

## Trash Monitoring Guidance

Because trash is a new and emerging pollutant with regards to TMDL development, MDE strongly recommends inclusion of a monitoring program within a trash TMDL implementation plan. Continued trash monitoring can provide MDE with up-to-date information on how trash loads may be changing over time. It is also important to show effectiveness of BMPs implemented for trash reduction.

Specific elements to consider when developing a trash monitoring plan include:

- Establishment of monitoring protocol
  - A written monitoring protocol shall be submitted
  - The protocol should include detailed description of all monitoring activities that will occur, including: site selection, frequency of sampling, sampling methodology, and data submission
  - EPA Quality Assurance Project Plan (QAPP) procedures should be used for reference
  - MDE will review the monitoring QAPP as part of the implementation plan approval process
  
- Site selection
  - Safety, private property, and accessibility should be considered when choosing monitoring sites
  - The monitoring program should capture data from each land use within the MS4 jurisdiction, as this is the basis for the TMDL calculation. It is recommended that 20% of each land use type contributing to the stormwater system should be monitored.
  - Diversity in loading rates for each land use type should also be considered. For example, identification and sampling of outfalls corresponding to trash hot spots (i.e. a catchment area with excessively high trash loading) should be performed.
  - A variety of MS4 outfall sizes should also be sampled, including both major (>36") and minor outfalls.
  
- Frequency of sampling
  - Should effectively capture seasonality of trash loading rates
  - Should be useful in determining both effectiveness of BMPs, as well as trash loading from baseline or control catchment areas
  - Should include sampling in conjunction with large storm events (greater than one-year storm, approx 2.5" in 24 hours)
  - Monthly sampling is highly desirable

- Sampling methodology
  - Trash sampling devices should be sized appropriately to capture trash without becoming blocked too quickly (Approximately 1 – 2” opening)
  - In order to obtain an accurate weight of trash, sample should be drained of excess water and allowed to dry a nominal amount. All organic debris should be removed from sample.
  - Weight data should be logged on data sheets and records should be kept for each monitoring site.
  - In addition to weight, characterization of trash types should be completed (i.e. sorting, counts, etc.) in order to target trash reduction strategies
  - Photo-documentation of sample can also be used for additional evaluation of sample characterization
  
- Data Submission
  - Data collected from monitoring can be submitted with annual MS4 report
  - In addition to trash monitoring data (weights, counts, etc.), information regarding trash reduction efforts, or BMPs should be submitted