

South River Science Team Expert Panel Meeting
October 21-22, 2008
Minutes

Welcome-Don Kain, DEQ

Outreach, Community Involvement, Publications, SRST Website/GIS – Mike Liberatti, DuPont

- You can now access data on the website using “science” as your login and “team” as the password.
- Looking for ideas for newsletter
- A poster was created on what is the SRST

Working Hypothesis – Nancy Grosso, DuPont

- Updated version sent to Science Team for comment

Plant Site RFI Update – Ron Wesley, URS

- Plant site work is ongoing.
- Test pits and borings have been dug in several locations.
- Free mercury has been found in some areas and not in others.
- There are pictures on the presentation showing mercury in different media.
- Storm sewer investigation is ongoing.
- 011 has the highest discharge.
- Load calculated to be about 1 g a day, and rising to 3 g day during storm events.

Ecological Study – J.R. Flanders, DuPont and Todd Morrison, URS

- See presentation

Flux Chambers – Rich Landis and J.R. Flanders, URS

- See presentation

Amphibians, Reptiles – Bill Hopkins, Va Tech

- Female *B. americanus* transfer Hg to their eggs
- Hatching viability is negatively correlated with egg [Hg]
 - Correlation driven by hatching success, not malformation rate
- 19% reduction in viability when using reproductive effects threshold from fish literature
- No deleterious latent effects of maternal Hg exposure observed in larvae (opposite appeared true!)
- Overall recruitment did not differ when using reproductive effects threshold from fish literature

100 Year Monitoring Program – Calvin Jordan, DEQ

- Fish (2007)

- Sediments (2007)
- See presentations

2008 South River Floodplain Survey – Calvin Jordan, DEQ and Todd Morrison, URS

- THg tends to decrease as distance from the river increases.
- THg tends to decrease as elevation above the river increases.
- Increasing silt % and, less importantly, decreasing clay % are associated with increased THg.
- Increased organic material in the soil (LOI) associated with higher levels of THg.
 - LOI and particle size appear to represent the same relationship to THg
- THg levels higher in 2 year floodplain than 5 or 62.
 - Except reach 1: highest THg levels in 5 year floodplain.
 - Reach 1 samples closer to river than in other reaches.
 - Lowest THg always observed in 62 year floodplain.
- Land use Significant
 - Highest THg in forested areas (4/6 reaches), with pasture (reach 2) and open space (reach 1) highest in other reaches.
- Land use by floodplain interaction significant in reach 3, where highest THg in:
 - Forested areas in the 5 year floodplain.
 - Pasture areas of 2 and 62 year floodplains
- Conclusions regarding the surface soils data analysis are presented and composite sample data set evaluations indicate similar conclusions.
- THg levels in wetlands not elevated above other adjacent land uses in floodplain.
- April MeHg results for wetlands ranged from 0.01- 31.8 ng/g; In-river baseline monitoring stations generally range 1X- 2X higher during winter months than maximum value for wetlands.

Initial Results of Microbial Bioassays – Tamar Barkay, Rutgers

- See presentation

Trophic Analyses/Food Web – Mike Newman, William and Mary

- See presentation

Mallards – Lucas Savoy, BRI

- See presentation
- Hg levels in Mallard blood and eggs from the SR were higher in 2008 than 2007
- 45% of mallard eggs sampled from the SR exceeded established LOAEL's
- Hg between 1st and 2nd clutch decreased slightly
- Only 8% of feathers exceeded LOAEL
- Preliminary ST results indicate differences in foraging strategies among waterfowl species on the SR
- Most stable isotope results are pending from labs

Bats – Dave Yates, BRI

- See presentation

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Bank Stabilization Pilot/Remedial Options Program – Nancy Grosso, DuPont

- See presentation

South River Mercury TMDL – Jack Eggleston, USGS and Robert Brent, DEQ

- See presentation

CSI South River – Ralph Turner and Dick Jenson

- See presentation

Exposure Pathways/Human Health Issues – Annette Guiseppi-Elie, DuPont

- See presentation

DGIF Creel Study – Paul Bugas, DGIF

- This is a localized fishery that is moderately used
- SR anglers contribute financially to local economy (\$200,000)
- SR anglers are generalists and 75% release their catch (C&R ethic)
- Harvest of SMB is greater in SR than in other VA rivers
- Trout harvest rate is 37%
- 3 of 4 anglers knew of the advisory, but less than half could correctly state it
- The advisory signs are working well
- Roughly 20% of anglers still eat fish in South River and Upper South Fork Shen
- Water contact recreation amounts to over 50% of non-fishing use (\$2,415 spent)

What We Know and Don't Know – Ralph Stahl, DuPont

- John Green not present, Ralph did not present John's slides
- See presentation
- We have a lot of data, we need to take time to review and understand. Need more manuscripts.
- Data mining, working with Todd to assemble database. If there is data needed, let Ralph and Todd know.
- How much farther do we define/describe the problems before you start to fix them?
- 2009 Steps
- Assemble data/manuscripts
- Dedicate a volume to all South River studies (garden study, eco study, floodplain, etc.)
- Maybe a multi-author paper
- Need more published, not just a bunch of power points in archive
- Erin Mack is primary contact for participation in the international Hg conference in China in June.

- Mike L. suggested having more workgroups (exposure team, TMDL, Biosummit, etc.)

Next meeting: Jan 21 – web meeting
April, July, October