**Wet Weather Sampling Options - LimnoTech**

LimnoTech had been directed by the SRRTTF to provide recommendations regarding future wet weather monitoring.  We presented some initial concepts at the 12/2 TTWG meeting, at which point it became apparent that members had a range of objectives regarding what the monitoring should accomplish. The purpose of this email is to conduct an initial survey of what TTWG members want from the wet weather monitoring, as well as feedback on the desired way to accomplish it. No final decisions will be made as a result of this survey; it is intended to make future discussion more efficient.

The first question pertains to “Reasons for conducting wet weather monitoring.” Three categories of reasons were discussed during the TTWG, are described briefly below.

1.      Indirectly gain information about wet weather loads

The original impetus for wet weather monitoring was to conduct a mass balance assessment similar to what has been done for dry weather, to allow us to back-calculate the mass of PCBs entering the river between two river stations. Subsequent analyses showed that the concentration increase caused by wet weather loads would likely be too small to be distinguished, given the high variability of wet weather conditions. Nonetheless, a wet weather synoptic survey may provide the following information:

* Identification of the presence of larger-than-expected wet weather loads, either via direct stormwater input or delivery of stormwater loads via groundwater; or
* Confirmation that the currently expected magnitude of stormwater loads do not cause noticeable increases in river concentrations

2.      Directly measure wet weather-sensitive sources (e.g. Hangman Creek, stormwater outfalls)

Given the uncertainties described above in indirectly measuring wet weather loads, direct measurement becomes an option. The 2014 survey showed one elevated PCB concentration in Hangman Creek after a localized storm in the watershed, but little is known about how reflective this single measurement is of wet weather conditions. It should be recognized that concentration measurements from a limited number of storm events will not by itself provide an accurate estimate of annual loads, given the large storm-to-storm variability in concentration.

3.      Better understand seasonal variability of river concentrations

The monitoring conducted by the Task Force has focused primarily on summer low flow conditions, with the only exception being a single May, 2014 sampling event. There is a desire to better understand how concentrations in the river vary seasonally, but also the realization that river concentrations may be too low to be accurately measured during higher-flow conditions.

The second question pertains to implementation of the monitoring plan.  For each of the objectives described above, we could proceed in one of two manners:

1.      Single event: This would provide an initial assessment, and allow subsequent monitoring to be tailored based on what was learned.

2.      More comprehensive monitoring: This would entail multiple monitoring events, providing more information than a single event.

The trade-offs between the two options are that a single event is likely more efficient, but it will require more time to obtain results than starting out with the comprehensive monitoring.

**SURVEY**

Please provide your responses to Dave Dilks either electronically ([ddilks@limno.com](https://connect.wsu.edu/owa/redir.aspx?SURL=t6hRHsTm_hOoZoOYPorZAG_OnExNIL8ah4Jk3SlbarmlWEMG3gDTCG0AYQBpAGwAdABvADoAZABkAGkAbABrAHMAQABsAGkAbQBuAG8ALgBjAG8AbQA.&URL=mailto%3addilks%40limno.com)) or by fax (734-332-1212) by December 30.

1.      Please rank your interest in the following wet weather monitoring objectives as High, Medium, or Low. If you have objectives other than the ones listed, please add them.

|  |  |  |  |
| --- | --- | --- | --- |
| Objective | Priority | | |
|  | L | M | H |
| Indirectly gain information about wet weather loads |  |  |  |
| Directly measure wet weather-sensitive sources |  |  |  |
| Better understand seasonal variability of river concentrations |  |  |  |
| Other (specify) |  |  |  |
| Other (specify) |  |  |  |

2.      Do you prefer implementing the monitoring as a:

\_\_\_\_   Single monitoring event, with results used to design subsequent monitoring efforts; or

\_\_\_\_   Comprehensive monitoring entailing multiple monitoring events

3.      Additional Comments (if any):