Water Quality Monitoring on Larkin Creek St. Francis County, AR

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Background

- Larkin Creek is a tributary of the L'Anguille River
  - dominated by row crop agriculture.
- L'Anguille River is a tributary of the St. Francis River in eastern Arkansas in the Delta ecoregion
- ADEQ authorized the St. Francis County Conservation District to implement BMPs to reduce pollutant loading to L'Anguille

Site description

St. Francis County

Lateral 1-A of Larkin Creek

- Tributary of the L'Anguille River
- HUC#080202050506

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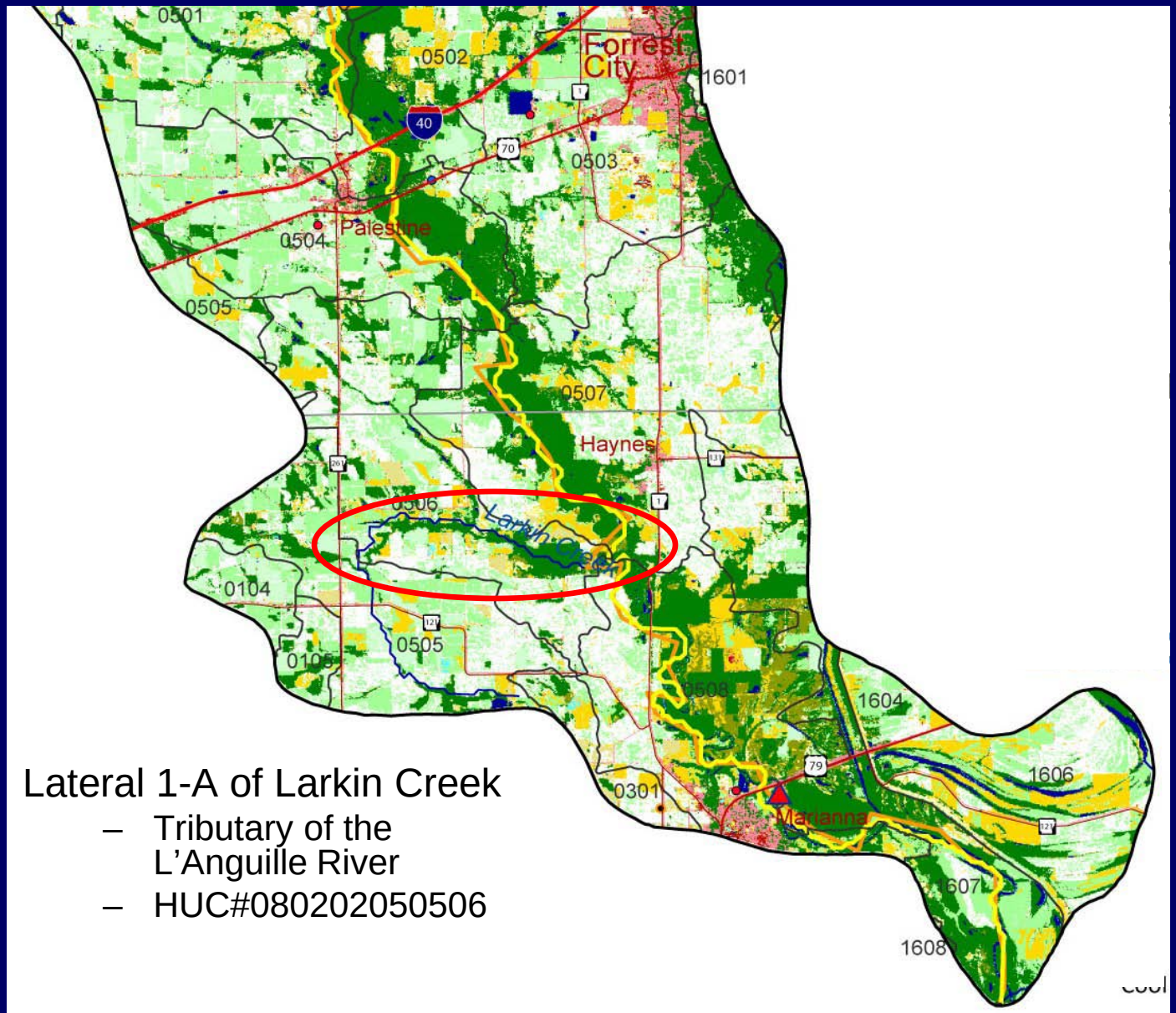


Lateral 1-A of Larkin Creek

- Tributary of the L'Anguille River
- HUC#080202050506

BMPs

St. Francis County Conservation District

- sediment pond construction
- plant riparian buffers
- remove sediment
- restore the channel
  - Lateral 1-A of Larkin Creek

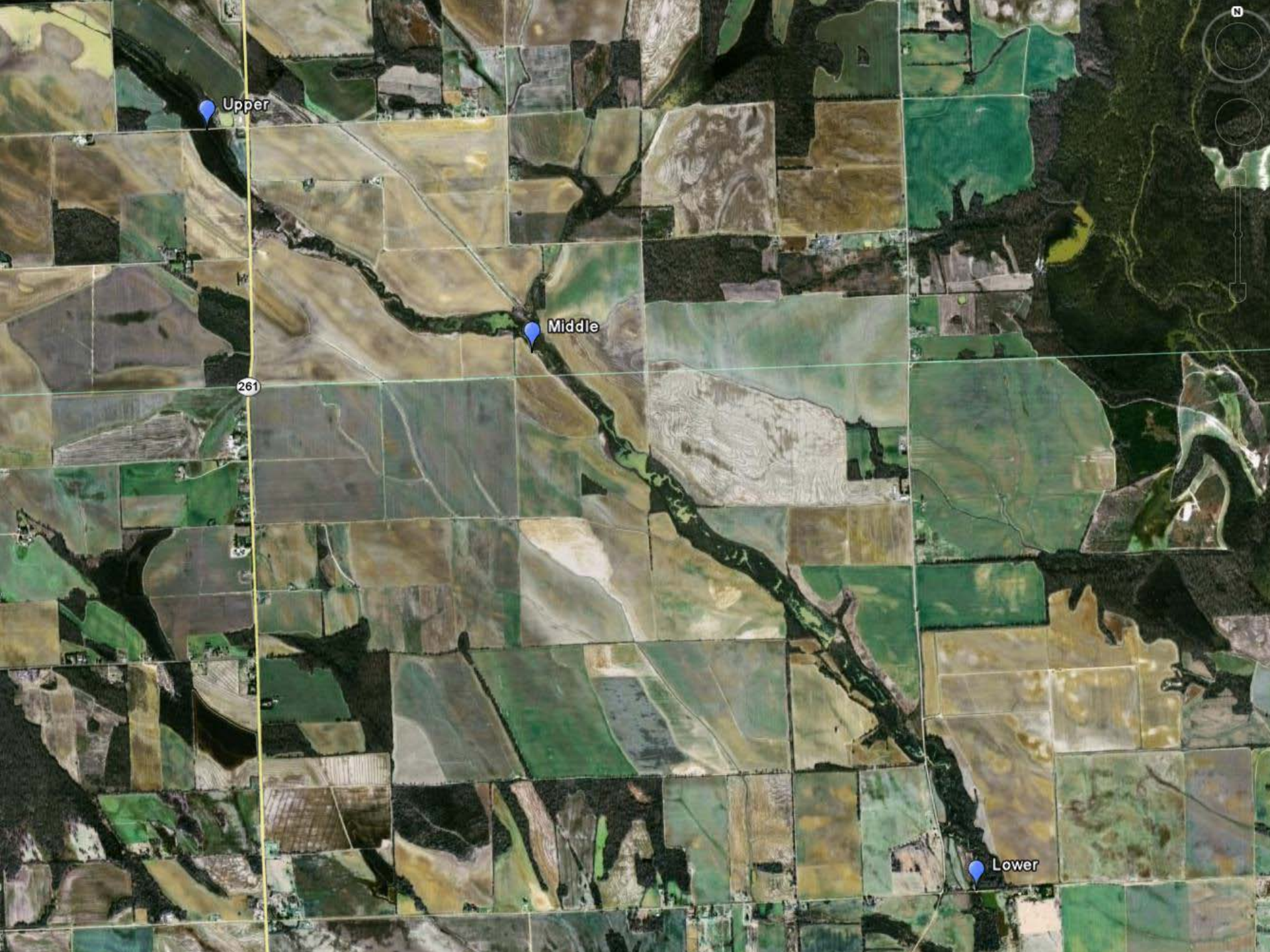
L’Anguille River

- Agricultural activities cited as major cause of the impairment within watershed
  - excessive turbidity from silt, suspended solids loading, sedimentation

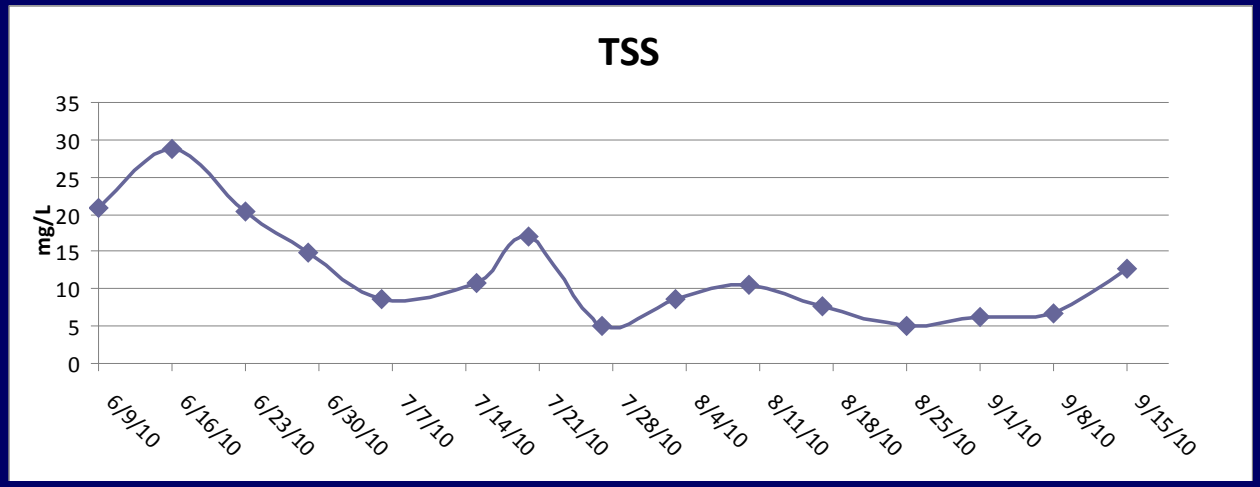
Objectives

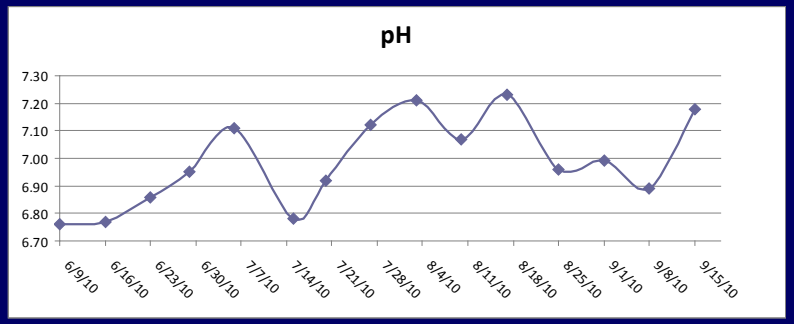
- Determine baseline data prior to BMP implementation
- Weekly grab samples
- Total Suspended Solids
- pH
- Dissolved Oxygen
- Nutrients
  - Nitrate, Nitrite, Orthophosphate

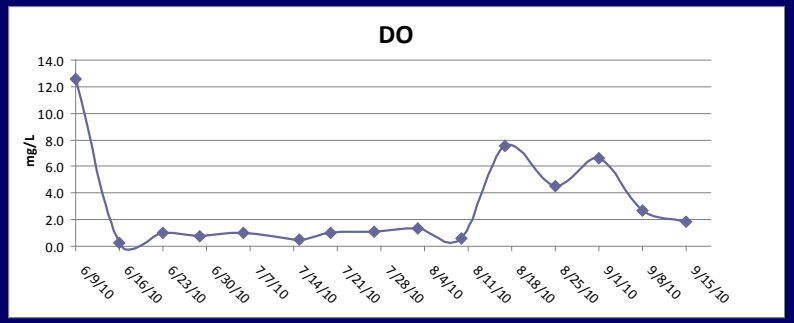

END PROJECT
STA. 527+65.79
SFC 854
STA. 284+00
SFC 839
SEDIMENT POND
SFC 839
BRADSHAW ROAD
STA. 197+00
STATE HWY. 261
LEE CO. 803
STA. 44+50
LEE CO. 810
LARKIN CREEK LATERAL 1-A
LOCATION MAP
SCALE: 1"=1/2 MILE


Upper
Middle
261
Lower

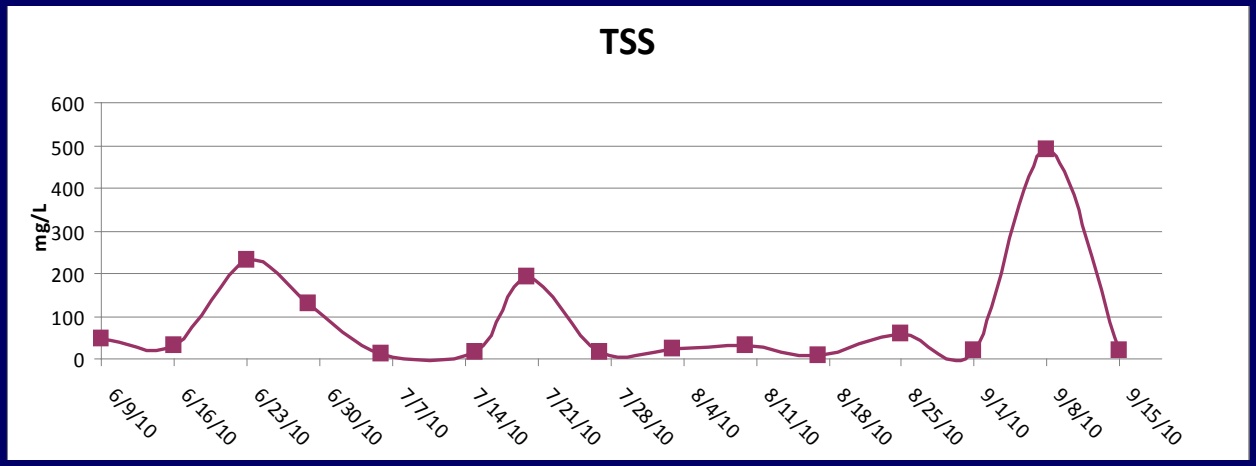
Upper Larkin Creek site

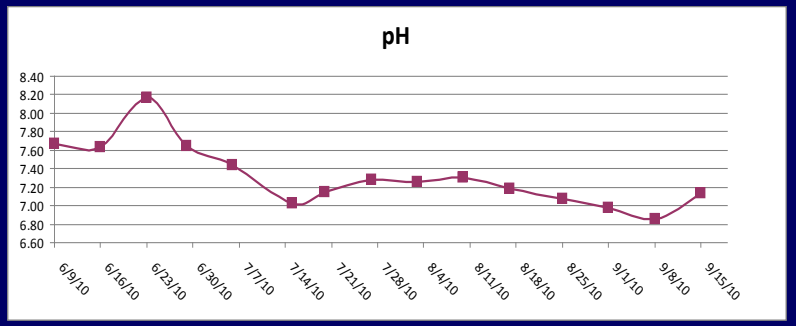


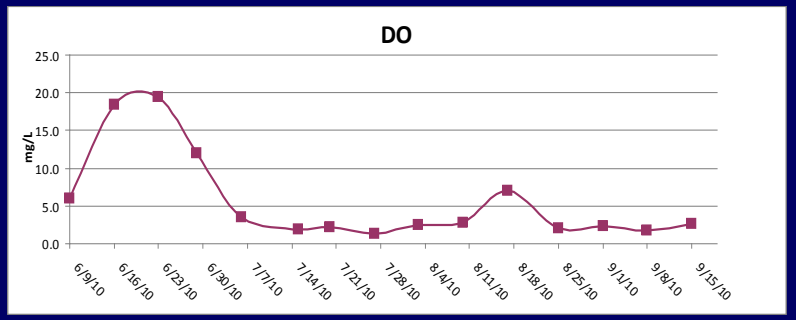


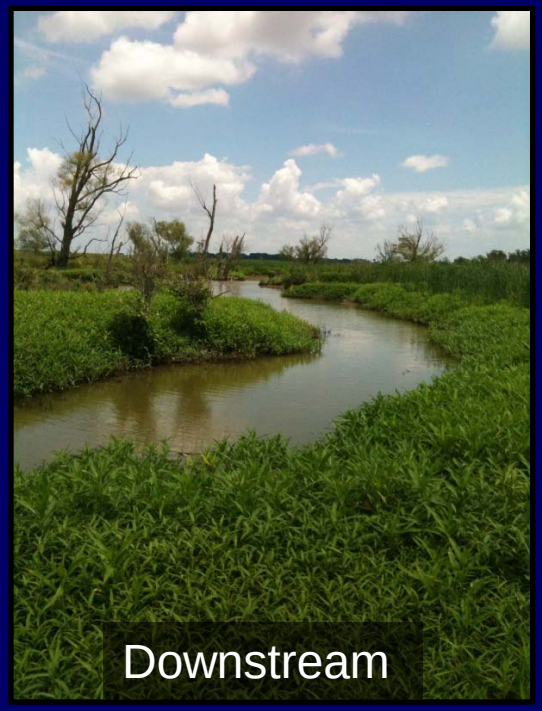


Middle Larkin Creek site

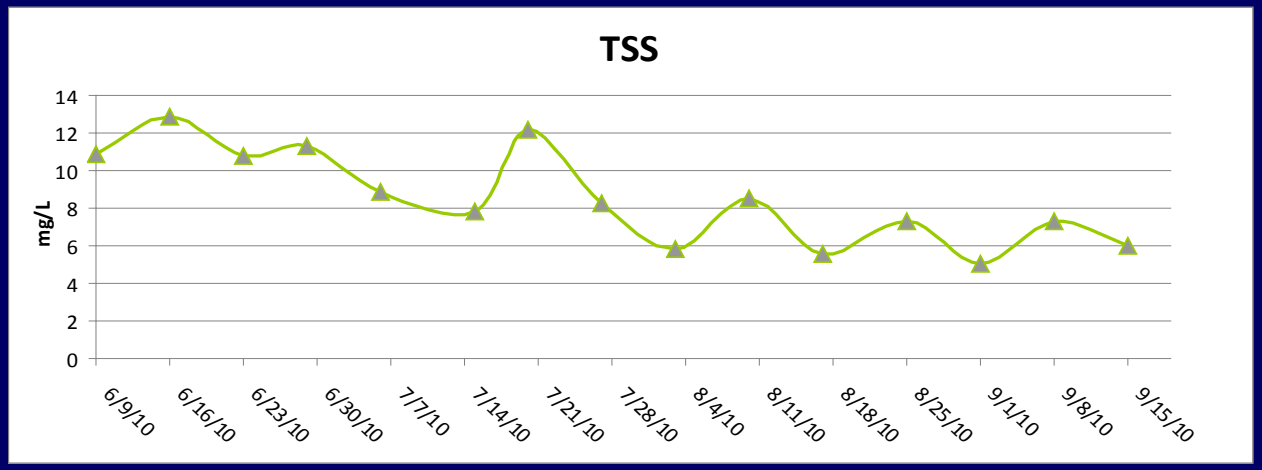


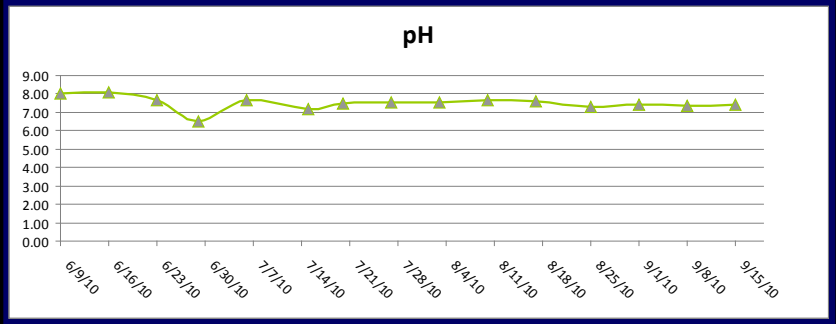


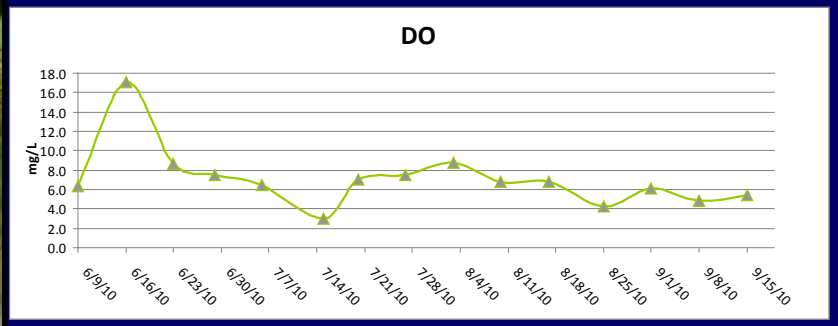


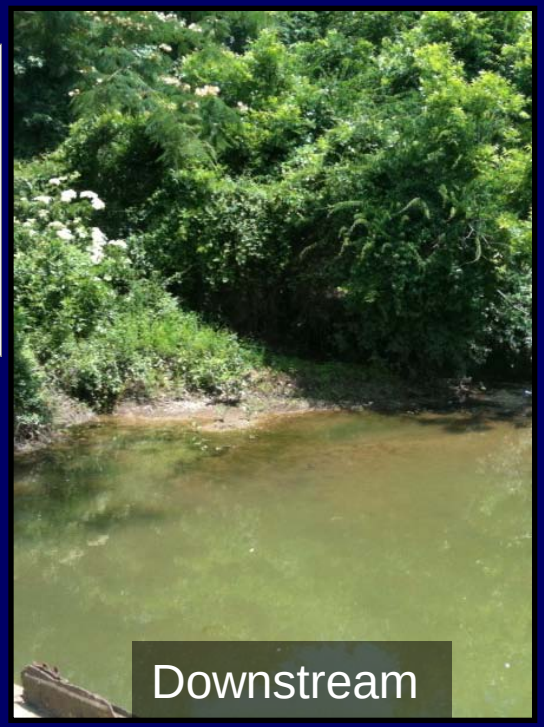


Lower Larkin Creek site

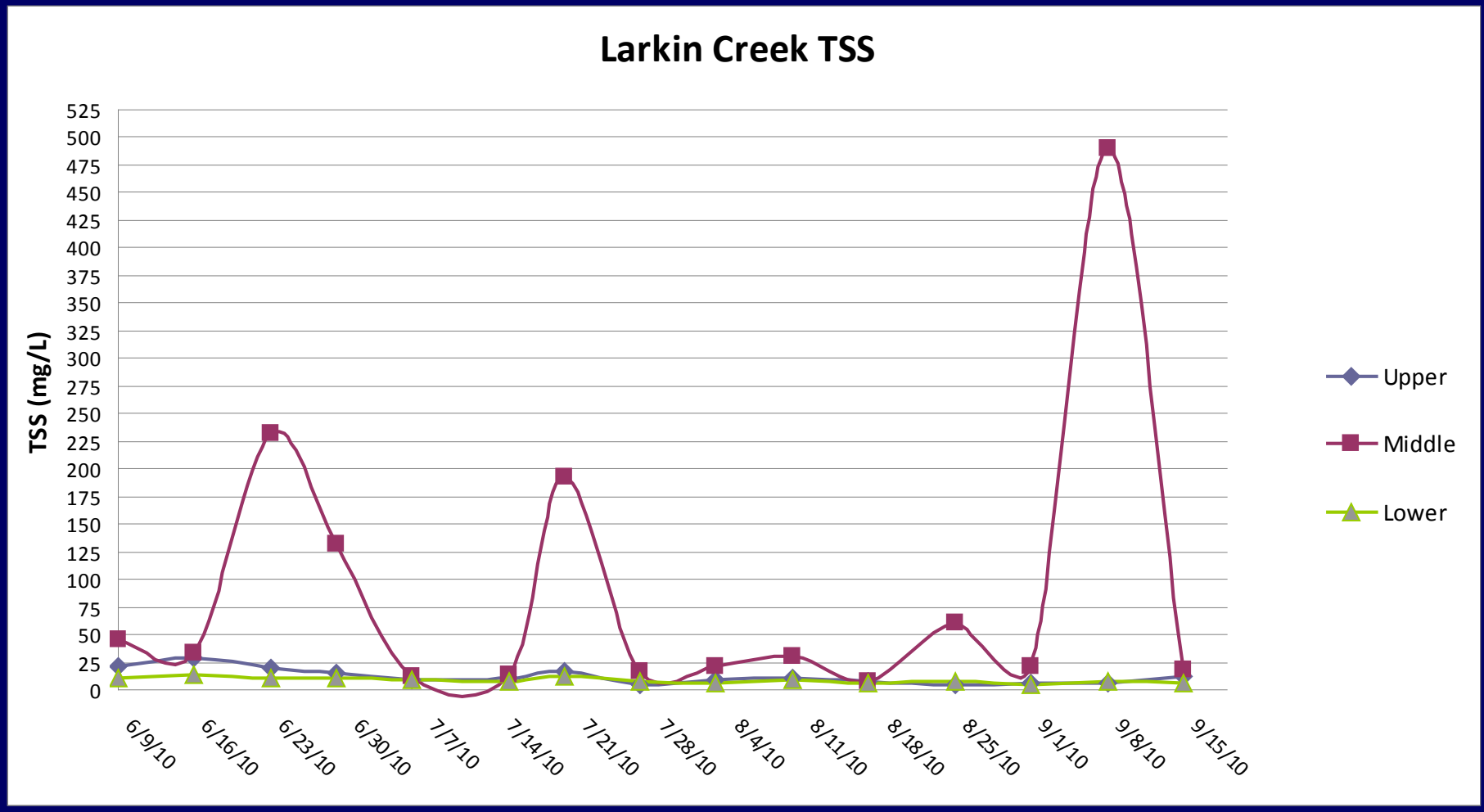








TSS at all sites



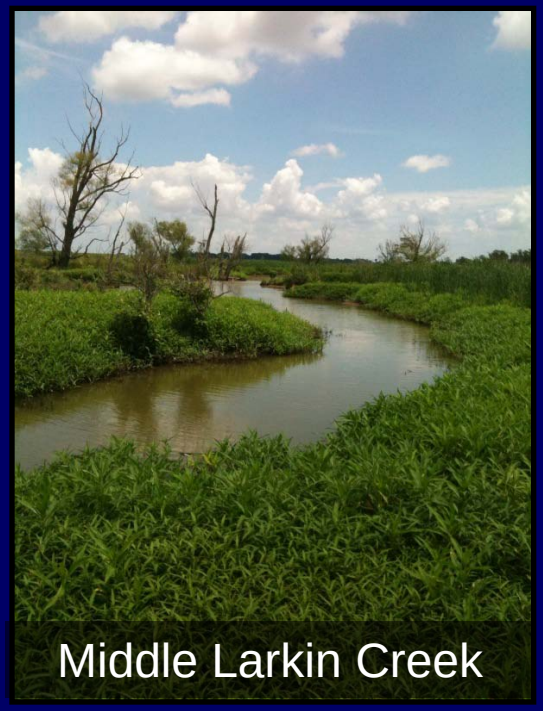
Preliminary results

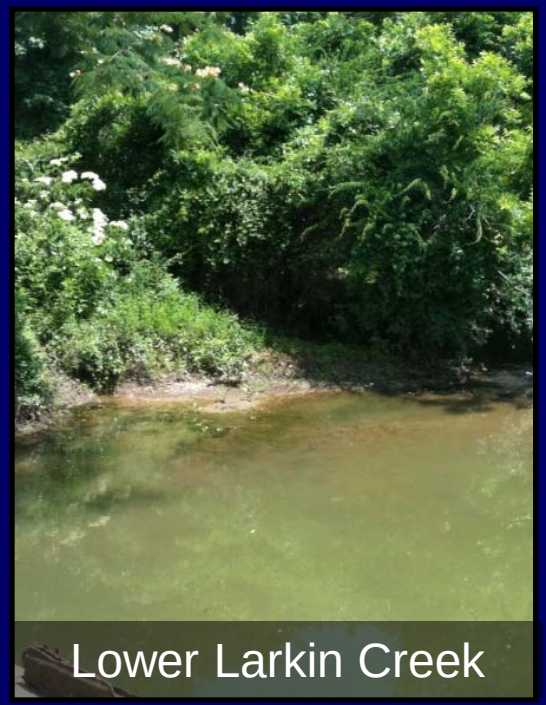
- TSS highest at Middle Site
  - Especially following rain events
  - Will benefit from upstream sedimentation pond
- pH lowest at Upper and Middle sites from temporary acidification following rain events
- DO high due to increased primary production and early afternoon sampling times

- Final sampling and nutrient data pending

Questions?


Upper Larkin Creek


Middle Larkin Creek


Lower Larkin Creek