



Anacostia
Watershed
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Anacostia Watershed Trash TMDL

Prepared for:
AWRP Steering Committee

April 23rd, 2009



TMDL Framework Review

- $TMDL = WLA + LA + MOS$
- The Los Angeles TMDL approach is being used as a model for the Anacostia TMDL: estimate or calculate a baseline load and set the TMDL as a removal of 100% of that load.
- This approach provides for a quantitative implementation of the narrative standard
- The WLA will consist of objects that may reasonably be expected to travel through the storm sewer system
- The LA will consist of larger items, that were most likely dumped: tires, shopping carts, construction materials



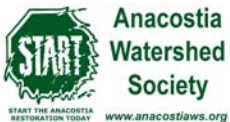
TMDL Framework Review

- MDE will be developing baseline loads for distinct land use types.
- The baseline monitoring involves 15 in-stream monitoring stations in each county, 3 outfall traps in each county and trash traps (Prince George's) and ponds (Montgomery) where trash data is collected.
- In Montgomery County, demonstrable progress toward the TMDL is written into the MS4 permit. A similar approach will be made in PG County.



Monitoring

- **In-stream**
 - Seasonal samples from 15 stations in each county
 - Trash counts for 500 foot transects
- **All 4 sampling events have been completed**



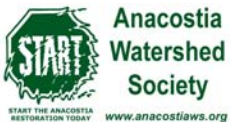
Monitoring

- **Outfalls**

- Monthly samples to be taken at 3 traps in each county
 - **All traps have been sampled 5 times**, due to permitting delays
- Trash in outfall drainage also estimated
 - **Land use surveys have been completed 4 times**

- **Trash traps (PG) and ponds (MC)**
 - **Sampled once**

All sampling will be completed on July 31



Organic Debris

- The overwhelming majority (approx 20:1) of what is captured in collection devices is organic debris
- Organic debris is being separated and weighed
- Hope to be able to estimate a relationship between trash and organic debris



Compliance Strategies

- Full capture systems
 - Most suitable for open areas with low levels of trash accumulated over large vegetated areas
- Institutional controls
 - More appropriate for urban areas
 - Street sweeping, litter enforcement, compactors
- Partial capture: harder to assess



Implementation

- In Maryland, TMDLs do not include implementation plans, but WLAs are implemented through permits.
- LA allowed 60% of baseline after the first year of implementation with 10% reduction in each subsequent year.
- Compliance based on 2-year average in the second year and 3-year rolling averages in subsequent years until zero discharge.

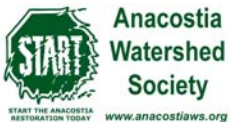


Data Analysis

- MDE contract with Dr Rick McCuen, University of Maryland
- Regression equations of trash type by land use type:

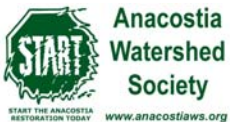
$$\text{Trash}_1 = b_0 + b_1\text{LU}_1 + b_2\text{LU}_2 + b_3\text{LU}_3$$

- R-value correlations are very good – as high as 80%



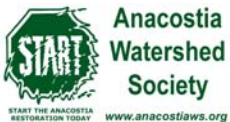
Data Analysis

- Analysis by county
- Issues: Converting trash item count to trash weight



Trash Definition

- Ongoing discussion within Trash TMDL workgroup to agree upon a definition of trash to include in TMDL
- Main issue is whether or not to include a size specification
- It is the opinion of MO Co DEP, PG Co DER, MDE, DDOE, and EPA Region 3 that an all inclusive definition be used, and not specify a particular size
 - Trash means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state.



Timeline

Assuming the weather cooperates...

- June 2008 – Baseline Monitoring Begins
- June 2009 – EPA contractor support
- September 2009 – Baseline Monitoring Ends
- October 2009 – Data Analysis Complete
- December 2009 – Draft TMDL out for Public Comment
- January 2010 – TMDL Approved



Issues

- How do we define “trash”?
- How do we account for natural debris when reporting trash collection data?
- What kinds of non-structural BMPs (e.g., public outreach, anti-litter campaigns) do we plan to use
- How do we adjust the baseline trash load if non-structural source reduction measures reduce the amount of trash entering the watershed?
- When do we expect complete implementation to be achieved?

