



## Roundtable Summary

# The Alice Ferguson Foundation's 2<sup>nd</sup> Annual Potomac Watershed Trash Summit

**June 14, 2007**

The World Bank · Washington, DC

---

### Action Recommendations and Minutes

#### From Afternoon Roundtables

#### (Open Sessions)

- (1) Wake Up and Smell the Trash—Regional Public Education Campaign**
- (2) There's Treasure in Trash! Market-Based Trash Reduction Strategies**
- (3) The New Rules of Trash—Legislation to Address Regional Trash Issues**
- (4) Trash Busters—The Role and Implementation of Enforcement**
- (5) Diverting Construction Debris Waste Stream**
- (6) Trash Reduction Technologies and Best Management Practices for Stormwater**
- (7) Maximizing Regulatory Tools Action Roundtable**

### Roundtable Framework, Overview and Instructions

#### *Overall Themes:*

- Remember to think “watershed”: While all trash is local, watershed and sub-watershed thinking is key!
- Our trash is going somewhere—land-based trash is impacting the ocean
- Think beyond trash—trash is only a symptom of larger problem
- Trash is the portal to addressing other environmental/community issues
- This trash problem is fixable
- There is a need for both immediate and measurable results

#### *Overall Scope:*

- All Roundtables will commonly be addressing the issue of prominent trash found in the Potomac River Watershed Cleanup—trash from the large to the very small—construction debris, tires, home appliances and products, food packaging, plastic bags, recyclable beverage containers—not tangential issues
- Emphasize tangible, actionable, measurable outcomes
- Think outside the box
- Solution is federal, state, and local—holistic integration of public education, market-based approaches, legislation, regulation, and enforcement
- We expect and hope for overlap across Roundtables

#### *Expectations:*

- Moderator will be responsible for managing discussion, asking questions, and engaging the audience into the dialogue, getting to recommendations that are measurable and realistic, and that can be reported at the final session.
- At each Roundtable, 2-3 panelists will give background presentations, including at least one positive model of success. Panelists will not be asked to give presentations, but be part of a dialogue to address solutions to identified topic challenges.
- The Roundtables are interactive with the audience—after the panelists have had time to dialogue, the moderator will open up the discussion to the audience for questions/comments and feedback.
- Each Roundtable will have at least 2 recorders to support the moderator—recording on chart paper and recording detailed notes of dialogue.

*Outcomes by End of All Roundtables:*

Offer at least 3 recommendations that the Roundtable can agree are important, actionable, and achievable within one year

Offer at least 2 recommendations that the Roundtable can agree are important, actionable, and achievable within 3–5 years

**(1) Wake Up and Smell the Trash—Regional Public Education Campaign**

**Focus: Send Powerful, Unified, and Repetitive Trash-Free Message to the Public**—An active and large-scale regional public education and awareness program wakes up residents and businesses, offers visibility, and activates them to voluntarily engage in sound behavior of litter control, recycling, and bulk trash disposal. A region-wide strategy requires unified messaging and pooling of resources from public and private sectors to ensure the broadest audience is reached with adequate message saturation. Focused efforts toward targeted audiences also provide necessary education (i.e. youth, waste hauling or food service establishments, or multi-cultural communities). Examples of effective public education campaigns nationally and in the region.

- What is needed for us to develop and implement an effective Potomac Watershed regional public education campaign?
- How can we get each jurisdiction to leverage its anti-litter education funds through regional partnerships?
- How can you measure success of the campaign?
- What are targeted audiences that must receive special outreach?
- What are non-traditional and cost-effective strategies, techniques and technologies that we can leverage and integrate into the campaign?
- What are creative education and outreach strategies that we can implement to reach diverse cultures?
- How can we generate adequate funds to sustain the effort over a seven-year period?
- How do we finance this?

**Moderator:** Michael Herman, Chief of Staff, County Executive Jack Johnson, Prince George’s County, MD

**Roundtable Participants:**

***Presenters:***

*Alexandra Cousteau, International Environmental Advocate and Co-founder of EarthEcho—Presenter on her experiences with issue of marine debris.*

*Valerie Davis, CEO, EnviroMedia Social Marketing—Presenter on “Don’t Mess With Texas” marketing campaign.*

*McArthur, Vice President, Free Range Studios—Presenter on non-traditional marketing*

*approaches.*

*Rosemary Byrne, Executive Director, Clean Fairfax Council—Presenter on local anti-litter campaign. This brief overview of the grass-roots program in Fairfax County, Virginia, will give information on how the program works and the results of the work of the volunteers who make the program successful.*

Ron Austin, Clean City Coordinator, District of Columbia

Esther Bowring, Public Information Officer, Montgomery County

Meagan Forbes, National Communications and Outreach Coordinator, Marine Debris Program, National Oceanic and Atmospheric Administration

Laura Grape, Director, Coastal Programs, Northern Virginia Regional Commission

Lisa Orr, Executive Director, Volunteer Frederick, Big Sweep Cleanup

Lowry Phelps, Superintendent, Recycling & Litter Control, Charles County

Jerry Phillips, Public Affairs Broadcaster for Washington Post Radio, and Regular Panelist on NBC 4 Reporters Notebook

Irv Sheffey, Environmental Justice Organizer, Sierra Club

Steve Stein, Senior Consultant and Litter Analyst, RW Beck

Ron Sturman, Community Relations Manager, Washington Times

Judith Thorman, Senior Vice President for Government Affairs, American Beverage Association

Aileen Winquist, Environmental Planner, Arlington County

Greg Zuecher, Vice President, Account Managing Director, Siddall, Inc.

### **Wake Up and Smell the Trash Roundtable Short-Term Recommendations (June 2007–June 2008):**

1. Need to develop a regional anti-litter campaign funded by local jurisdictions and private sector partners. The first steps include: developing a budget; developing a steering committee; and planning a stakeholder meeting to bring all partners to the table.
2. First financial steps include: getting MWCOG to send letters to different jurisdictions to make pro-rata contributions based on MWCOG best practices of the past.
3. Conduct a communications audit of campaigns going on in the area.

#### ► Presentation by Alexandra Cousteau, International Environmental Advocate and Co-founder of EarthEcho

Recently returned from two years in Central America, Ms. Cousteau stated that trash is a huge issue everywhere. Marine debris is a worldwide problem that affects everyone everywhere. Plastics make up 60 percent of marine debris, and 90.5 percent of the floating debris. More than 60 billion tons of plastic are produced each year.

Plastics photodegrade into smaller and smaller parts, but will never biodegrade into simple chemical elements. Plastics are “forever” materials. Ms. Cousteau showed a world map that depicted huge trash vortices off the coast of Japan and in the middle of the Pacific Ocean. A trash vortex concentrates trash in slow moving circles toward the center. By weight, there is more than six times as much plastic as zooplankton in these vortices. Marine animals ingest plastic. More than 40 percent of the albatross chicks that die prematurely are killed by ingested plastic, either directly or by feeding from their parents. Many marine mammals are caught and die in discarded commercial fishing nets. A total of 267 species are affected by marine debris.

In addition to the physical damages caused by plastics, the chemical components of plastics, bisphenol plastic additives (BPA), are linked to cancer and endocrine-disrupting diseases in humans.

Plastics used to be linked primarily to industrial and fishing sources. Today, however, they are mostly from consumer uses. Over 80 percent of the plastic appearing as marine debris originated on land. Suggestions to combat marine debris include:

- ♦ Reduction of plastic waste on land
- ♦ More efficient manufacturing and usage of plastics to reduce plastic waste produced
- ♦ A “zero discharge” policy for plastic trash
- ♦ Improvements in solid waste management
- ♦ Consequences for trash and littering

► **Presentation by Valerie Davis, EnviroMedia**

The “Don’t Mess With Texas” campaign has been in effect for 20 years. It is funded by the Texas Department of Transportation Maintenance Department, which has a budget of \$37 million per year to pick up 1.24 billion pieces of trash on Texas roadways. The “Don’t Mess With Texas” campaign costs \$2 million per year, and has resulted in a 33 percent reduction in trash over the 20 years. The goal is to reduce trash by 5 percent annually. The “Don’t Mess With Texas” slogan has a 95 percent recognition rate in Texas, but only a 65 percent awareness that it is an anti-littering campaign.

EnviroMedia has conducted extensive yearly data collection and analysis. The original assumption was that the most common group to litter was 18- to 29-year-old males, or the “Bubba” section. The research showed that in fact, it was 16- to 24-year-olds of both genders who were most likely to litter, the “Gen’L”, or Generation-Litterers.

As a result, there is a new ad campaign being developed, the “Litter Force,” that is aimed at elementary students. Also, a contest to design a car litter bag, “Rock the Bag,” aimed at Gen-L, is being held to attract the interest of this age group. A detailed study of road litter, which consisted of carefully cleaning a section of road and then taking data on litter as it re-accumulates, revealed that 33 percent of the litter was from tobacco products, 29 percent from food packaging, and 11 percent from non-alcoholic drink packaging.

Recommendations from Ms. Davis include doing a market survey before designing an ad campaign to be able to target the audience effectively; and a wide use of outreach, making personal connections to individuals and groups. The campaign in Texas uses both TV and radio media to deliver a consistent message, but outreach, though time-consuming, is much less costly.

► **Presentation by McArthur, Free Range Media**

McArthur’s firm, Free Range Media, is based in Washington, DC, and Berkeley, California. The company’s services include graphic design, web entertainment, and campaign concepting and strategy. McArthur shared that she is originally from West Virginia, which she expressed has severe environmental problems that are worsening. Citizens of West Virginia are highly resistant to environmental advocates, viewing them as Birkenstock-wearing radicals. As a result, McArthur and Free Range Media have developed innovative ways and media to deliver environmental messages. One of their best examples is “The Meatrix”, a video about the realities of agri-business. This film can be viewed on the internet at Free Range Media (<http://www.freerangegraphics.com>) and has been translated into twelve languages worldwide.

► **Presentation by Rosemary Byrne, Clean Fairfax County**

Ms. Byrne spends a great deal of time doing outreach in Fairfax County schools. The Virginia campaign, “Litter—It Just Isn’t Natural,” is conveyed by TV, radio, posters and extensive outreach. The school presentations focus on issues such as recycling. Ms. Byrne uses a children’s book, *The Wartville Wizard*, for which she received permission from the author to put into video format for large student audiences. Theatre 4 from Richmond, VA, produced and toured with a play about recycling, which has since been videotaped for further use in Fairfax schools. Ms. Byrne also

developed a game, “Environmental Jeopardy,” to engage students in active environmental lessons. Her office produces newsletters distributed to all fifth and seventh grade students, and offers mini-grants of \$500 to schools for action projects.

### **Roundtable Minutes and Discussion**

Moderator Michael Herman posed a question to the participants, “How does the media select the messages used for Public Service Announcements?”

Jerry Phillips, Washington Post Radio, and Ron Sturman, *Washington Times*, replied that media are no longer mandated to do PSAs, which in the past were a requirement for all media. The Washington area media market is very competitive, and it is difficult to get airtime for any issue. Mr. Phillips said that in the past, Clear Channel, which has a network of eight area radio stations, has devoted many hours each week to PSAs. Now, the Washington Post Radio hosts one hour a week, *Metrotalk*, which features many organizations and causes competing for air time. Both Mr. Phillips and Mr. Sturman said that in order to get media time today, this time must be bought and paid for. Mr. Phillips said that one way around this could be to cultivate a relationship with media personnel, such as Andrea Roane on Channel 9, or the Fox morning news. He stated that because of a long and cordial relationship with Rosemary Byrnes, he would air information about Fairfax County programs, knowing that she was a reliable source of important and timely information.

Mr. Phillips suggested that ways to get media coverage include: having a media-savvy person on staff, who would know how to approach media; using local newspapers who are always interested in covering local issues and have much less competition for space; and approaching morning radio talk shows, who appeal to the demographics described by Valerie Davis.

Mr. Sturman made an offer to work in partnership to publish a tabloid supplement to the *Washington Times*, which would be distributed to the entire *Washington Times* readership as well as the metropolitan area schools. This supplement would be written entirely by an organization such as the Alice Ferguson Foundation, focused on trash and its impact, and would be published through the Newspapers in Education program.

The discussion then focused on the feasibility of a local versus an area-wide anti-litter campaign. Consensus seemed to favor one regional campaign, supported by funding from all jurisdictions, business partners, and other interested stakeholders. MWCOG should be a major player in coordinating the development of a campaign, because of the extensive infrastructure among jurisdictions already utilized by MWCOG. Montgomery County has pledged \$50,000, and Prince George’s County has pledged an unspecified amount to begin this effort.

Discussion then proceeded to ideas for a campaign. Steve Stein spoke of the need to get buy-in from stakeholders by relating litter to business development, tourism, road accidents caused by litter, and other impacts of litter that affect people in specific ways. Mr. Sturman said that non-profit organizations do not have enough money to fund media campaigns, and a “hook” is needed to generate funding. He referred to the morning talk by US Green Building Council Chairman Sandy Wiggins, in which he detailed the economic benefits of building green, where the “hook” was the impressive return on investments.

Lisa Orr described a Frederick County program, The Big Sweep, which turns trash into cash for non-profits. In this program, groups hold a walkathon, getting sponsors to pledge for a cause or non-profit, and the participants collect trash in semi-competitive teams. “Volunteer Frederick” had a resounding response from students who want to pick up trash as they earn money for their organizations.

Mr. Herman requested from the participants and audience to list possible short- and long-term goals that identify what we would like to accomplish through a public education campaign.

Suggestions included:

- ♦ Aim for Zero Waste
- ♦ Have a “Sea Change” - or total change of mindset
- ♦ Create an emphasis on OUR river, OUR bay, OUR ocean, to encourage a sense of place and a personal connection for all citizens
- ♦ Develop a sense of pride in our region
- ♦ Make everyone realize that litter ends up in the waterways
- ♦ Mark all storm drains “No Dumping”, such as the metal signs installed on all storm drains in Fairfax County, to emphasize the connection to the waterways
- ♦ Stress that trash is unhealthy for humans as well as other living things
- ♦ Show that trash is bad for business
- ♦ Look at the source of litter—and reduce packaging
- ♦ Practice what we preach—be role models
- ♦ Borrow innovative strategies used in other countries or other areas, such as waste cans that say “Feed Me”, “I’m Hungry”, or “Open 24 Hours”
- ♦ Make recycling more conventional for everyone

Mr. Herman asked, “Can we develop one campaign to reach all audiences, or do we need to differentiate to appeal to diverse constituencies?”

Consensus was to develop one regional overall slogan and campaign, to appeal to all. There should be no finger-pointing at specific target groups.

Mr. Phillips suggested that we consider the “hidden” message. He stated that he could sell a car in ten seconds by appealing to a buyer’s ego, vanity, or inner wishes. We need to find the hidden message behind the actual slogan or campaign.

Discussion of a slogan brought forth the ideas that: it should create a sense of place; relate a small personal action to the impact on the greater environment; and show how litter hurts in many ways, from animals to business to auto accidents. The slogan can be overarching with subparts, such as a phrase (i.e. Litter Hurts...) that can be finished in multiple ways.

Consensus was that the campaign can be multi-year, not targeting all areas at the same time. Results for each year need to be measured, to determine effectiveness and guide future years.

Mr. Herman asked for 10 things that could be started right now:

- ♦ Get MWCOG involved
- ♦ Get media, including the Internet, involved
- ♦ Get schools involved, including college students
- ♦ Develop a consistent message
- ♦ Develop a budget plan that will include financial commitments from all jurisdictions on a pro-rated basis, and contributions from stakeholders such as businesses, organizations, and citizens
- ♦ Develop a sense of regional pride
- ♦ Do market research to find target audiences
- ♦ Get buy-in from businesses
- ♦ Use the Best Practices: Commuter Connections model developed by MWCOG: marketing, evaluation and execution
- ♦ Use MWCOG to solicit financial support from all jurisdictions
- ♦ Need stuff: bumper stickers, posters, etc.
- ♦ Do outreach—public relations
- ♦ Tell people how they can help
- ♦ Reach out to the interfaith community
- ♦ Find public spokespersons and role models

- ♦ Identify all stakeholders, including private sector
- ♦ Do a communications audit, to find all anti-litter campaigns currently running in local areas
- ♦ Create a steering committee

As a result of the discussions, the most important immediate next steps are:

- ♦ Create a steering committee that represents all jurisdictions and diverse stakeholders, such as businesses and organizations, which will guide and execute the following:
  - Develop a budget plan, based upon already committed funds from Montgomery and Prince George's Counties, that will include contributions from all jurisdictions and diverse stakeholders
  - Conduct a communication audit to determine what education campaigns currently exist in the region and assess their impact and effectiveness
  - Do market research to determine the most effective means of reaching people with the anti-trash message
  - Develop a slogan to use as the overarching theme of the campaign. This could be done by such means as a contest, focus groups, or a professional contract.

Longer-term goals are:

- ♦ Create the message(s) of the campaign
- ♦ Develop a marketing plan for the campaign
- ♦ Find spokespersons and/or role models
- ♦ Engage stakeholders with outreach
- ♦ Measure success and effectiveness of campaign

## **(2) There's Treasure in Trash! Market-Based Trash Reduction Strategies**

*How do we address some of the obvious core trash issues found in the Potomac Cleanup—beverage containers, food packaging, plastic bags and tires?*

**Focus: Provide Economic Incentives and Facilitate Market-Based Strategies to Reduce Trash**—Market-based approaches exist that entice residents and businesses to undertake proper trash disposal and recycling, and are financially profitable to the community or private sector. Examples: fines for littering and dumping; buy-back programs; beverage container deposit systems; refunds or incentives for disposal of bulk items (i.e. tires or large appliances); reduced tipping fees at landfills and transfer stations; free bulk trash removal to reduce illegal dumping. A new market-based approach to establish and leverage for trash reduction is the obvious correlation between CO<sub>2</sub> emissions and waste.

- How do we address these obvious trash issues—CORE TRASH ISSUES?
- What actions do we need to take?
- What are existing and new market-based approaches that we can implement to begin to reduce trash? What are barriers to market-based approaches to trash reduction strategies?
- What does composting organic waste have in common with combined sewer overflow?
- How can trash reduction strategies reduce CO<sub>2</sub> emissions?
- What is the current recycle rate in this region?
- What are barriers to the business community's and large property managers' recycling?
- What is needed to establish vibrant recycling operations for the business community and large property managers?
- How can we provide support for existing recycling audit programs? (i.e. Businesses are required to have a waste management plan but there are no resources to check if the plan has been implemented effectively—possibly this could be a volunteer corps duty)
- How do we finance this?

**Moderator:** Dan Nees, Senior Associate, People and Ecosystems Program, World Resources Institute

**Roundtable Participants:**

**Presenters:**

*Scott Bohnhoff, Manager, Safety and Environmental Branch, Washington Headquarters Services—Presenter on Pentagon Building trash reduction efforts.*

*Leslie Lukacs, Project Professional, SCS Engineering—Presenter on trash reduction strategies.*

*Jennifer Brady, Office of Solid Waste, EPA—Presenter on the Waste Wise program and the WARM model as a tool for jurisdictions and companies to measure trash reduction in the waste stream.*

*Patti Olenick, Organics Recycling Coordinator, Bureau of Waste Management, Department of Environmental Protection, State of Pennsylvania—Presenter on recycling as an economic development tool in Pennsylvania.*

Nick Friedman, President, College Hunks, Hauling Junk

The Honorable William Gardiner, Mayor, City of Hyattsville, Maryland

Pamela Gratton, Recycling Manager, Division of Solid Waste, Fairfax County

Jan Guastafarro, Marketing Specialist, AIRE, Arlington County

Robert Hartman, Deputy Superintendent, C&O Canal National Historical Park, National Park Service

Walker Lunn, Member and Manager, EnviRelation, LLC

Dennis Miller, Vice President and Science Advisor, The Solena Group

Gregg Peterson, Manager, Sodexo USA for The World Bank

Edwin Pinero, Federal Environmental Executive, White House Council on Environmental Quality

Tara Roffler, Environmental Services Group, Target Corporation

Mark Smallwood, Green Marketing Specialist, Wholefoods

John Snarr, Principal Environmental Planner, Metropolitan Washington Council of Governments

Debbie Spiliotopoulos, Senior Environmental Planner, Northern Virginia Regional Commission

**There's Treasure in Trash! Market-Based Trash Reduction Strategies Short-Term Recommendations (June 2007–June 2008):**

1. Draft regulations and/or a government-sanctioned, revenue-generating tool are required and we could look to San Francisco for examples.

*Regulation Recommendations*

Increase fines for litter and enforce them.

Generate a bottle bill.

Ban disposal of recyclables.

Set up a “You make it; you take it” policy for manufacturers.

Charge adequate disposal fees to drive alternative solutions.

Trash is not the problem because trash could be considered a commodity—litter is the issue; instead, we need to focus on keeping trash from becoming litter.

2. We need to educate the population about transforming litter into trash through funding that could be provided through trash processing.
3. We need to have an incentive such as a “lottery system” because each litter item could be a prize winner.
  - Tie recreation to the resource to be protected (e.g. Fishing permits support protecting fishing water bodies).
  - Establish quality public relations/advertising education campaigns that can compete with sophisticated private marketing.
  - Educate the public and businesses to demand trash-free products (e.g. Whole Foods refuses to purchase products in Styrofoam packaging, so its supplier switched to paper).

► Framing of the Discussion by Moderator Dan Nees

**Goals:**

- ♦ 3 strategies that are achievable within the next year
- ♦ 3 strategies for the next five-year period

**Points of focus:**

- ♦ Need to narrow down the title
- ♦ It is not about money; the goal is to incorporate values so that they are part of everyday decision-making
- ♦ Making money is a good sign that people value what you are doing

► Presentation by Scott Bohnhoff, Washington Headquarters Services

Mr. Bohnhoff described the properties that WHS manages. The government, unlike the public, is required to recycle by executive order. The WHS program has a 50 percent solid waste diversion (recycling) rate goal.

- ♦ Building Operations Initiative
  - Started with waste sort/study
  - Involves gathering recycling information/education
  - Consists of the use/purchasing of environmentally preferred products
  - Involves doing a building operation opportunity assessment
- ♦ Pentagon Renovation Initiative
  - Remove toxic building materials
  - Divert 50 percent of construction waste
  - Use green roofs
  - Decrease impact on the environment
  - Convert most current parking back to green space

► Moderator Comments

Regulation, policy, and law in this example—How do these fit into markets?

► Presentation by Leslie Lukacs, SCS Engineering

- ♦ Her company handles large event venues such as stadiums and convention centers
- ♦ Her background is in California, where there is a 100 percent waste diversion goal in many jurisdictions
- ♦ Main Point If you can control the input, you can control the output.
- ♦ Example: if you design systems that use biodegradable packaging, then you can plan for composting.

► Presentation by Jennifer Brody, Office of Solid Waste, EPA

The focus of environmental funding efforts is currently on global warming, and less attention is being focused on trash problems.

- ♦ Wastewise Communities Program
  - Create incentives for recycling to control the waste stream
  - Make people understand that trash doesn't end at the trash can
- ♦ Waste Reduction Model (WARM)
  - Shows people the effects of waste reduction in terms of benefits through an entire product's life cycle (reductions in mining/forestry, etc.) and demonstrates the value in reduction of greenhouse gases
  - Calculates the greenhouse gas savings from waste reduction practices

- ♦ Waste Wise Conference: “Partnering for Sustainability”—will be held in DC this Fall 2007

► Moderator Comments

It is important to tie trash, as a forgotten issue, to climate change, which is a hot topic right now, but here in the Chesapeake Bay Region, water quality drives environmental policy. How do we turn this into a market-based strategy?

► Presentation by Patti Olenick, Bureau of Waste Management, State of Pennsylvania

- ♦ Trash is not a forgotten issue in Pennsylvania—it has gained quite a bit of increased attention over the past year.
- ♦ More than 25 community groups formed “Keep PA Beautiful”
- ♦ 850 organizations state-wide participated in the 4<sup>th</sup> annual cleanup this year
- ♦ Clean Up Our Lands and Streams is a DEP program
  - The program engages local groups and businesses to get together to clean up illegal dump sites.
  - Funding has increased because people see that it IS a problem—they just need to be organized.
  - During cleanups, DEP has arranged with landfills that there will not be any tipping fees.
- ♦ Good points about the PA program include that it has a large fund (greater than \$40 million). Very large tipping fees are used for waste reduction education and programs.
- ♦ A bad point is that PA is the largest trash importer in the US
- ♦ Recycling Market Center is a partnership between DEP and Penn State University to promote the use of recycled feed stocks in manufacturing processes
- ♦ One entire division of DEP is focused on market-based recycling strategies
- ♦ DEP has two grants
  - One is for private companies for composting and recycling equipment and supplies.
  - The second is for high schools to help with cleanups. The high school gets a certain amount of money to be used toward environmental projects, based on the number of involved students.

### **Roundtable Minutes and Discussion**

- Do we know where the problem is? Not really: it could be during the manufacturing process, or due to consumer littering, or accidental littering during transport, or all of the above.
- ♦ What do we mean when we say “trash free”? Do we mean zero waste in the watershed, or no trash in the Potomac River itself? Answer: no litter in the river.
  - ♦ It may help to refer to it as litter. Trash is only a problem if it is in the wrong place. Trash items can be a commodity or have other value.
  - ♦ Is there a way to define trash as a resource with value? If trash has a value, people will take trash to get money, rather than having to pay to have it disposed.
  - ♦ Trash is a design flaw in a system. We need to fix upstream inputs to reduce/eliminate it.
  - ♦ A lot of the burden is on local government—we need to change the mindset about waste/litter to make it EVERYONE’s issue, including producers, distributors, consumers, and waste handlers.
  - ♦ We need to create a closed loop system without waste—“Waste is Food”.
  - ♦ Current marketing for recycling is cartoonish. When compared with a glossy ad by Calvin Klein, how does it stand up? A sign of the money involved in creating it, certainly, but marketing must get more sophisticated to make an impact.
  - ♦ We should put recycling in terms of value from recycling cans.

- ♦ Part of the problem is the lack of packaging options in this country—the same products are packaged much differently in Europe, where consumers demand less packaging.
- ♦ Large organizations can do a great job at educating visitors and employees, if that is the work culture.
- ♦ Value is going to be in terms of community, if contracts are renegotiated between providers and communities. This value may be passed along to individuals, but they do not get direct monetary benefit.
- ♦ There are two different audiences to address: communities and individuals.
- ♦ How many people in the room make a living off of “trash” (composting, gasification of wastes, reuse of building wastes)?
- ♦ The average person at home is disconnected from these businesses and has a “So what?” attitude.
- ♦ To achieve a change in behavior it is not enough to appeal to guilt/morality.
- ♦ It is clear that financial incentives work.
  - Should be directed at individuals to handle waste better
  - Should also be directed at producers to reduce packaging
- ♦ We should look at environmental and energy policy drivers for markets.
  - In Europe, they have banned landfills and incineration of organics
  - These provide incentives for alternative energy development
  - REGULATION CAN DRIVE INNOVATION
- ♦ The group agrees that reducing waste will reduce litter.
- ♦ An example of a business development plan for DC would be to improve trash management by planning to pick up trash from public receptacles before they are full to avoid litter and watershed pollution from overflowing trash.
- ♦ The example of Whole Foods, though it is the business culture, showing revenue/savings from waste reduction plans is powerful for gaining organizational support for a new program.
- ♦ Whole Foods provides bonuses to employees/subgroups within the company for energy savings.
- ♦ Most Americans think it is their God-given right to have someone else pick up their trash.
- ♦ Landfill operators aren’t here at the table today. Next year?
- ♦ The more trash landfills receive, the more revenue it generates for them, so they have been a very powerful lobby in Virginia against waste reduction efforts.
- ♦ What if we put in regulations to ban landfills, as in Europe? This would kick the foundation out from under some very large businesses in this country.
- ♦ Most industries reduce waste because it is a bottom line issue—it saves money.
- ♦ We need to transfer that bottom line to EVERYBODY.
- ♦ Do people know where to take large items and hazardous waste?
  - Some centers are permanent, and some move around.
  - Consumers need to know when/where to take items.
- ♦ Is the problem that we need better services?
  - Most of our trash/litter in the Potomac River isn’t large items (although some is).
  - Hours aren’t convenient for most working community members (many places are open from 7-4).
- ♦ Regulation can create demand, which leads to market-based solutions.
- ♦ Suggestion: A lottery number could be placed on common litter items (such as coffee cups)—make them have a value in themselves to reduce the casual littering.
- ♦ Recycle Bank Programs were suggested.
- ♦ We need to address producers—need to change values to motivate change.
  - There must be a driver.
  - There is a need to educate.

- It is the producer’s responsibility to change packaging—this is too large a goal for 5 years.
- We need to increase the demand for biodegradable packaging through education.
- The cost of waste disposal needs to be high enough to drive people/businesses to look for other options.
- “Pay as You Throw” programs mean less waste.
- Most of the money from municipalities goes toward curbside recycling—this is throwing TONS of money toward 25 percent of the problem.
- Companies demand manufacturing processes that are in line with their values (e.g. Whole Foods will not take any product in Styrofoam peanuts anymore, so a major supplier switched to shredded paper).
- Regulation can drive market-based innovation (e.g. manufacturers complained that seat belts in cars would hurt their business and now they market their cars based on safety features).
- WE NEED A BOTTLE BILL—all regions in the Chesapeake Watershed should have the same bill.
- “You make it, you take it” programs make the producer responsible for the packaging.
- We need regional cooperation for waste disposal sites.
- We need to tie recreation to resources (e.g. purchase of fishing licenses funds conservation efforts).
- We need more composting facilities.
- Conclusion:
  - We need a combination of education, enforcement, and regulation, as well as rewards.
  - Programs need to reach the INDIVIDUAL.

### **(3) The New Rules of Trash—Legislation to Address Regional Trash Issues**

#### **Focus: Legislate Trash with Innovative Policy at Multiple Levels of Governance—**

Elected and senior officials can establish “trash free” policies for their jurisdictions at the local, state and federal levels. Public policy, laws, and enforcement programs focused on trash are essential to regulate and reduce illegal and improper trash disposal. Existing laws and regulations can be maximized to ensure regional trash reduction goals by taking action to: enforce illegal dumping, enforce requirements for vehicles to cover loads, and enforce requirements for businesses and residents to maintain clean properties. Active inclusion of residents and innovative thinkers in the development of new policies, amended legislation, and enforcement programs is critical.

- What are examples of progressive legislative actions from around the country to deal with trash issues?
- What opportunities are there for us to legislate for prevention of litter?
- Explore how we can elevate producer and consumer responsibility for product litter.
- What are possible legislative actions that are needed at the local, state, and federal level?
- What legislative actions can be taken to address some core trash issues found in the Potomac Cleanup—beverage containers, food packaging, plastic bags, tires, and illegal dumping of household products and construction debris.
- How can we ensure that trash is integrated into jurisdictional watershed management plans?
- How can the State of Maryland and the District of Columbia pass legislation that requires Implementation Plans for Trash Total Maximum Daily Loads (TMDLs) that can also be used for MS4 Permits?
- How can the region capitalize on future federal (2009 Federal Highway Bill) and state programs to bring funds for stormwater management, recycling, anti-litter education, and other trash reduction projects to the region and/or targeted jurisdictions?

**Moderator:** Delegate Kenneth R. Plum, Virginia General Assembly

## **Roundtable Participants:**

### **Presenters:**

*Jack Macy, Commercial Recycling Coordinator, City of San Francisco—Presenter on plastic bag and food packaging ban, and city's goal for a 75 percent recycling rate by 2010.*

*Councilman James Kraft, City of Baltimore—Presenter on new Plastic Bag Ban Ordinance in Baltimore.*

*Dr. Patricia Millner, Research Microbiologist, Agriculture Research Division, United States Department of Agriculture—Presenter on composting research, goals, and legislative needs for the region.*

Steve Bieber, Water Resources Manager, Department of Environmental Programs, Metropolitan Washington Council of Governments

The Honorable Joanne Benson, House of Delegates, State of Maryland

The Honorable Judith Davis, Mayor, City of Greenbelt, Maryland

Pat Franklin, Founder, Container Recycling Institute

Sarah Matheson, Corporate Environmental and Social Responsibility Group, The World Bank

Aaron Pritchard, Legislative Assistant, Congresswoman Holmes Norton, District of Columbia

Jeff Smithberger, Director of Solid Waste, Department of Public Works and Environment, Fairfax County

Chris Weiss, Director, DC Environmental Network, Friends of the Earth

Barry Weise, Deputy Legislative Director, Committee on Public Works and Environment, Office of Councilman Jim Graham, District of Columbia

Dave Williams, President, BioBags USA

## **The New Rules of Trash—Legislation to Address Regional Trash Issues Short-Term Recommendations (June 2007–June 2008):**

1. Form a coalition to bring together people to the local governments to insist on environmental legislation
2. Develop legislation for establishing a basic definition of “biodegradable” and “compostable”
3. Hold jurisdictional summits at the local levels to reach participants
4. Require outdoor events and the service industry to compost and/or use biodegradable containers
5. Educate! Educate! Educate!

## **Longer-Term Recommendations That Are Important, Actionable, and Achievable Within 3–5 Years:**

1. Join the 11 successful states in demonstrating that the benefits outweigh the costs of instituting a Bottle Bill
2. Set in place incentives for retailers to institute take-back packaging programs.

### ► Introduction by Moderator Delegate Ken Plum

Delegate Plum set the mood by asking for a specific “Action Plan of Ideas” for becoming Trash Free 2013.

### ► Presentation by Jack Macy, Commercial Recycling Coordinator, City of San Francisco via Video Conferencing from San Francisco

San Francisco formed a Waste Management Board that gives advice for creating incentives for people to stop littering.

The city has implemented a “plastic bag ban”.

Cities with higher populations need to have a 50 to 70 percent diverting rate to send less and less waste to the landfills. San Francisco is working toward a 75 percent diverting rate by 2010.

Anti-waste programs need to be aggressive in the communities. However, they are just the tip of the “wasteberg”. The impacts of small communities do not change the level of trash on the national scale. That is why it is important to have national standards.

The motivation needs to be more than just saving landfill space—it has to be that recycling saves money! 85 percent of trash is recyclable!

- ♦ **Recycling** needs to be convenient, easy, and streamlined with easy-to-understand, bilingual instructions. The European Union has banned organic materials from all landfills.
- ♦ **Composting** closes the cycle: Farm—people—waste—farm/golf course/landscaping
  - The food service industry could divert 90 of its waste and other businesses could divert 85 percent, but both need monitoring.
  - Use of composting is very beneficial, and it makes a great by-product.
- ♦ **Legislation**
  - Food Service Waste Reduction Ordinance was established on June 1<sup>st</sup>
    - Food service “to go” items and plastic ware should be compostable.
  - Plastic Ban Reduction Ordinance
    - Plastic bags are costly, a litter issue, and contaminate the environment.
    - Volunteer “Recycling Programs” didn’t work well—they cost too much and had low participation
    - This led to the Ban
  - E-waste and Hazardous Waste are banned from California landfills

### **Wrap up**

Mutual goals need to be set, with comprehensive programs that are convenient and easy/cheap. Strategies should be established to move toward Zero Waste—education produces a sense of responsibility for citizens and businesses.

### ► Presentation by Dr. Patricia Millner, Research Microbiologist, USDA Sustainable Systems Strategy for Organic Residuals Management

- ♦ EcoPlex is an Organic Resources Management Facility that collects food residuals, zoo bedding, and special event waste.
- ♦ We need to complete the cycle of Farm to City back to Farm—it isn’t being done like it should.
- ♦ Federal Government Facilities in the DC Metro Area need to be composting.
- ♦ Compost—what else can we do with it?
  - Many things are being developed, but it is a great by-product.
  - Micro-organisms exist that eat methane and we can use them to our benefit.
- ♦ Issue—no-one wants to put compost in their back yard (NIMBY attitude).
  - A compost vessel has been developed that doesn’t release odor or leachates.

### **Roundtable Minutes and Discussion**

Steve Bieber, MWCOG

Mr. Bieber is in favor of passing a container/deposit law in Maryland. The diversion rate needs to be ramped up locally, government by government.

Delegate Benson

Lobbying in Annapolis is the key. We need to let our legislators know that we care! We need all those who showed up here at the Trash Summit to be able to be mobilized to lobby. We need the

food service industry to change their containers. Delegate Benson is in favor of public education and a Styrofoam ban.

Mayor Judith Davis

We need to start by determining what can be captured and what IS being captured, then tell the legislators the volume of such products—like cigarette butts. The City of Greenbelt requires its communities to put their yard waste in paper bags to be shredded so it doesn't go to landfills. It is then turned into mulch and is free for anyone to pick it up. Promoting is easier to do than mandating. Recycling needs to get back into schools!

Pat Franklin

Ms. Franklin is in favor of a bottle bill. In 2001, there were 6 billion soda bottles and 9 billion water bottles generated and now in 2007, there are 19 billion soda bottles and 21 billion water bottles.

Sarah Mathison

Ms. Mathison is favor of a plastic bag ban. We need specific targets to push legislation through. We need to retain consumer/recycler confidence. It is hard to convince people who do not believe that their recycling is actually being recycled. Citizens need to know the whole cycle and where it is going to end up. Citizens need to know the value of recycling and the value of trash.

Jeff Smithberger

Mr. Smithberger spoke about the recent success on WAMU radio's Kojo Show—he did a one-hour show with Tracy Bowen, Steve Stein, and Jack Macy, "talking trash". The radio station received a record number of phone calls from the public—people are interested and recognize that it is an issue. Legislation is already in place—it just needs to be enforced better. The waste industry is already heavily legislated. He is in favor of any kind of public education. He said that there is a big difference between county and city—in the county alone, there are 37 private haulers that need to be regulated and this is very difficult to do. He suggested that there should be a tax on tonnage and that money could go back into the education campaign. Virginia said "no" to a \$5 tax—Pennsylvania and West Virginia have an \$8 tax on their trash.

Chris Weiss, DC Environmental Network

We need to look at successful legislation that is already in place. Mr. Weiss is in favor of a bottle bill.

Barry Weise, DC Office of Councilman Jim Graham

Specific efforts need to be made in:

- ♦ The Green Building Act
- ♦ The private sector needs to make these changes and it's important that recycling is part of it.
- ♦ Budget—an allocation for  $\frac{3}{4}$  million dollars goes to enforcement.
- ♦ Money for cleanups is micro-managed by Business Improvement Districts and is successful.

On July 13<sup>th</sup> at the Wilson Building, a Stormwater Management/Pollution Hearing will be open for all to attend.

Dave Williams—BioBags

Mr. Williams is in favor of legislation to define terms such as "biodegradable" and "compostable". This would put a standard on how long it takes items to degrade/compost and insures for truthful products/companies and in turn makes recycling a more genuine effort. BPIworld.org is a website for more information.

Mayor Judith Davis

Campaign signs for elected officials are a cause of litter when they aren't picked up by the candidate. Citizens need to call that person/business and have them picked up.

Kate Sicola, Management Analyst, Solid Waste Management, Fairfax County

She tracks all the failed bills and resolutions that get submitted in the Virginia Government pertaining to recycling and environment.

- ♦ Most are good bills that should have passed.
- ♦ They need the engagement of citizens to pass these bills.

Citizens need to feel proud of their state with slogans like: “West Virginia—Wild and Beautiful.”

Lou Jack—Public Safety Director to green up poor neighborhoods

We need to link health risks to trash. This changes the mind set that it “doesn’t hurt anyone”.

#### **(4) Trash Busters—The Role and Implementation of Enforcement**

*(Deliberate and proper waste handling—trucks and overflowing trashcans, garbage collection), AND PUBLIC SAFETY—What are enforcement rules now and identify barriers to enforcing?*

##### **Focus: Maximize Enforcement of Existing Trash Regulations at the Local Level**

Littering, illegal dumping, spillage of trash from vehicles, improper storage of waste and requirements for containment and disposal are regulated at the local municipal, county, and state level. Enforcement at the local level is a critical, essential feature of any effort intended to keep trash properly contained and out of the waterways. Enforcement programs to succeed need to be well designed with: strong support from senior officials; adequate resources; consistent communication to the community; and flexibility and accountability for differing physical, philosophical, and political challenges.

- What action can government enforcement staff take to make better use of existing enforcement tools?
- What are the barriers to enhanced and more effective enforcement of municipal and state regulations on illegal dumping, littering, and improper waste disposal?
- What actions can municipalities take to reduce public safety hazards resulting from trash and debris blown or fallen from motor vehicles?
- What can communities do in the absence of an effective enforcement program?
- How can the regulations be made self-enforcing by residents and businesses?
- What are the roles and responsibilities of residents in regulatory enforcement?
- How can regulations and basic legislation be made more effective in reducing improper waste disposal?
- How can municipal and state enforcement programs be better financed?

**Moderator:** The Honorable Penny Gross, Supervisor, Mason District of Fairfax County

##### **Roundtable Participants:**

###### **Presenters:**

*Verna Clayborne, Chief, Solid Waste and Enforcement Education Program, District of Columbia Public Works—Presenter for Illegal Dumping, Neighborhood Cleanups, Sanitation Enforcement, and Vacant Lots.*

*Steve Bartos, Environmental Manager, COALS Program, Department of Environmental Protection, State of Pennsylvania—Presenter on Clean up Our American Lands and Streams (COALS), a partnership among environmental groups, the coal and waste industries, and local, county, and state governments.*

*Shannon Reiter, President, Pennsylvania Cleanways—Presenter on brief overview of county-based Illegal Dump Survey Program, results to date, and their plans for the Potomac Watershed and a model for a nonprofit organization that empowers people to eliminate illegal dumping and littering.*

Galina Bocharov, Adopt-a-Highway Coordinator, Maryland State Highway Administration  
 Collin Burrell, Chief, Inspection and Enforcement Branch, Watershed Protection Division, Department of the Environment, Natural Resources Administration Watershed Protection Division, District of Columbia  
 Charles Forbes, Disposal and Resource Recovery, Solid Waste Management Program, Fairfax County  
 Charlie Greffen, Resident Maintenance Engineer, Laurel Maintenance Facility, Maryland State Highway Administration  
 Kevin C. Hay, Major Commander, Patrol Branch, US Park Police  
 Taft Kelly, Division Administrator, Motor Carrier Safety Administration, United States Department of Transportation  
 Cynthia Mercer, Adopt-a-Highway Coordinator, Virginia Department of Transportation  
 SGT. Schaefer, Metropolitan Police Department, District of Columbia  
 Mark Shaffer, District Operations Engineer, Maryland State Highway Administration  
 Frank Young, Facility Manager, National Capitol Parks East, National Park Service

**Trash Busters—The Role and Implementation of Enforcement Short-Term Recommendations (June 2007–June 2008):**

1. Education: Increase public awareness and community involvement. Promote responsible behavior and its importance for all segments of population.
2. Tires: Make the driver clean! (Carrier Community Service) “Fugitive Tire” programs for youth groups and communities.
3. Enforcement: Establish/enforce fines and remove the incentive for noncompliance. Establish environmental enforcement awards for law enforcement officers. Set up a hotline for reporting and responding to violations.

**Longer-Term Recommendations That Are Important, Actionable, and Achievable Within 3–5 Years:**

1. Tires: Enhance legislation and documentation on proper disposal. Increase recycling opportunities (markets).
2. Set up federally sponsored community outreach and education programs (EPA).
3. Develop environmental courts.

► Opening of Roundtable Discussions by Moderator Honorable Penny Gross

► Presentation by Steve Bartos, Environmental Manager, Clean up Our American Lands and Streams (COALS) Program

Mr. Bartos described the PA COALS program and the massive problem of illegal dumping in PA. The biggest offenders are municipal/construction dump sites. PA DEP has found dump sites with up to 15 tons of tires and demolition materials.

- ◆ Enforcement
  - PA DEP has historically been responsible for handling illegal dumps.
  - DEP cannot do it alone. Much of the enforcement stems from a grassroots effort and partnership with local game officials. Participation in the COALS program is selective, meaning that only communities who are involved are chosen.
- ◆ Methodology for catching illegal dumps
  - Hidden cameras/surveillance barely scratches the surface
  - Littering and dumping must be considered an environmental crime
  - DEP and law enforcement want to put permanent monitoring systems in place at sites.

- ♦ An environmental court system through local magistrates/officials specifically handles environmental crimes.
  - The problem with the current court system is a lack of evidence. No one was SEEN dumping. Monitoring and surveillance systems are solving this problem.
- ♦ Other incentives for involvement
  - There is a high school grant program for students who participate in cleanups
  - Media involvement: “Dump Busters”—The media is interested in catching offenders in the act.

▶ Presentation by Verna Clayborne, Chief, Solid Waste & Enforcement Program, DCPW

- ♦ There are three key approaches to enforcement
  - Collaboration
    - All city/municipal agencies come together and enforcement is a CORE team activity.
    - Education programs are used, such as the SWEEP partnership with DC public schools, for routine outreach and educational activities
  - Ownership
    - You place value on your property/work and you will want to preserve it
    - There are scholarships for area high school students who use their community service hours doing cleanups and beautification of local areas.
  - Incentives
    - Incentives are either given as rewards or punishments
    - 1.8 million dollars in NOVs were handed out in DC, including jail time for offenders
    - The Office of Administrative Hearings is also addressing enforcement issues
- ♦ Question posed: How do we attack and enforce other areas? What incentives are out there that will reward people who **REPORT** illegal dumping?

▶ Presentation by Shannon Reiter, Pennsylvania Cleanways

- ♦ Pennsylvania Cleanways is comprised of 5 core programs:
  - Cleanup
  - Beautification
  - Education
  - Proper Disposal
  - Stewardship
- ♦ PA Cleanways emphasizes a message of community empowerment
- ♦ PA Cleanways has developed a sophisticated survey method that charts dumping sites throughout the state
  - Each chart has site-specific characteristics
  - PACW hopes to get most of PA surveyed and charted

### **Roundtable Minutes and Discussion**

- ♦ We need to enhance legislation for the proper disposal of tires. A tax on tires could fund education and enforcement programs.
- ♦ There is a need for corporate responsibility, especially regarding recycling practices.
- ♦ A disposal fee doesn't guarantee proper disposal—enforcement of existing laws isn't present in all cases. A solution could be to require documentation of proper disposal (as a long-term

goal) and have acceptable disposal sites available (as an incentive) —possibly government-sponsored?

- ♦ We need to increase market opportunities for tire recycling. Businesses like “Liberty Tire LLC” have made a profit from products using recycled tires. Other activities are educational like the “fugitive tire” program available to scout and youth groups and used by organizations like PACW.
- ♦ We need to look at the effect of regulations/costs (such as landfill regulations) on illegal behavior.
- ♦ Education
  - Promote responsible behaviors in many languages (how to do the right thing). Communicate intent of law in easy-to-understand language.
  - Dedicate staff to do outreach/education.
  - Get help from partners (NPS, etc.).
  - Place responsibility on apartment owners and haulers to get the message out to residents.
  - Target government efforts to (1) educate and (2) enforce.
  - After cleanups, adopt sites and remove “invitations” to dumping (by taking ownership).
  - Increase knowledge about how the recycling system works.
- ♦ Enforcement
  - There is a common belief that litter laws are the bottom of the barrel for enforcement.
  - We need to create an environmental enforcement award (for officers) as an incentive to enforce penalties for litterers, and make the existing fines work.
  - We need a hotline for reporting violations and a mechanism for responding.
  - We could partner with motor carrier inspectors to do a trash inspection of trucks—carriers who violate would have to do cleanups.
  - We need to address the difficulties of on-the-spot challenging of illegal dumping by law enforcement.
  - The court system processes often inhibit effective enforcement.
  - There should be an automatic sentence for littering (with mandatory minimums), to elevate the public perception of the seriousness of the crime.
  - ANY violation is dangerous.
  - We need to look at technology/engineering of ways to contain loads on trucks, etc.
- ♦ Media/Outreach
  - A political will needs to be established to get serious about enforcement (this might need help from the media?)
  - A NATIONAL public information campaign is needed (and funding for it) to address litter and dumping (EPA).

## **(5) Diverting Construction Debris Waste Stream**

### **Focus: Divert Major Waste Streams by Eliminating Existing Barriers**

One of the most critical waste streams useful to divert for alternative uses is construction debris. Systems exist in the region to reuse or recycle construction materials, but restrictive regulations, faulty economics, and other barriers also exist that hamper efficient and appropriate uses. Identifying, modifying, and eliminating such barriers are critical to best managing the overall trash issue. There is also a need to create infrastructure and develop new systems to capture current “waste” products and convert them to usable materials with economic value great enough to support the system. This process requires innovative thinking and will benefit greatly from market-

driven solutions since this waste system exists primarily in the private sector.

Overview—Communities need to first understand the scale of the problem/opportunity (most do not track construction and demolition (C&D) disposal right now)

- What private sector solutions are made easier by public sector involvement via things like regulatory encouragements, passage of green building requirements, bans on certain items from landfills (like is done in MA), etc.
- What is the current state of construction debris recycling in this region?
- What are benefits to the region in recycling construction debris?
- What are the barriers and what is needed to establish a vibrant construction debris recycling infrastructure?
- What are local barriers, state, and federal barriers? Codes and regulations?
- What should the quantitative goal be for the region to divert a percentage of construction debris to a recycling system?
- What market-based infrastructure system is needed?
- Why are landfills so cheap in this region? Virginia is the second largest waste importer in the US (behind PA). Last year, it took in an extra 6 MM tons, which shows you the economics.
- How can we alter market forces to make the use of landfills more expensive, to encourage investment in recycling, composting, etc? Examples might include:
- Add a surcharge on every ton going into any landfill that is then used to fund education, recycling initiatives, etc.
- Considering that landfills are the #1 human source of global greenhouse gases (according to EPA), is there a way to have landfills absorb this externality by making them be carbon neutral or through some other tactic?

**Moderator:** Sandy Wiggins, Chair, U.S. Green Building Council and Principal, Consilience, LLC

**Roundtable Participants:**

**Presenters:**

*Michael Deane, LEED AP, East Coast Operations Manager—Sustainable Construction, Turner Construction Company*

*Mary A. Hunt, P.E., PA Operations Branch, Waste & Chemicals Management Division, Environmental Protection Agency*

Anja Caldwell, Green Building Program Manager, Montgomery County Public Schools

Conrad Mehan, Vice President of Government Relations and Affairs, EnviroSolutions, Inc. (ESI)

Dennis Fleming, Chief of Solid Waste, Charles County

The Honorable Roger Manno, House of Delegates, District 19, State of Maryland

Ken Mogul, President, AceWaste

Annette Osso, President, Virginia Sustainable Building Network

Kimberly Pexton, Director of Sustainable Construction, HITT Contracting, Inc.

Kendall P. Wilson, Founding Principal, Envision Design

**Diverting Construction Debris Waste Stream Short-Term Recommendations (June 2007–June 2008):**

1. Create a public awareness campaign: construction debris is not generally seen as a problem by consumers, nor is there general awareness about how much C&D waste there is in our economy.
2. Educate policymakers on the impacts and economics: very few policymakers understand the size of the problem or the impacts of C&D waste. They also don't understand what the economic drivers are for changing the system. Legislation and regulation are needed to

address these issues.

**Longer-Term Recommendations That Are Important, Actionable, and Achievable Within 3–5 Years:**

1. Regionally coordinate (MD DC VA WV DE) landfill surcharges: In other parts of the country, C&D recycling has developed into a self-sustaining market due to the high cost of disposal. The cost of disposal in our region is very low and we actually import waste from other regions. Instituting landfill surcharges to raise the cost of C&D disposal would stimulate market-based change.
2. Count C&D waste in all jurisdictions: Unlike municipal solid waste, almost no jurisdictions in the watershed even track C&D waste. We manage what we measure.
3. Convince more jurisdictions to adopt LEED standards with compulsory C&D credits.
4. Create favorable zoning for recycling facilities: NIMBYism is preventing the development of the infrastructure necessary for a robust C&D waste recycling system. Permitting the development of regional recycling facilities is also necessary to make it economically viable.
5. Create incentives (expedited permitting, density bonuses, reduced permit fees, and so on for higher C&D waste diversion).
6. Create incentives to develop consumer markets for recycled products, and provide incentives for local manufacturers to develop recycled products.

► Presentation by Mary A. Hunt, P.E., PA Operations Branch, Waste & Chemicals Management Division, Environmental Protection Agency

- ◆ EPA is focused on reducing/minimizing the most significant waste streams
- ◆ Construction and demolition debris is generated from demolition, construction, and renovation of buildings, roads, and bridges
- ◆ By recycling the construction debris, companies can avoid landfill fees on demolition refuse
- ◆ There is a link between waste management and greenhouse gases
- ◆ Barriers to recycling include low tipping fees and a throw-away mentality

► Presentation by Michael Deane, LEED AP, East Coast Operations Manager—Sustainable Construction, Turner Construction Company

The majority of Turner buildings are LEED certified. Turner does 1,500 jobs a year and 1,000 small jobs. It is difficult to track waste streams from projects. Early wins with local recycling operations included New York (Cardella Carting), Boston (Charles George Trucking), Nashville (Tennessee Waste), and Waste Management (has good data and is a good operation). Early setbacks happened in Ohio and Texas. Pleasant surprises included projects in Michigan and more. Ace Waste was a market differentiator, committed to green business (through its business model).

More and more businesses are making money by diverting waste from the landfill and recycling it. Turner had a 50 percent average diversion for year 1 (90 percent in New York and Ohio had virtually none). Results are coming in from about 25 percent of the jobs and are being compiled into a report.

There is still resistance in commercial markets. On the supply side, businesses only see change as worthwhile if advances come from it. On the demand side, most commercial clients don't want used stuff. Money tends to limit contractor influence. The future of recycling will depend on restrictions on C&D waste.

**Roundtable Minutes and Discussion**

► Current State of C&D Disposal

- ◆ Recycling needs to be integrated into the plan.
  - Set goals and make plans to accommodate the goals.
  - Make recycling a requirement, regardless of the fee.
    - Eventually contractors will find ways to make it cost-effective.

- What do we need to do to accomplish this? Get leaders to sign on the dotted line.

▶ **Legislation, Legislation, Legislation**

- ♦ Drive the price of recycling down (and the cost of disposal up) to encourage more recycling operations.
- ♦ Assess the true value of landfilling and charge landfills for resource costs.

▶ **Solutions to Landfilling of C&D**

- ♦ We never identified why exactly it is bad, but we know it is because non-renewable resources get sequestered and capitalism fails due to negative externalities.
- ♦ Buildings have to be designed more eco-effectively and focus on source reduction.
- ♦ We need to track what we are dealing with.
- ♦ Legislation needs to be developed to establish minimum requirements.

▶ **The Vision**

- ♦ Establish C&D recycling standards
- ♦ Track C&D mass volume (track the volume reduction and the increase in recycling)
- ♦ Provide incentives for establishing recycling industries
- ♦ Review landfill surcharges
- ♦ Set up education and public awareness campaigns

**(6) Trash Reduction Technologies and Best Management Practices for Stormwater**

**Focus: Leverage Technology and Best Management Practices (BMPs) to Manage Trash Flow**

The Potomac Watershed has an infrastructure that funnels water run-off that carries trash from land to predetermined drainage systems and into its streams and river. These stormwater drainage systems can be designed with “Structural Technologies” to capture and prevent trash flow into our waterways. Such systems range from retrofits of existing catch basins, “end of pipe” controls that modify existing drains; or entirely new designs that can be installed during new construction. More frequent and routine cleaning of catch basins, pipes, culverts, and swales can help to control trash and enhance their trash containment efficiency. Other trash reduction best management practices (BMP’s) include maintenance and management practices such as: targeted and frequent street sweeping; installation of extra public litter cans; bulk trash collection programs; and securing loads for vehicles transporting waste.

- What are the new cost effective technologies and BMPs available to control trash in stormwater?
- Which Low Impact Development techniques are available to rid trash from stormwater?
- What are the costs of these technologies and BMPS?
- Which technologies have been implemented in our region?
- Which can we implement in our region?
- What are barriers to implementation? What is needed to address them?
- What are creative ideas for how do we finance this?

**Moderator:** Andrew Fellows, Councilmember, City of College Park, Maryland; and Chesapeake Program Director, Clean Water Action

**Roundtable Participants:**

**Presenters:**

*Katherine Baer, Director, Healthy Waters Campaign, American Rivers—Presenter on Stormwater Focus Groups with Elected Officials in Chesapeake Bay*

*Thomas P. O'Connor, Environmental Engineer, Urban Watershed Management Branch, Edison Research Laboratory, EPA—Presenter on Innovative Technologies and National Trends*  
*Phillip Lee, P.E., Baltimore Harbor Watershed Association, Moffatt & Nichol (Engineering Services Firm) —Presenter on Stormwater Capture Devices Implemented in Baltimore Harbor*

Vincent H. Berg, P.E., Senior Environmental Engineer, Urban Environmental Products  
Uwe Kirste, Chief, Environmental Services Division, Department of Public Works, Prince William County

Fred Rose, Chief, Watershed Planning & Assessment Branch, Stormwater Planning Division, Fairfax County

Steve Saari, Watershed Protection Specialist, Department of Environment, District of Columbia  
Mohsin R. Siddique, Supervisor for Environmental Planning, District of Columbia Water and Sewer Authority

Rosemarie Szostak, Research Fellow, Energy & Environment Group, LMI Government Consulting  
Beverly G. Warfield, Special Assistant for Regional Affairs, Department of Environmental Resources, Prince George's County

### **Trash Reduction Technologies and Best Management Practices for Stormwater Short-Term Recommendations (June 2007–June 2008):**

1. Identify hotspots and develop methodologies for determining sources of trash (such as commercial sources and high density areas).
2. Analyze effectiveness and cost-effectiveness of existing BMPs and share throughout jurisdictions.

► Opening of Roundtable Discussions by Moderator Andrew Fellows

► Presentation by Katherine Baer, Director, Healthy Waters Campaign, American Rivers  
**Topic: Stormwater Communications Research**

American Rivers had its first year as the sponsor of a national river cleanup week this year; more than 105 tons of trash were removed nationwide. American Rivers is in its final phase of stormwater communications research, specifically looking for messaging that can be used by clean water advocates in efforts with local legislators.

The research began in 2005 with a nationwide public poll on clean water messaging, to see how words are used and people react to those words. Somewhat surprising was the finding that people think of “sprawl” as a problem related to open space, traffic, schools, crowding and other terrestrial issues, but don't see a connection between land use and clean water.

The study then narrowed its audience and looked at how to craft messages for local leaders—to help advocates show local politicians a link between land and clean water, and to make stormwater a priority. In this testing of messages, the focus was the Chesapeake Bay.

In phase 2, the messages were tested on local leaders to see what resonated, using seven different stormwater-related concepts (such as economics, streamflow, etc.). The messages tested for each concept ranged from a very negative (“ick” factor) to a positive, solutions-oriented message (e.g. low impact development (LID) reduces clean drinking water costs).

The results of the study indicate that all the concepts worked, but leaders wanted to see how plausible it would be in their communities (i.e., don't tell me about the Bay in general; tell me about the river in my municipality). Pictures were powerful—they elicited visceral responses, but they need to look like the community of the leader being addressed and also needed to be very obviously connected to the issue at hand. People “got” the solutions, largely because they were familiar (such as LID).

Implications for trash: this study focused on pre-development areas (not so urbanized, not in need of retrofiting, and could just implement the LID from the get-go). In urban areas, trash is a good way to go for messaging purposes. It could be a very viable way to get at the issue of stormwater. For example, have a photo of litter, then show a buildup of trash in a stream.

- ▶ Presentation by Thomas P. O'Connor, Environmental Engineer, Urban Watershed Management Branch, Edison Research Laboratory, EPA

### **Innovative Technologies and National Trends**

Mr. O'Connor reviewed a research project on which he has been working. In 2002, he started monitoring Best Management Practices (BMPs) for stormwater to see how well they perform. In particular, he looked at the removal of suspended solids in Richmond Creek on Staten Island, NY. The BMP involved using forebays and S-paths before the point of discharge into the creek, to reduce chemical oxygen demand (COD) and phosphorous effluent. The conclusion is that the recommended rates promulgated as BMPs in 1998 for sediments worked, but that maintenance was the key to the decrease in levels of COD and phosphorous. In the 1970s, maintenance was done twice per year, then once annually, and now it is done only when a citizen makes a nuisance call. This is not sufficient.

- ▶ Presentation by Phillip Lee, P.E., Baltimore Harbor Watershed Association, Moffatt & Nichol (Engineering Services Firm)

### **Topic: Trash Technology and Alternate Funding Sources**

The mission of the Baltimore Harbor Watershed Association (BHWA) is to increase and protect the environmental quality and natural beauty of Baltimore Harbor and tributaries. Our goal is to be trash-free by 2020.

Strategies used in Baltimore:

- ♦ Baltimore City recently purchased 4 street sweepers at \$135,000 each, which were funded via stormwater variance fees and waivers.
- ♦ Skimmer boats remove 600 tons of trash per year (\$125,000 per year is funded by the fees and waivers).
- ♦ The City and BHWA have a pilot program with a floating boom to catch trash. This puts the trash into floating trash bags that are removed by cranes. The BHWA gave \$50,000+ toward the project for five years, and the city paid for the design.
- ♦ A second pilot project is testing nets on a conveyor belt (powered by solar power and currents) at Jones Falls public works museum. This is being funded by an Abell Foundation grant—the city will maintain the structure and will reimburse the seed money when success is demonstrated.
- ♦ Baltimore has installed inlet screens in five neighborhoods and the BHWA recruits people in those neighborhoods to maintain the screens.

### **Roundtable Minutes and Discussion**

- ▶ Mohsin R. Siddique from DC WASA

DC has unique problems because it is so urbanized. There is no open land to try innovations from scratch. With Anacostia Watershed Society, WASA put a trash net on the M Street outflow. This works well. It cannot be replicated in most other good spots because the marinas are nearby and it would impede their ability to move watercraft.

A zero trash Total Maximum Daily Loading (TMDL) regulation would be really nice, but how could this get enacted? In Combined Sewer Overflow (CSO) areas, 98% of trash is captured by storm drains. There are 25,000 catch basins around the city. It would be very expensive to retrofit them. And, if all

trash is kept out of the inlets, then you just have trash in the streets. Trash collection and street sweeping need to be increased. Perhaps the city could start by tackling heavy trash areas, like malls. The city might be able to work with business groups to share the costs of new technologies (look at EPA funds). In the rest of the city, funding should come from stormwater fees. But stormwater is the domain of the Dept. of the Environment, not WASA.

► **Vincent Berg, Urban Environmental Products**

Mr. Berg represents “Stormflow”, which is a louvered storm drain system that goes in the pipe from storm drains—water leaves and trash stays in. It needs to be cleaned 1 to 2 times per year. It is the preferred practice in California to meet solid waste NPDES requirements. It can collect 100 percent of trash, down to the size of a cigarette butt. Stormwater ordinances should include trash.

► **Fred Rose, Fairfax County**

Local government is challenged to maintain a vast array of devices. Fairfax has 1,400 miles of pipes (not including 1000 miles that are controlled by the highway department), 37,000 storm inlets (highways have more), 800 miles of stream, and 3,000 stormwater facilities.

The challenge is that trash is captured, but then the structures that catch the trash need to be effectively maintained. Even with maintenance contracts with the producers of your structural devices, there is no guarantee—the company can go out of business, for example.

The MS4 permit says maintenance must happen once per every five years (the life of the permit), but most devices are maintained annually. If there is no maintenance before a flood, inlet points back up and cause bigger problems (as was seen in Cameron Run/Alexandria during storms last June).

It would be better and less expensive to control the sources of trash. Therefore education and outreach are the solutions, which are what Fairfax County does.

In California, CalTrans and LA County do structural things at the end of pipes, but clogging happens. Several years after all of these installations, they are still looking for the right solution.

► **Steve Saari, DC DEP**

Mr. Saari agrees with all of the other panelists. The focus of his work is nutrients, sediments, and toxins, but BMPs for those are also effective against trash. Maintenance and inspection are crucial. The big problem in DC is the lack of space and difficulty of retrofitting. Technology is great, but the source of the problem must be treated.

► **Rosemarie Szostak, Research Fellow, Energy & Environment Group, LMI Government Consulting**  
Ms. Szostak agrees that we need to look at the source of the trash problem.

How?

- ♦ Make trash more valuable. Her great aunt and her roommate (91 and 102 years old, respectively) make a fortune collecting aluminum cans and redeeming them (in a bottle bill state).
- ♦ We’re overconsumers—we need to address this personally. Recycling glass is silly because of the life cycle of glass.
- ♦ A complete systems approach should be taken—addressing sources, effluents, and all points in between.
- ♦ Community involvement and responsibility must be increased. Instead of picking up trash, we pay the city to do it. Outreach programs are needed.
- ♦ We should put a 911 number on trash receptacles so the public can call in when a public bin is overflowing/needs to be emptied. This will reduce one of the unintentional sources of trash. The government is there to work WITH us, not FOR us.
- ♦ We should identify all the sources of stormwater trash; a study needs to be done to provide empirical evidence. We can then use the data found to identify the easiest points to start.
- ♦ Solar-powered trash compactors inside of public trash bins would reduce the need to empty those so often (and ease the maintenance requirement).

► **Zubek Kirsty, Prince William DPW**

One major function of DPW is to review and approve and maintain stormwater facilities/structures in residential areas and manage such activities in commercial areas. Prince William is a rapidly expanding county, so there is an increasing responsibility for development.

Lots of older areas in the county were built prior to stormwater regulation/management. Now they have to retrofit.

Straight pipes (from subdivision to stream) are bad for the quantity and quality of water, so the county is now looking at ways to deal with that in a manageable fashion.

BMPs are being used to retrofit stormwater facilities. They are good at filtering sediment, nutrients, and trash. The drawback is that regular maintenance is required, and the trash collected during maintenance can't be sorted and recycled.

Retrofits are helping dramatically.

An instream trash removal system (floating boom with hanging net) is desired by the county—this would have to be cleaned after every storm, but the pressure of the water flow would put all the trash in the removal area. They've been trying to get permits for this for three years, but some state agencies are nervous about the impact it would have on fish migration, recreation, etc. Innovation can be hampered by the permitting process.

► **Beverly Warfield, Prince Georges County DEP**

A low-impact development (LID) concept was conceived in Prince Georges County by Larry Kauffman, starting with a rain garden idea.

Low lying areas on the Anacostia are protected by levees that now have trash racks at two pumping stations. They cost \$350,000 to install, but are working wonderfully.

An end-of-storm-drain trash net was installed in an urban area. In 20 months, it has caught 13 tons of trash and has been cleaned out 15 times.

Prince Georges County is about to launch a pilot in its municipalities to purchase a street sweeper to sweep trash hot spots on a weekly basis and to screen storm inlets near hotspots. Outreach will be conducted, too. This will start in Bladensburg and spread.

The county is about to launch a 411 number for flooding—why not add trash?

► **General Group Discussion**

Strainers for trash—do the manufacturers have signage/education to go with them? It would be instructive to say that a municipality spends x\$/year to maintain citizens' bad habits.

In Prince William County, there is signage at stormwater facilities, but it is for liability purposes. There's no reason an educational sign couldn't be posted on the same post.

Phil Lee (Baltimore) is in the process of getting signs. He joked that a mirror would be most appropriate sign.

In Fairfax, signs aren't trash-specific. Retrofitted detention ponds have signs that explain the no-mow zone and other vegetation. Including trash on these signs would be a good idea.

Regarding trash TMDLs, we should treat trash like any other pollutant. Then we'd have to study the trash to find the sources. Baltimore County's biggest problem is that people don't use the disposal facilities available to them—the DPW and stormwater people need to work together.

The focus is on technology, but sampling techniques should be used to identify types/sources of trash.

Someone was surprised that AFF's cleanup didn't find more Starbucks stuff. Is this company doing something right? Let's pursue businesses and improve how they handle their trash.

If a store has carry-out food, it should have to supply trash receptacles.

How about giving people cards with a photo of a mountain of trash with comments written on the back (e.g. “I wish you wouldn’t use Styrofoam”) to leave with your bill and money at restaurants that use these products?

Engineering is cool, but when we have PCBs or lead in the water, we don’t look for ways to just clean up the water. We stop the source. Why is a lesser approach acceptable for trash pollution?

- ♦ Trash source control is needed
  - ♦ We need to make shopping center owners responsible for trash that originates there. Just like they have to have their dumpsters emptied, they should have to clear their stormdrains.
  - ♦ MD and DC are doing a trash TMDL on the Anacostia River and are looking at source reduction. But we need a study to know for sure what the sources of trash are.
  - ♦ Trash is a cultural issue: we need 1-2 generations of education to affect cultural change.
  - ♦ In Prince William County, they did a non-scientific study of sources by talking to the litter crews. They think that people generally try to be good about trash/dispose of it in the proper place, but a lot of trash blows out of these places—from trucks on the roads and from overfilled trashcans at curbs.
  - ♦ Recycling bins generally don’t have lids and the stuff in there is very light, so it often blows away.
  - ♦ Stormwater system engineering is an enabler of the trash problem, because the problem is hidden from the everyday person.
  - ♦ It doesn’t take a generation to effect change. Lady Bird Johnson started Keep America Beautiful a long time ago—so which generation is going to magically change?
  - ♦ Are people collecting data? We have GIS mapping and other high-tech tools to do the analysis if we just had the data.
  - ♦ We have to think radically. WE are the problem. How can we change behavior? It’s possible—30 years ago few people used seatbelts; now it’s an automatic thing.
  - ♦ One idea tried in DC was to give responsibility for trash pickup to business districts. In London, this is very effective, because it helps the tourism industry.
  - ♦ For three years, Fred’s jurisdiction (Fairfax County) has had a campaign about overfertilization and picking up animal waste to improve water quality. Public knowledge of where their stormwater goes increased from 50 percent to 79 percent.
  - ♦ More than a campaign is needed—we need a comprehensive K-12 educational effort.
  - ♦ Incentives: a bottle bill was struck down in MD, but it works in 11 states. In MI, where the deposit is 10 cents, there is a 95 percent return rate. There is about a 75 percent return rate in states where the deposit is 5 cents. In the Potomac River Watershed Cleanup this year (PRWC), 120,000 bottles were picked up.
  - ♦ One of the most effective environmental ad campaigns was the Indian with a single tear.
  - ♦ It doesn’t take a generation and we can’t give up on current adults. They are dealing with reality and need reinforcement on the educational front. They’re the majority of who is to blame, anyway.
  - ♦ We can’t wait a generation (2013 is only five years away). In Montgomery County, outreach is being tried with DEP, DPW and DOT.
- Recommendations (the full list):
- ♦ Develop an agreement before the next cleanup that companies whose product gets collected pay 5 cents per cup (or bottle or other item) to AFF. This gives corporations a chance to look green.
  - ♦ Mark all stormdrains with “drains to stream” or other message (this should cost \$2-3 per drain)
  - ♦ Showcase demonstration trash control projects on private developments where all trash is controlled onsite.
  - ♦ Screen every storm drain. Worry about maintenance when that time comes. Having an open jaw to streams is symbolically dangerous.

- In the short term, we should implement realistic maintenance schedules where we have identified trash hotspots.
- In the long term, we need more LID in large shopping malls with maintenance.
- Study a subwatershed to see if marking drains makes a difference in trash quantities in the streams.
- Collect data on the effectiveness for trash removal of all BMPs (even if not for trash).
- Develop sampling techniques for trash sources.
- Try the empty chair approach: what would you, as a consumer, do with a specific item of trash?
- Create a dirty dozen list (of types/brands of trash).
- Try to identify trash hotspots on GIS, then look at strategies to combat them.
- Education is needed.
- Expand the scope of adopt-a-stream programs to also include adopt-an-inlet.
- Open trash dumps until 7pm so people can use them—this will really help keep bulk trash (appliances, etc.) out of illegal dumping spots.
- Use LEED certification as an example— enact certification of food containers.
- Challenge environmental groups region-wide to lobby for a bottle bill.
- Trash TMDLs are real possibilities that we may all have to grapple with, so we need to start evaluating technologies now, so we have empirical data when the time comes.
- Set up a 911/411-type number on trash bins for ‘as needed’ emptying.
- Philadelphia has solar-powered trash compactors. There are six in the inner Harbor of Baltimore.
- Do an analysis of “trash-free in my neighborhood” —where is the biggest bang for my buck in terms of education and enforcement?
- Devise incentives for local/block level storm drain maintenance—could a city pay neighborhoods to do old-fashioned street sweeping? Or combine this with a neighborhood watch?
  - This happens in a business improvement district in NYC.
  - In Baltimore, this combination is happening: called “crime and grime” teams.
- Set up an adopt-an-inlet/catch basin program (you clean it, the city pays to install it).
- In the long term, make the producer pay.

Manageability: do pilot projects to see if things are feasible.

Regional collaboration is needed on education outreach and on studies of feasibility.

Moderator Fellows thanked panelists and participants and reminded us that we’ll need to ramp up technology to hit that goal of 2013.

## **(7) Maximizing Regulatory Tools Action Roundtable**

### **Focus: Regulate Trash with Tools of the Federal Clean Water Act**

Under the provisions of the Clean Water Act, EPA and states can regulate trash in our waterways by creating a measurable, tangible limit to the amount of trash allowed in a body of water. The quantifiable amount of trash allowed, called the Total Maximum Daily Loading (TMDL), limits the release of trash to waterways. The Clean Water Act provides for the establishment of a TMDL for trash, once it has been officially determined that the waterway is impaired for trash. Legally enforceable TMDLs for trash have enormous potential to establish implementation plans with quantitative measures; drive new technology; provide a solid legal basis for regulation; and offer a basis for results-driven planning and budgeting.

- How do you put together various authorities of Clean Water Act so that you have credible and effective programs to eliminate trash?
- How can water quality standards, TMDLs, Storm Water Permits, and other authorities be worked together to maximize the authority to deal with trash?

- How can various regulation programs be effectively used to support goals of the Trash Free Potomac Watershed Initiative?
- What are viable tools to move out on this issue—interstate TMDLs, using criminal enforcement authority by criminal enforcement task forces, who is best equipped to do that?
- What near-term actions, projects, and programs can and should be continued and initiated now?
- Please ensure that the Regulation Roundtable agenda also highlights the role of the firm policies we already have in-hand (Trash Treaty and the Anacostia Strategy) in driving these short-term actions.
- What are existing standing policies and programs we already have in-hand (Trash Treaty, Anacostia Strategy) and how can they be used to drive these short-term actions? How can they be translated into measurable results, such as quantitative municipal stormwater permit requirements?
- What are enforceable requirements and quantitative measures to integrate into MS4 Permits to implement a TMDL?
- What other regulations can impact our CORE TRASH FOCUS?

**Moderator:** Bill Matuszeski, Retired, Former Director of EPA Chesapeake Bay Program

**Roundtable Participants:**

Rich Batiuk, Associate Director for Science, U.S. EPA Chesapeake Bay Program

Robert Boone, President, Anacostia Watershed Society

David Byrd, Deputy Chief Administrative Officer for Government Operations and Environmental Services and Economic Development, Prince George’s County

Diane Cameron, Coordinator, Stormwater Partners, Montgomery County

Jon Capacasa, Director, Water Protection Division, EPA Region III

Stan Edwards, Division Chief, Environmental Policy and Compliance Division, Montgomery County

Ted Graham, Program Director, Water Resources Program, Metropolitan Washington Council of Governments

George Hawkins, Director, Department of Environment, District of Columbia

Hamid Karimi, Deputy Director, Natural Resources Administration, Department of the Environment, District of Columbia

Ed Merrifield, Executive Director, Potomac Riverkeeper

Stephen Pattison, Assistant Secretary, Maryland Department of the Environment

William Roper, Director, Department of Environmental Services, Arlington County

Nancy Stoner, Director, Clean Water Project, Natural Resources Defense Council

**Maximizing Regulatory Tools Action Roundtable Short-Term Recommendations (June 2007–June 2008):**

1. Complete baseline data measurement methodology in Anacostia and associated trash data gathering at end of 2008.
2. MDE will issue the draft MS4 permit for Montgomery County and EPA will issue an amendment to the DC permit; both will include quantified provisions based on the 2013 trash-free goals. Coordinate these permits with provisions in future Prince George’s County permits. (These permit modifications should be based on BMP analysis experience worldwide.)
3. Encourage TFPWI signed jurisdictions, in the next session, to support bottle bill legislation that also complements local recycling programs.
4. Investigate trash control requirements in general stormwater permits.

**Roundtable Minutes and Discussion**

The Regulatory Roundtable overall focused on three main topics or themes:

- ♦ Ambient standards-based approaches versus “technology-based” approaches under the Clean Water Act
- ♦ Trash loading quantification and monitoring methodologies
- ♦ Using NPDES MS-4 (municipal stormwater) permits as effective tools for ratcheting down on trash pollution and implementing the Trash Treaty

Other regulatory tools discussed and highlighted by the participants included: the Construction General NPDES permits to relate to parking lot-generated trash pollution and also construction debris, support for bottle bills, and longer-term TMDL development.

► **TMDLs and Ambient Standards-Based Approaches, versus “Take Action Now to the Maximum Extent Practicable”**

The Roundtable began with a lively discussion of trash pollution in the context of TMDLs, use designations, and “de minimis” risk assessments.

Some participants expressed the need to establish measurable limits on trash (e.g. Total Maximum Daily Loads, or TMDLs) to regulate it as an “impairing pollutant” for a designated use of the water bodies.

Potomac Riverkeeper Ed Merrifield asked, “Is there anywhere that point source trash pollution is legal?” Answer: It is off the radar and has not been included in pollution impairments because of focus on other pollutants.

Various pollutants and pollutant levels are compared against waterway designated use support, for example, is it swimmable, fishable, etc. A Trash TMDL would have to establish a designated use which would likely be aesthetic and recreational. (DC already includes aesthetic use in its MS4 permits.)

Now that the designated use is established, there must be an attainable goal established to limit the pollutant without compromising the designated use. Several participants including Rich Eskin posed the question, “What is the ultimate trash criterion—how many gum wrappers in the water constitute an impairment?” Others, including Diane Cameron, expressed the view that an ambient-based, risk assessment approach would not be the most fruitful focus for this Regulatory Roundtable discussion; rather, this Roundtable should focus on using the NPDES permits to ratchet down on trash pollution through quantitative requirements based on ramping up the use of currently-available techniques and technologies. Stan Edwards stated that his concern about that approach was that Montgomery County doesn’t want to be held liable for a quantified permit provision when it doesn’t know what the best, most effective trash reduction techniques are, nor what the quantitative targets for them should be, nor what their ultimate cost to the County would be. Diane responded in part by encouraging Montgomery and the other jurisdictions to hire sufficient expert staff to study the problem and the best solutions, including their performance and cost quantifications.

Rich Eskin said that water quality regulations must stay within the bounds of the Clean Water Act, and therefore must relate to impairment of the designated use and establish a defined allowance of pollutants that won’t impair that use. It was suggested to use the defined allowance of zero—but Rich Eskin reminded all that the permits must require an attainable standard.

Hamid Karimi responded that he agreed with Diane that more can and should be done to reduce trash pollution, and that DC would be willing to go along with permit changes along as its neighbors to the north were doing the same things through their permit provisions.

► **Monitoring Methodology to Establish a Baseline**

The first step is to create a methodology by which to measure trash. Then apply this methodology to the jurisdictions that will review their permit requirements prior to their next renewal (or make amendments in the case that renewals are long-term.) After applying the methodology to get baseline

trash data for each jurisdiction, this data MUST be provided to MDE so that they can consider and write a TMDL. Then the TMDL gets placed into the MS4 permit (either at the renewal stage or as an amendment) and jurisdictions will be required to create implementation plans and begin reducing trash.

To establish a baseline measurable target, consider using population numbers to determine the compliance level for the MS4 permits. Jim Collier suggested that this be extrapolated to other jurisdictions by looking at population associated with MS4 permits.

Both MDE and MWCOG are working on a replicable, scientific measurement of trash to use in measuring trash reduction compliance. This will also establish a trash baseline for Anacostia by the end of 2008. MDE's method involves placing booms in a downstream river segment to collect and measure trash quantities.

► **Quantified Trash Provisions in NPDES Stormwater Permits**

There are two different approaches to including quantitative trash provisions in the NPDES stormwater permits. One way is to be prescriptive and to say that "zero" means implementing a certain amount of technologies, sending out a certain number of educational messages, etc. Generally that is the model that the LA TMDL uses to define "zero;" however, this permit has many, many such prescriptive requirements and has led to significant litigation and backlash, though citizens and environmentalists see this model as successful.

The politicians in this region have committed to a goal of becoming trash free by 2013. We should work backwards from that date to established staged benchmarks for the next few years that get us to zero trash in the water bodies. Diane suggested requiring 17 percent reduction each year using a formula of 100 percent divided by the number of years left until 2013. Although there is generally agreement that monitoring methodologies to establish an accurate "trash loading baseline" are important to the success of this approach, the municipalities need not wait for such a baseline to be established before they move forward with additional and ramped-up trash reduction and recycling actions that they can quantify and be credited for.

This "annual percentage reduction approach" could foster adaptive management, which most jurisdictions would probably prefer and would be more appropriate, considering there is an evolving science about the precise benefits of different techniques (i.e. having a trash can on every corner vs. having a trash can every other corner, etc.). This means setting the quantitative reduction provision in the MS-4 permits and allowing each jurisdiction to figure out the best method by which to reach compliance. Almost everyone agrees that multiple methods will be needed including education, technology, regular maintenance practices, etc.

There are large gaps between putting in new BMPs and ensuring the regular maintenance of these BMPs, especially when you start looking at financial and resource costs to jurisdictions.

General stormwater permits that cover one- to five-acre commercial areas, such as parking lots, do not currently incorporate trash reduction or management. It was suggested that new standards be added to these general storm water permits.

Dana suggested that we look at analyzing the effectiveness of BMPs before requiring jurisdictions to act. John Capacasa said this is relevant to regulatory bodies, because some BMP technologies may be very cheap. However, Rich Eskin said that the true cost is the maintenance of the technology/BMPs.

Goals are different than enforceable permit requirements that incur liability for the jurisdictions, associated with fines and lawsuits.

We do not have a problem of too little trash, we have a problem of too much trash. So let's start now in removing it even if the TMDLs are not in place yet. If jurisdictions know that a permit requirement is coming, can MDE start drafting permit language? Some stated the opinion that they need measurable baselines. You cannot start requiring jurisdictions to reduce stormwater trash flow unless

you have a measured starting point. On the other hand, Diane pointed out that MDE has already in the past year, on more than one occasion, committed to revising the Montgomery County stormwater permit to, in general, include more quantified provisions, and specifically to include an upgraded trash provision.

While a baseline is important, there are more trash reduction actions that the municipalities can do now, and the place to start is the Anacostia watershed municipalities of Montgomery and Prince George's Counties and the District of Columbia. This can proceed in parallel with the baseline monitoring methodology development and the TMDL development work. Several participants echoed this view including Hamid Karimi.

Robert Boone suggested we send fear out of the room. If the regulatory agencies were assured that there would be no lawsuits or litigation in the next five years, would they be willing to start setting limits? Steve asked to put that in the minutes that the groups wouldn't sue for five years. This was followed by general uncomfortable laughter.

Moderator Matuzeski then pushed the participants to come to consensus on both the short term (within one year) and longer-term action items, based on this discussion, which was completed.