



Samples were collected from seven bridges on the South River; six are located downstream of the Invista plant, and one is located upstream. Samples were collected for total suspended solids (TSS) and filtered and unfiltered total mercury (THg) and methylmercury (MeHg). Samples were collected via submersible pump from 0.3 m below the water surface. Samples were shipped overnight, and at the time of this update, the contract laboratory had received all samples shipped. Table 1 describes the date and time of sample collection, the parameters analyzed and the number of replicates collected at each location.

Sample collection protocols adhered to those described in the work plan with two exceptions. Samples were collected from the Main Street bridge in Waynesboro rather than the footbridge at the Invista facility. It was determined that the footbridge (RRM-0) may not adequately capture all potential plant-related sources, therefore the Main Street bridge located approximately 0.4 miles down river from the footbridge was sampled. In the future, the Main Street bridge will be incorporated into the storm sampling program as the first sample point within the study area.

Based on the performance of automated samplers during equipment testing prior to the storm sampling of June 27<sup>th</sup>, automated sampling devices will not be incorporated into the Phase I sampling program as originally anticipated. The work plan originally incorporated both manual and automated storm sampling techniques, however, the elevation of most of the bridges along the study area are equivalent to or higher than the theoretical maximum lift specified for automated samplers (i.e. the bridge elevations range between 26 and 29-ft and the maximum draw specified for the automated samplers is  $\leq$  28-ft). During the initial field testing, samplers failed to collect adequate volumes at several bridge locations. In addition, these samplers do not have the capability to field filter samples. For these reasons, automated samplers will not be incorporated into the Phase I storm event sampling program. The storm sampling program will continue to rely on manual sampling techniques to collect consistent and high quality data, which will be used to provide measures of mercury loading in South River during and after a storm events.

**Table 1:  
 Storm Event Sampling Summary  
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 Ecological Study**

Sample Locations	RRM	Hour		Day After Peak			
		0	3	1	3	6	8
Lyndhurst Ave. Bridge	-2.7	✓ ✓	✓	✓	✓	✓ ✓	✓
Main St. Bridge	0.4	✓	✓	✓	✓	✓	✓
Hopeman Parkway Bridge	2.3	✓	--	✓	✓	✓	✓ ✓
Holsinger Farms Footbridge	5.1	✓	--	✓	✓ ✓	✓	✓
Crimora Road Bridge	9.9	✓	✓	✓ ✓	✓	✓	✓
Patterson Mill Road Bridge	16.5	✓	✓	✓	✓	✓	✓
Port Republic Road Bridge	23.9	✓	✓	✓	✓	✓	✓

Note:

- ✓ : One sample collected for TSS, filtered and unfiltered THg and MeHg.
- ✓ ✓ : Duplicate samples collected for TSS, filtered and unfiltered THg and MeHg.
- : Sample not collected
- RRM: Relative River Mile
- TSS: Total suspended solids
- THg: Total mercury
- MeHg: Methylmercury

Figure 1: Discharge and Turbidity, South River, VA  
June 23 - July 6, 2006  
Phase I System Characterization  
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