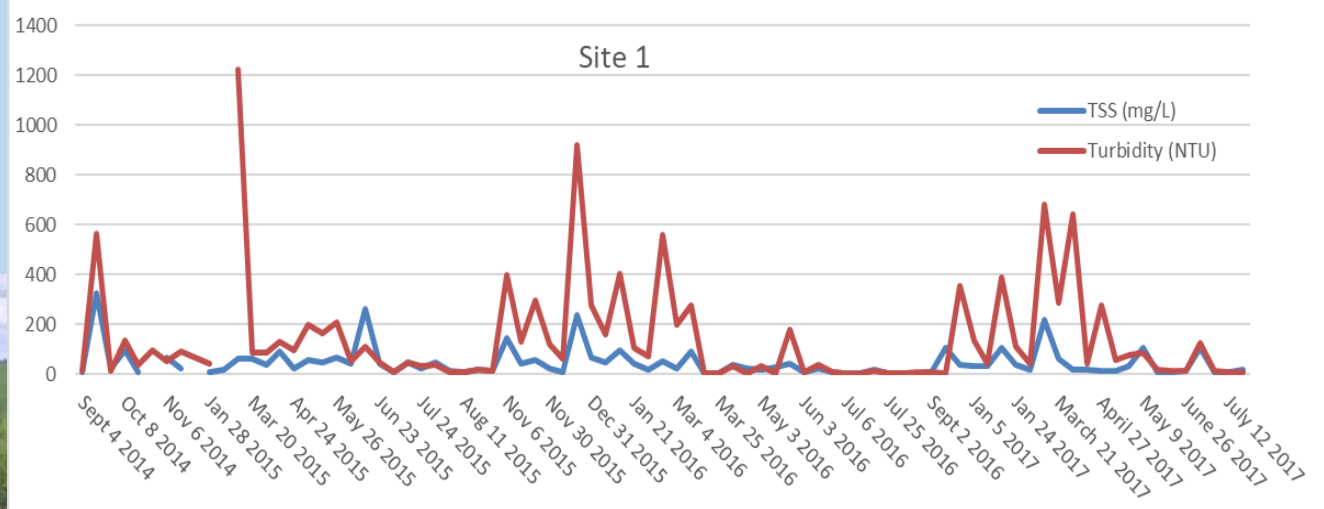
Site 3



Site 2



Site 1



Mean TSS & Turbidity

		TSS (mg/L)	Turbidity (NTU)
Flow ↓	Site 4	54.5	157.6
	Site 3	39.3	147.6
	Site 2	54.3	177.4
	Site 1	47.3	147.6

- No significant differences from upstream to downstream

Dissolved nutrients (ppm)

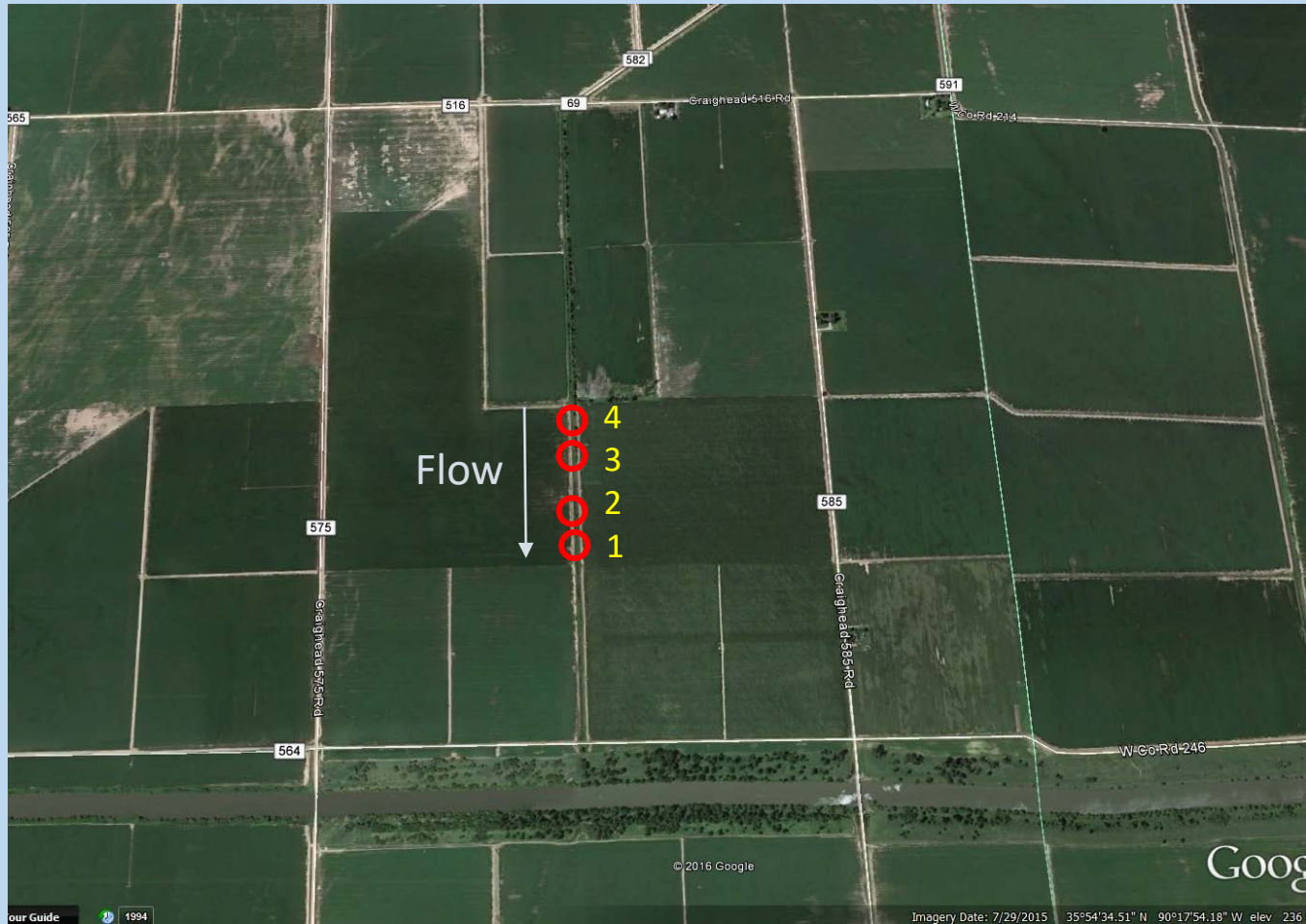
Flow ↓		PO ₄	NO ₃	NO ₂
	Site 4	0.835	1.241	0.134
	Site 3	0.786	0.740	0.111
	Site 2	1.066	1.108	0.111
	Site 1	0.678	1.129	0.137

- Decrease in PO₄
- NO₃/NO₂ statistically same from Site 4 to Site 1

Total N & P

		TP	TN
Flow ↓	Site 4	0.825	1.017
	Site 3	0.686	0.870
	Site 2	0.780	1.097
	Site 1	0.614	0.967

- Decrease in TP
- Decrease in TN from Site 4 to Site 1



Questions??