DRAFT 03-19-13

Evaluation of Point Source Annual Progress

Issue: Maryland seeks to report Point Source Annual Progress in a manner consistent with NPS, which averages out effects of inter-annual precipitation. Note: MD will continue to report actual WWTP loads for use in EPA's actual load reporting that accounts for annual precipitation: http://www.chesapeakebay.net/indicators/indicator/nitrogen_loads_and_river_flow_to_the_bay1

Motivation: Wastewater loads are 26% of Maryland's annual load. Inter-annual variability in precipitation can cause a ±1 million pound swing, depending dry or wet year. Given a 1.5 million lb/yr milestone target, this variability obscures our ability to evaluate management action progress.

Time-sensitivity: This issue affects how 2013 Milestones are evaluated; therefore, it needs to be addressed sooner than some other Midpoint Assessment Issues.

Higher-level Decision: The decision should be made a level higher than the Wastewater Workgroup; however, if Maryland's proposal is accepted by EPA, then the workgroup should be consulted on technical aspects.

Wastewater Workgroup Briefed on 3/5/13: The wastewater workgroup was briefed by Maryland. Chair, Tanya Spano, invited a written proposal from Maryland (this document).

Strategy: Because the percentage of wastewater load from PA, DE, WV, NY range from 5%-14%, they need not make any changes in reporting if they don't want to. VA wastewater load is 27%; they might benefit from a change in reporting; however, they also have a bubble approach that might be a factor to consider. MD needs to offer a technical approach.

Technical Approach: (Conceptual)

1. Separate the effect on load of a) Management Actions, e.g., construction and/or changes in operations, and b) Growth. This same concept has been adopted by the Milestone Workgroup for evaluating NPS Milestone progress.

2. On approach would establish a multi-year average flow for use as a 2009 baseline, similar to the way NPS progress uses a long-term average hydrology. We could draw upon flow information used for NPS modeling for consistency.

3. Annual Progress runs would generate the following:

    a) Management Action Effect on Load: Determine load reduction each year due to plant upgrades without effect of variable hydrology (consistent with NPS annual evaluations).
    b) Growth Effect on Load: Determine increase in flow/load each year due to population increase.
    c) The combination of a) and b) would be the net change in load, analogous to the NPS Annual Progress runs.

Summary of the Issues: The following table is an attempt to present the issues in a simple form. Note, it only relates to Annual Progress evaluations, which we feel should isolate the loading effects of growth and management actions from the effects of annual variability in hydrology. As noted above, the actual estimated loads, which account for annual differences in hydrology, are reported separately by the Bay Program, e.g., http://www.chesapeakebay.net/indicators/indicator/nitrogen_loads_and_river_flow_to_the_bay1

Annual Progress Evaluations

Factors Affecting Loads	Point Source Loads	Nonpoint Source Loads
Management Actions	The effect of management actions on loads is currently blended with growth. **Propose** isolating it from the effects of growth.	The effect of management actions on loads is to be isolated from the effects of growth, according to a Milestone Workgroup agreement.
Growth	The effect of growth on loads is currently blended with management actions. **Propose** isolating it from management actions.	The effect of growth on loads is to be isolated from the effects of management actions, according to a Milestone Workgroup agreement.
Hydrology	Loads currently reflect annual variability in hydrology. **Propose** using a long-term average flow consistent with NPS evaluations.	Loads currently reflect long-term average hydrology so that the effects of management actions and growth are not masked.