

Pre-Remedy Monitoring Update

Former DuPont Waynesboro Site, Virginia
Area of Concern (AOC) 4

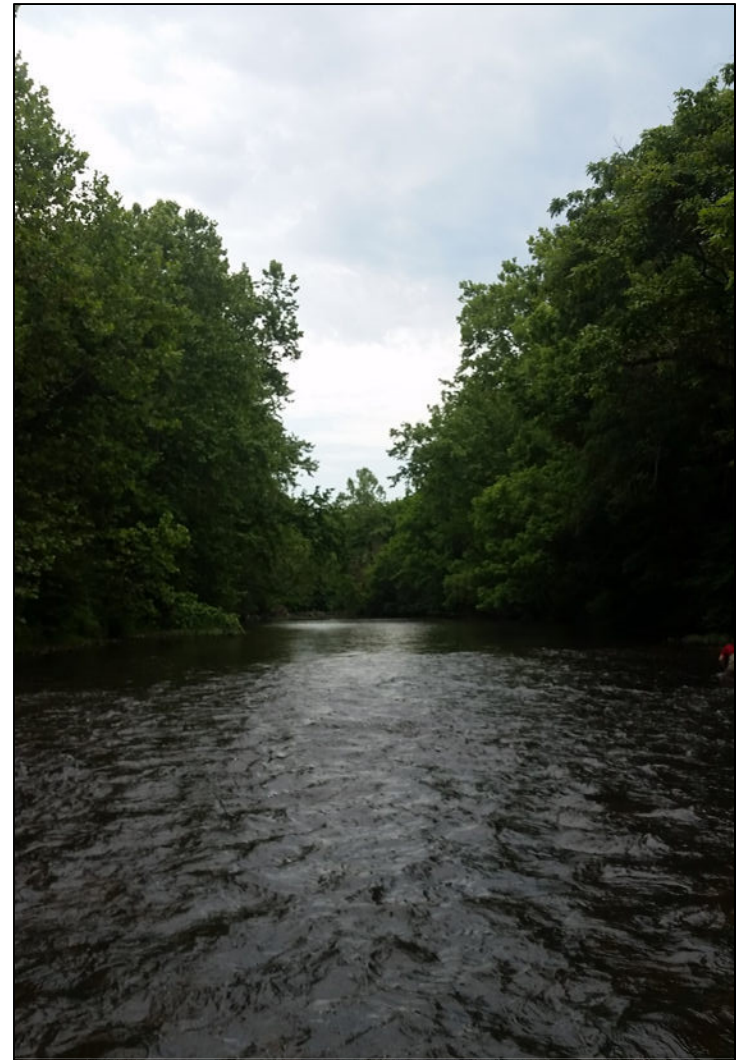


October 25, 2016

AECOM

Agenda

- Fall Data Collection Summary
- Long-term Monitoring (LTM) Data Integration
- Short-term Monitoring (STM) – Spring Data review
- Reporting Schedule



Fall 2016 Field Summary

– STM

- Periphyton
- Transplanted clams
- Bulk sediment
- Pore water
- Benthic community
- Habitat metrics



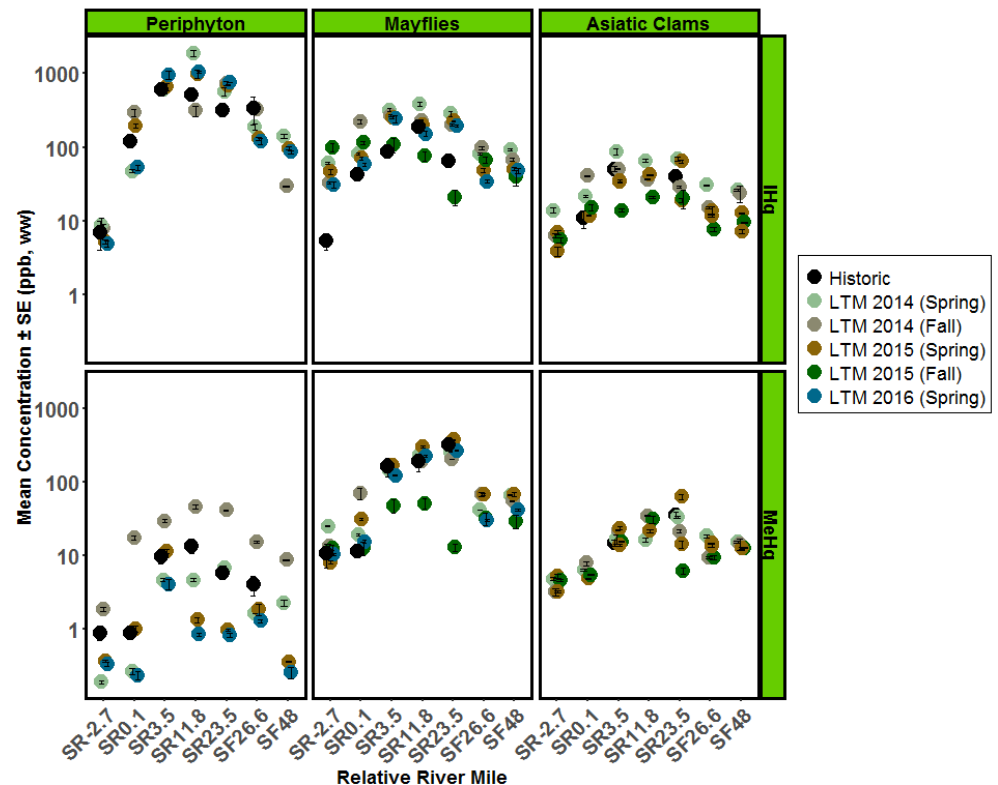
– LTM

- Bass (Adult and YOY)
- Periphyton
- Transplanted clams
- Interstitial sediment
- Mayflies
- Benthic community
- Habitat metrics



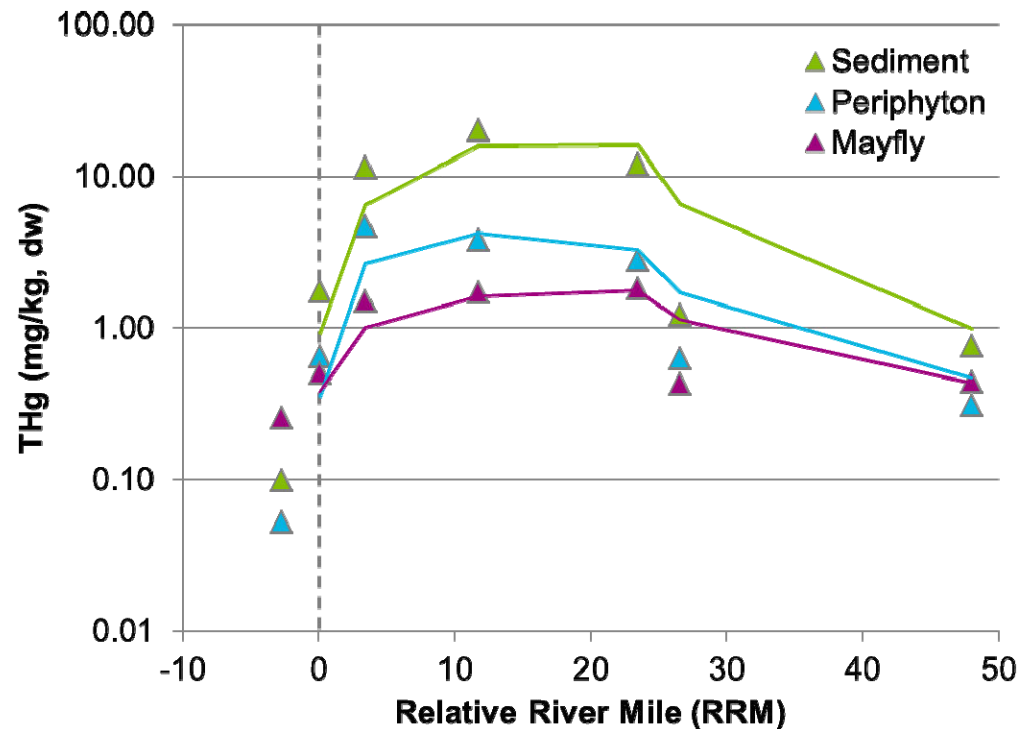
Long-term Monitoring Data Integration

- Completion of ‘baseline’ data collection activities
- Beginning integration of multiple lines of evidence
- Change in focus from event-based analysis to more holistic view
- Statistical analysis



LTM Data Integration - Aquatic Eco Exposure

- Strong relationship between media
- Familiar spatial trend moving downstream

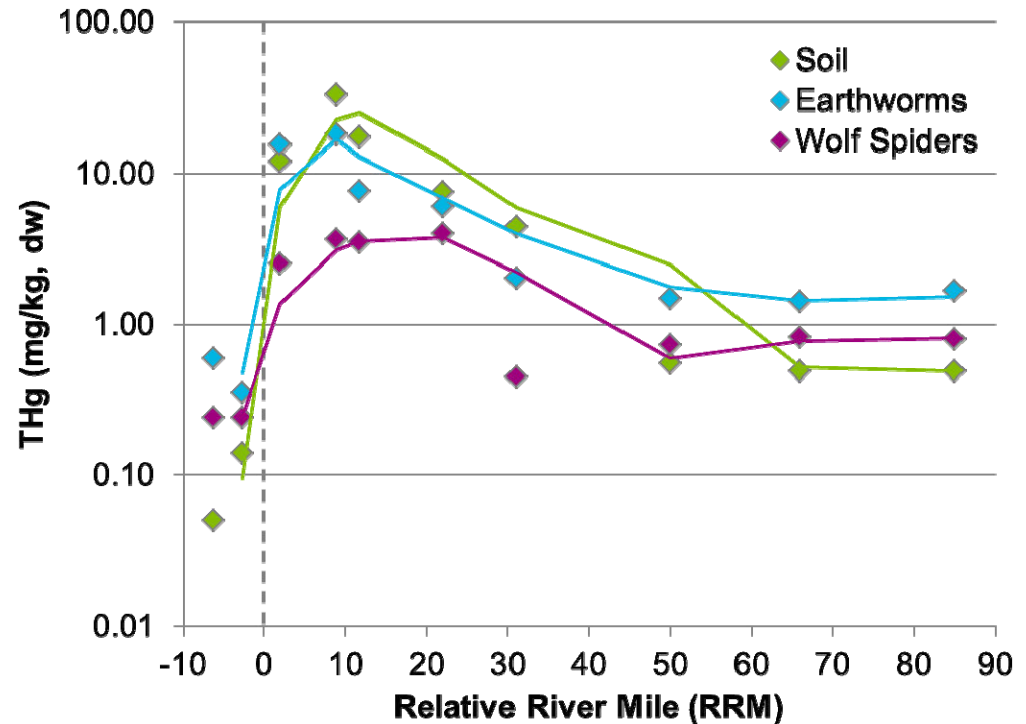


Note:

Individual points represent location-specific mean THg concentrations based on multiple replicate samples collected from 2014 to 2016; moving average (rolling mean; 2 points) trendline represents the average trend of data on a downstream spatial scale.

LTM Data Integration - Terrestrial Eco Exposure

- Strong relationship between media
- Similar spatial trend in terrestrial data
- Soil and earthworm data more closely related than wolf spiders along the South River

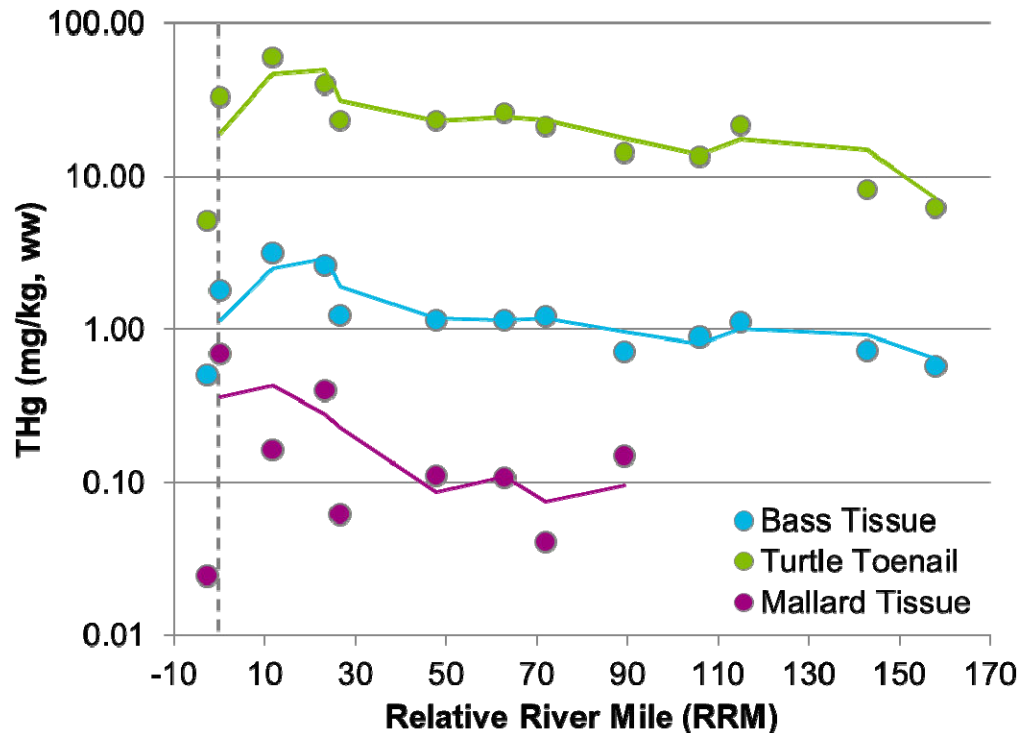


Note:

Individual points represent location-specific mean THg concentrations based on multiple replicate samples collected from 2014 to 2016; moving average (rolling mean; 2 points) trendline represents the average trend of data on a downstream spatial scale.

LTM Data Integration – Human Exposure

- THg concentrations follow similar spatial patterns moving downstream
- More variability observed at stations on the South River
- Mallard data more variable than other receptors

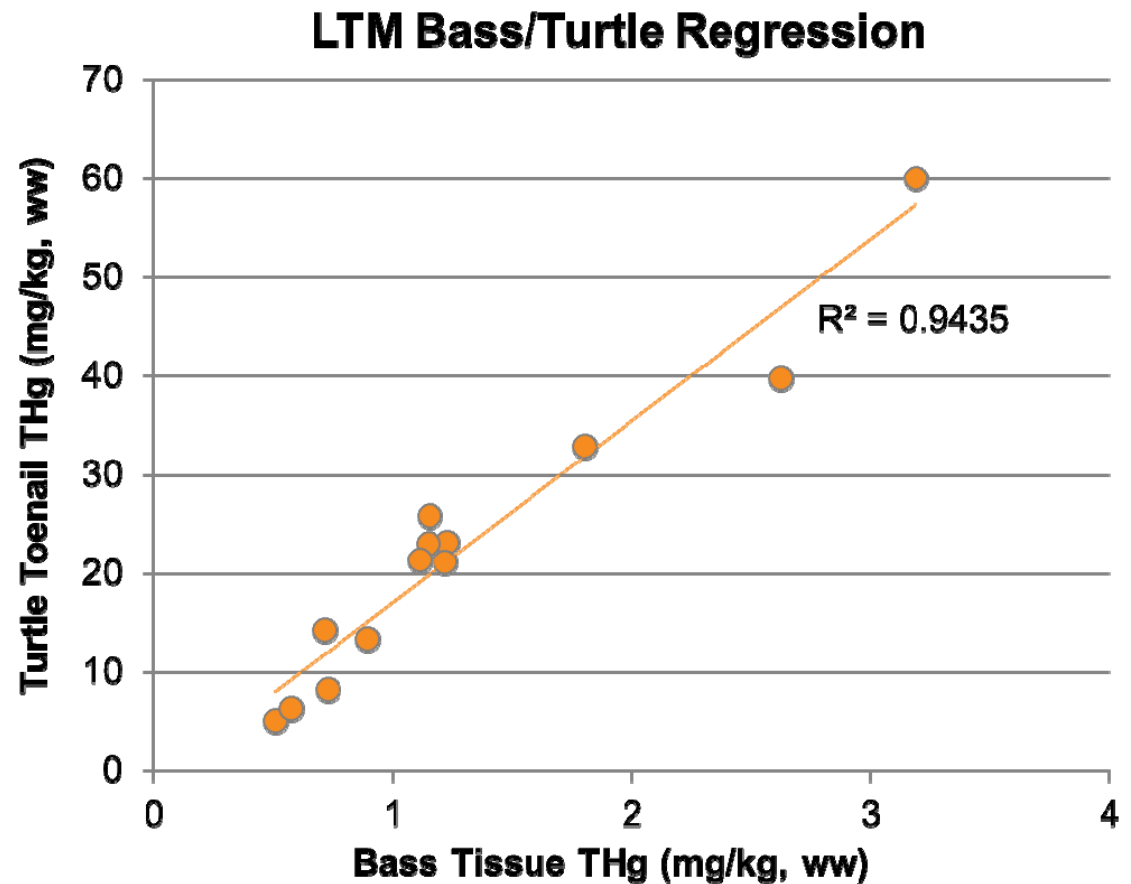


Note:

Individual points represent location-specific mean THg concentrations based on multiple replicate samples collected from 2014 to 2016; moving average (rolling mean; 2 points) trendline represents the average trend of data on a downstream spatial scale.

LTM Data Integration – Human Exposure

- Strong correlation between bass and turtle data within sites



Note:
Individual points represent location-specific mean THg concentrations based on multiple replicate samples collected from 2014 to 2016; linear trendline represents regression between bass tissue and turtle toenail THg concentrations (calculated R-squared value displayed).

Long-term Monitoring Summary

- Multiple lines of evidence in agreement
- Comprehensive baseline data analysis on-going
- Utilize adaptive management post-remedy to assess monitoring program

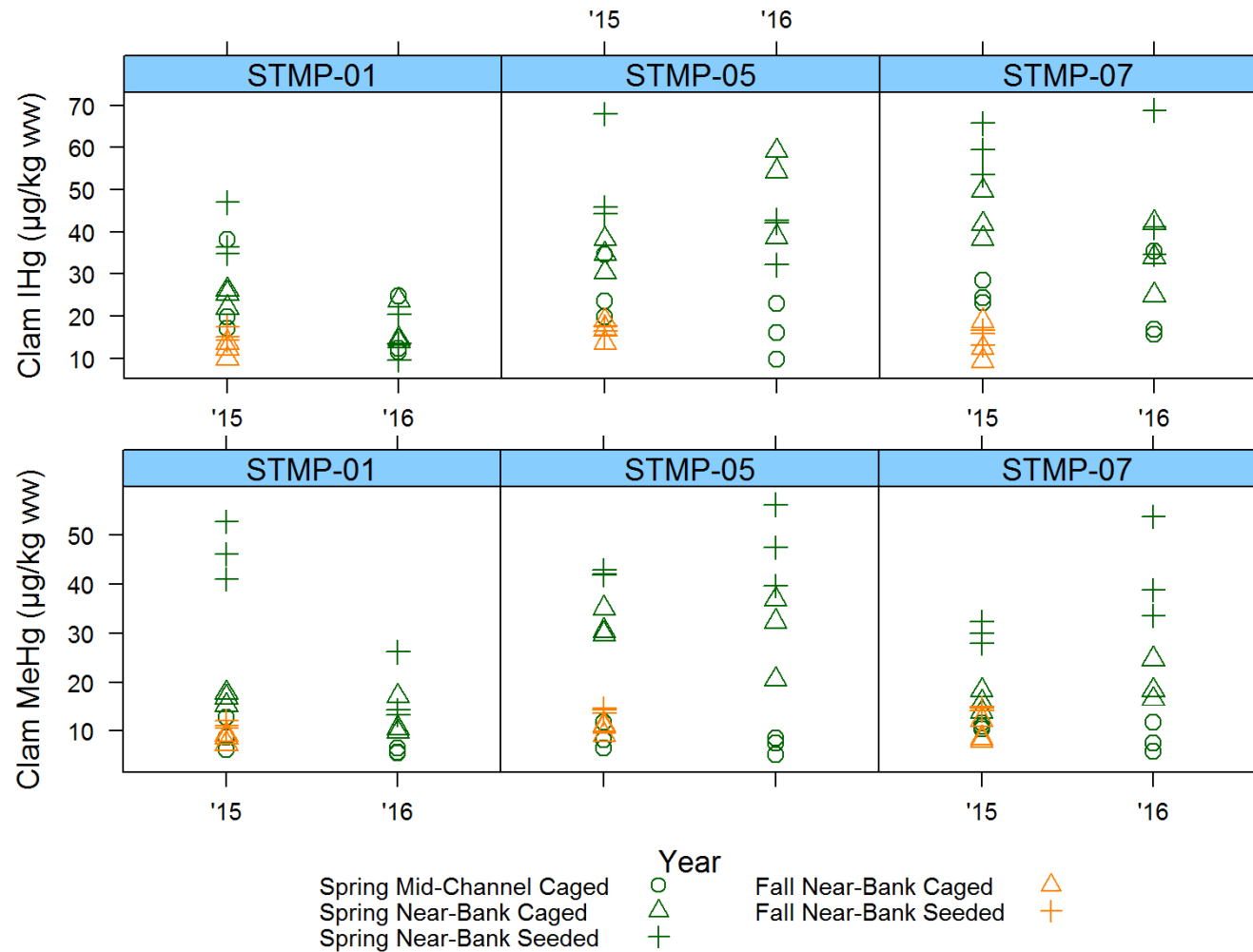


Short-term Monitoring

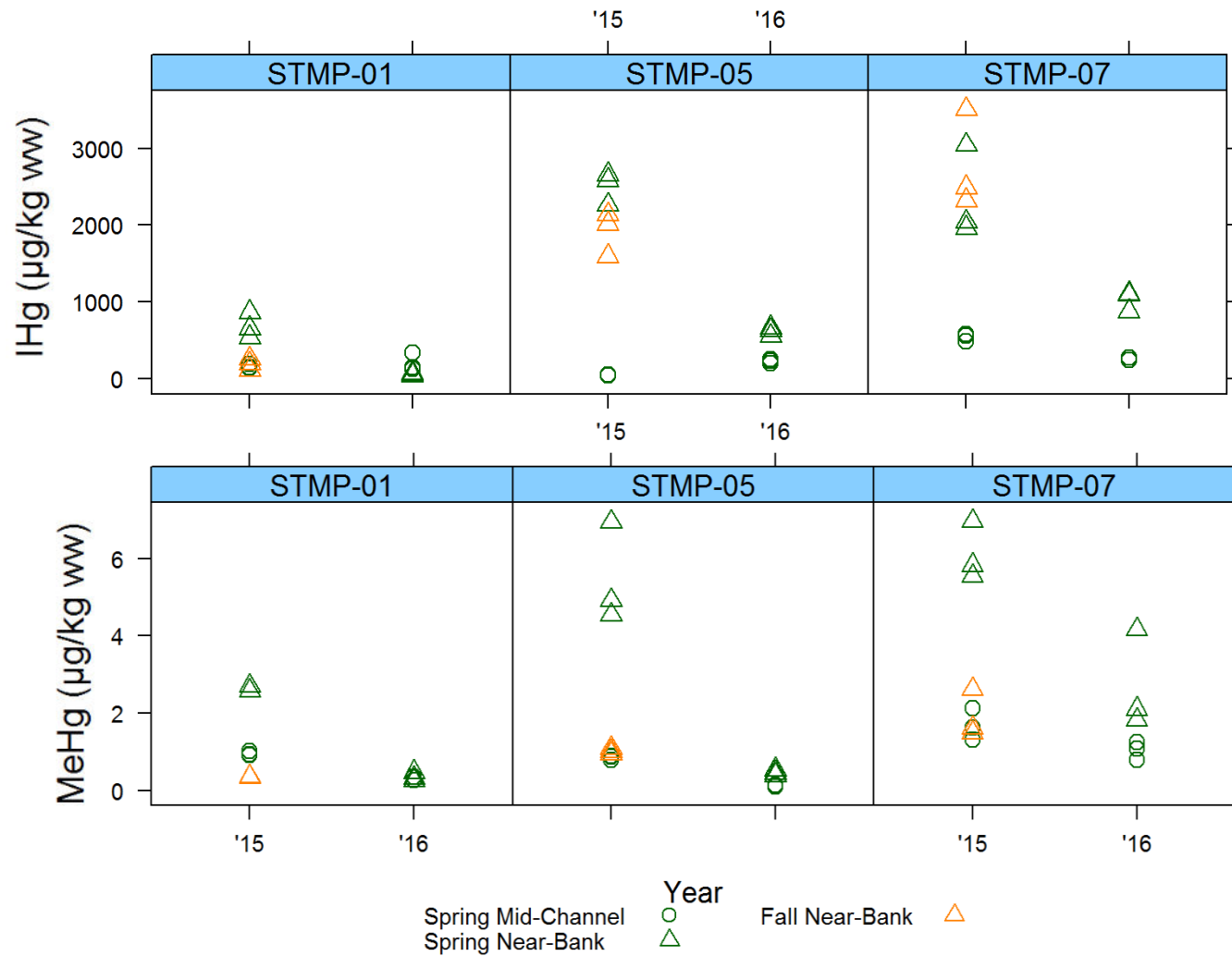
- Sampled STM-01, STM-05 and STM-07
- Fall data collections complete
- Data pending



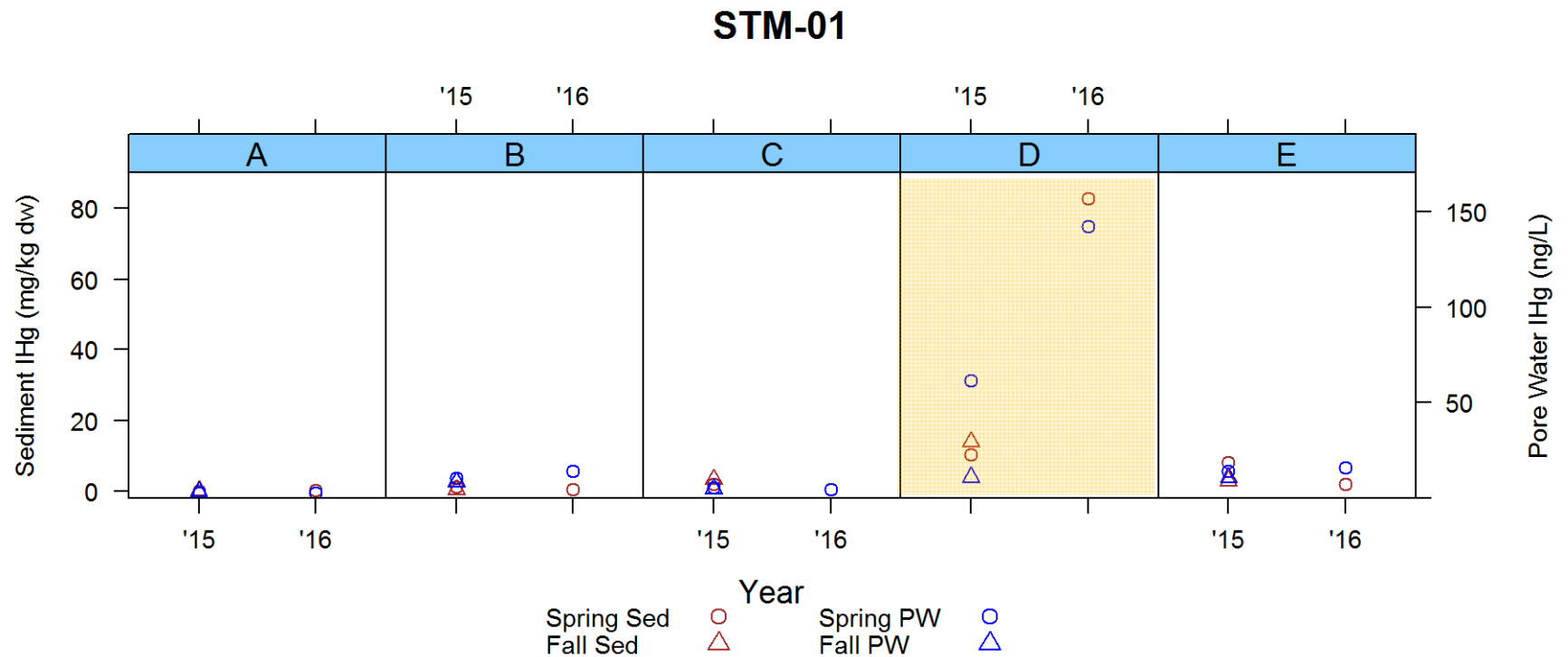
Short-Term Monitoring- Clams



Short-Term Monitoring- Periphyton

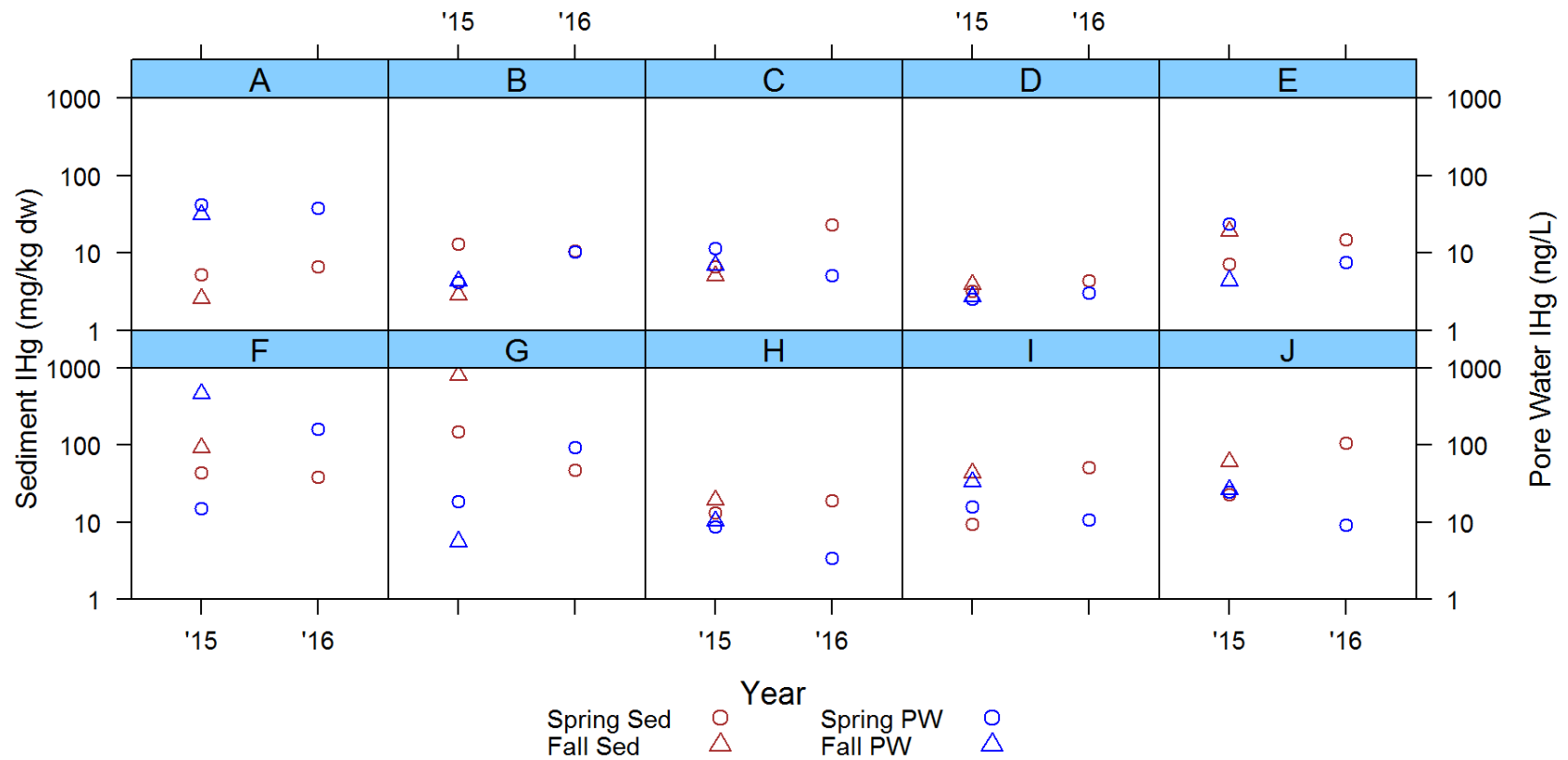


Short-Term Monitoring- Pore Water and Sediment



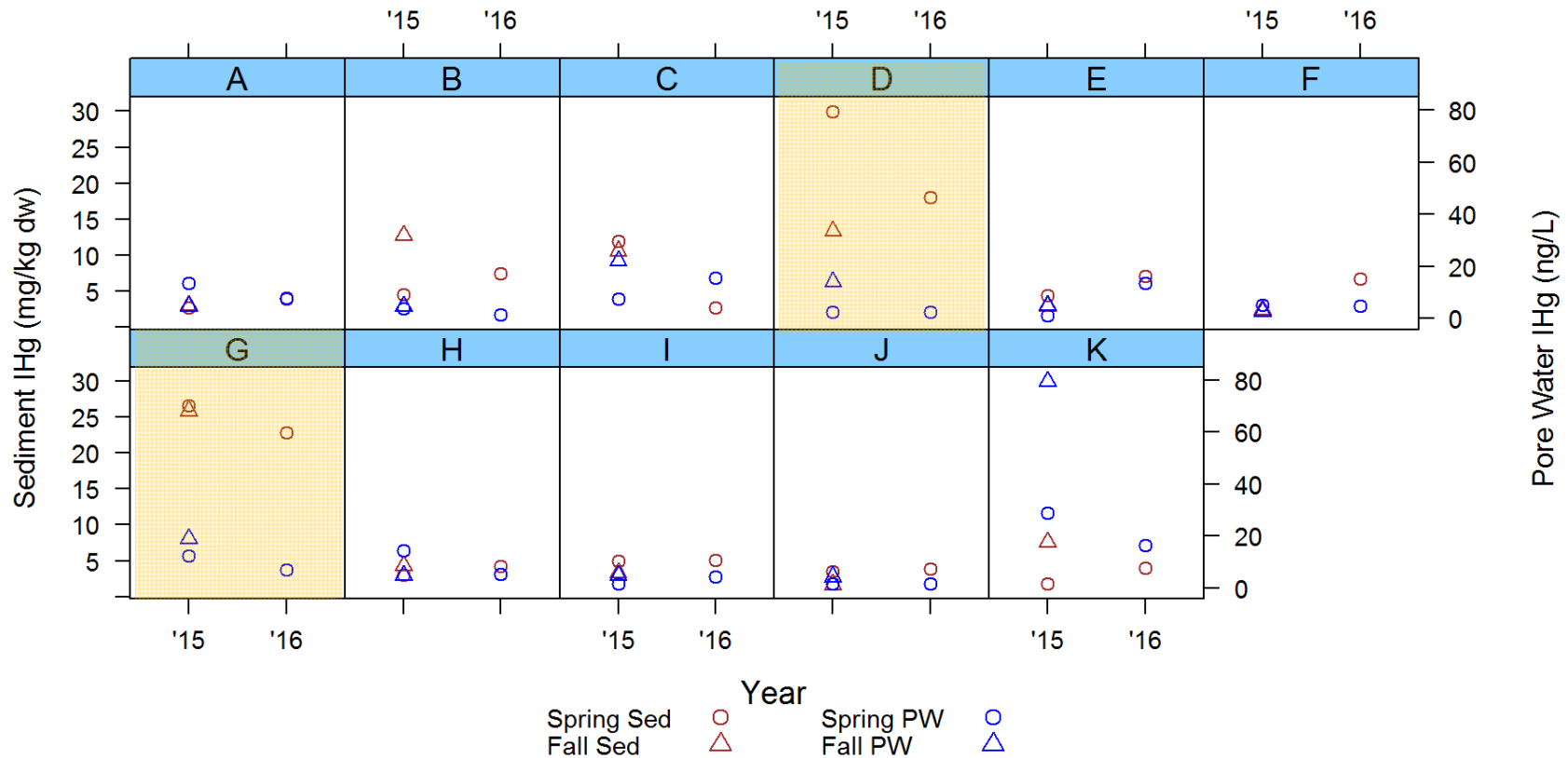
Short-Term Monitoring- Pore Water and Sediment

STM-05



Short-Term Monitoring- Pore Water and Sediment

STM-07



Reporting Schedule

– Short-term Monitoring

- Final Revised 2015 Annual report resubmitted to VDEQ
- 2016 Annual Report – January 2017 (pending receipt of analytical data)

– Long-term Monitoring

- Baseline summary report to be prepared this fall/winter
- Anticipated submittal date – Q1 - 2017



Reminder -

Archived benthic voucher collections available for academic use

Study	Year	Archived Sample Material Description	Status
Field Microcosm Study	2010	Vouchers	Available for Academic Use
Pond Amendment Pilot	2011	Vouchers	
Benthic Colonization Study	2011	Vouchers	
Dam Removal (Baseline)	2011	Vouchers	
Post-Dam Removal	2012	Vouchers	



Thank You

Joshua.Collins@aecom.com



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