

## VRA 2019 Annual Conference - “Changing Recycling Behaviors”

<b>Monday, May 6, 2019</b>		
<b>Time</b>	<b>Location</b>	<b>Activity/Topic/Speakers</b>
8:30 – 5:00	Prefunction	<b>Registration open</b>
8:30 – 5:00	Prefunction	<b>Exhibitors set up</b>
9:30 – 3:00	n/a	<b>Facility tours</b> <ul style="list-style-type: none"><li>• TFC Recycling</li><li>• Sims Metal Management</li></ul>
2:00 –4:00 pm	n/a	<b>Community Service Project - storm drain stenciling with Virginia Crossings Hotel and Henricopolis Soil &amp; Water Conservation District</b>
6:00 – 9:00	n/a	<b>Happy Hour and Dinner</b> <b>The Tavern Grille</b> Virginia Crossings Hotel, Madison Building

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**Tuesday, May 7, 2019**

<b>Time</b>	<b>Room</b>	<b>Activity/Topic/Speakers</b>
7:30 – 5:00	Prefunction	<b>Registration open</b>
7:30 – 5:00	Prefunction	<b>Exhibit hall open</b>
7:30 – 9:00	Prefunction	<b>Continental breakfast</b>
9:00 – 12:00	Hanover	<b>Litter Council meeting</b>
8:30 – 12:00	Henrico Ballroom	<b>Training Course – Changing Recycling Behaviors</b>
12:00 – 1:00	The Glen	<b>Lunch with speed dating with the exhibitors</b>
1:00 – 1:30	Henrico Ballroom	<b>Welcome</b>
1:30 – 2:00	Henrico Ballroom	<p><b>Keynote: “So Your Market’s Been Disrupted....Now What?” <i>Samantha Villegas, Strategic Communications Consultant, SaVi PR, LLC</i></b></p> <p>The impact of China’s “Operation National Sword” to ban imports of some types of plastic and paper, and tighten standards for other materials, has disrupted the U.S.’s 40-year-old recycling ecosystem. Faced with diminishing markets and higher prices, many U.S. communities are scrambling to salvage their municipal recycling programs, while some have already scrapped them. What can (and should) communities do to weather this storm? Environmental communications strategist Sam Villegas, APR, will kick off VRA’s 27th Annual Conference with some positive, practical ideas to help Virginia communities not just survive, but thrive, as the market adjusts to its new normal.</p>
2:00 – 3:30		<b>Breakout Sessions</b>
	Hanover	<p><b>Breakout 1: Recycling Education and Outreach</b></p> <p>→ <i>Oops! Recycle Right with CVWMA Campaign, Kim Hynes, CVWMA; Tad Phillips, TFC; and Rachel Kipar, Recycling Partnership</i></p> <p>To adjust to the new normal in recycling markets and to ensure sustainability of local recycling programs, CVWMA took immediate actions to enhance its existing education and outreach efforts in an effort to drive home the need to recycle correctly. CVWMA implemented an “Oops! Recycle Right with CVWMA” campaign. The campaign goals are to reduce contamination and clean up the</p>

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recycling stream in an effort to sustain curbside recycling in the future. CVWMA collaborates with 13 local governments in central Virginia and provides residential recycling to over 280,000 households in 9 jurisdictions and also provides recycling opportunities at 35 drop-off locations for cardboard, mixed paper, cans, bottles, cartons, and other plastic containers. The campaign is a combination of 1) education, outreach and media involvement and 2) on the ground training of residents. CVWMA partnered with the Recycling Partnership, a national non-profit organization that leverages corporate partner funding to transform recycling for good, and TFC Recycling, our contractor. CVWMA has crafted clear and concise educational messages and as a result the public on why it’s important now more than ever to enforce the rules. To transform recycling into a thriving, sustainable benefit for our community we need to clean up our act and recycle right. CVWMA, TFC and the Recycling Partnership would like to share our efforts with VRA members in hopes that others around Virginia can take away resources and success efforts back to their jurisdiction to educate all Virginians on the importance of recycling correctly.

### → Changing Behaviors Towards Recycling with the 6Rs, *Amanda MacDaniel, VERDE/Recycle Perks*

Our programs are meant to evolve in response to changes in the recycling industry. Seeing a need for change, we recycled the classic 3Rs, which became the 6Rs (refuse, reduce, reuse, recycle, redeem, and rebuy). After the 6Rs campaign we surveyed residents to see if it was successful. The 6Rs educated residents about reducing waste, recycling right (reducing contamination), and finally closing the loop by buying items made from recycled materials. It included social media, videos, an interactive game, and more. 88% refused items that aren’t environmentally friendly, including single-use bottles (35%), plastic bags (54%), straws (49%), and single-use napkins (17%). 60% learned new ways to reuse or upcycle items. 75% are buying more sustainable items. Almost all (97%) said that they recommend our program to others who want to live green.

### → Social Media Applications for Modern Recycling, *Annette Scotto, HDR*

Through the use of two case studies, this presentation will highlight how we have successfully implemented modern outreach strategies to better understand the uncertainties in recycling and ways to encourage participation. The first will showcase Montgomery County, Maryland where we utilized Twitter and Facebook to educate local residents on waste reduction and reuse and public surveys to understand the resident’s current understanding of the recycling practice. Both accounts have over 1,500 followers and over 4,500 individuals completed the County’s waste management

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		<p>survey. In New York City, our work to incentivize recycling in public housing through targeted social media reached over 25,000 people. Complimentary surveys and focus groups were conducted in over five languages to ensure all residents could provide feedback. This presentation will incorporate audience engagement by conducting a waste sort exercise to facilitate a better understanding of common misconceptions when recycling and applicable examples of best practices to educate and encourage their communities to recycle right.</p>
	<p>Henrico Ballroom A</p>	<p><b>Breakout 2: Organics</b></p> <p>→ Update on DOC’s Composting Efforts , <i>Lois Fegan, Virginia DOC</i></p> <p>This workshop will provide an overview of waste management in a prison system and the impact of food-waste on facility operations. The Virginia Department of Corrections (VADOC) has 43 facilities located in every corner of Virginia, necessitating a creative approach to tackling the problem of organics recycling. VADOC developed a strategic plan to managing food-waste as a component of its robust farming operation. Participants will learn how the concept of “Closing the Food Loop” can be applied to a large-scale organization. Participants will be led in a group discussion about challenges in composting and other organics diversion methods in a variety of settings.</p> <p>→ Changing Recycling Behaviors at Farmers Markets - <i>Josh Etim, City of Alexandria</i></p> <p>→ <i>Composting Liquid Dissolved Air Floatation Sludges - Craig Coker, Coker Composting &amp; Consulting</i></p> <p>Many industrial food processing factories are located in areas where discharges of process and sanitary wastewaters to municipal sewer systems are guided by Industrial Pretreatment Discharge regulations. These regulations often limit the amount of Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS) and Hexane-Extractable Materials (HEM) that can be discharged to levels that are common in sanitary wastewaters.</p>
	<p>Henrico Ballroom B</p>	<p><b>Breakout 3: Solid Waste Management</b></p> <p>→ Inertization, Utilization &amp; Safe Disposal of Incineration Residues, <i>Anil Mehorthra, Hampton/NASA Steam Plant &amp; Sandeep Kumar, Old Dominion University</i></p> <p>The toxic characteristics of residues generated from combustion of MSW in waste-to-energy plants are strictly controlled by Federal and State Waste Management Regulations. According to Resource</p>

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Conservation and Recovery Act (RCRA), residue generated from combustion of MSW is considered hazardous and must be tested according to EPA Toxic Characteristics Leaching Procedure (TCLP) Method 1311 and suitably treated for its safe disposal to landfills. Experiments with various treatment chemicals as primary independent variable had earlier been conducted by several agencies and facilities. The author has successfully developed two new cost-effective solutions for stabilizing heavy metals in MSW residues to cover the gap between the leachability concentrations of toxic elements observed in residues and the leachability toxicity limits as per EPA's regulatory threshold. These methods include treating MSW residue fly ash (FA) with 2% dolomitic lime by weight, or by injecting aqueous (39% concentration) sodium sulfide at a controlled rate. The extensive full scale experimental study was carried out at 240 t/day capacity Hampton/NASA waste-to-energy mass burn MSW Incinerator (MSWI). This process has showed savings to the extent of \$150,000 per year by treating the plant's combustion residues with aqueous sodium sulfide over the use of dolomitic lime for ash treatment. Results of the prior studies for treatment of toxic wastes have been synthesized and a randomized experimental plan has been planned for conducting this research. Thus valid and defensible results have been obtained that show repeatability of the identified treatment method in varying operating conditions of the combustion process. The best management practices for use and disposal of such wastes have been discussed.

→ Waste-to-Energy Using Gasification Technology, *Bernard Brown, Villanova University; and Dan Baxter, City of Newport News*

This presentation will discuss the difference between a fluidized bed gasifier and a downdraft gasification system. Additionally, this system will discuss how these systems can recover embodied energy from feedstocks and be used to create a syngas for an electrical generation system. This presentation will highlight working project examples to include the waste to energy plant in Lebanon, Tennessee and the City of Covington, Tennessee. Finally, this presentation will discuss potential barriers to a waste to energy projects and ways to overcome these challenges to build a winning a project.

→ Predictive vs Preventive Maintenance, *Bradley Kelley, GBB*

"We imagine our presentation would be a Question and Answer session, where we would introduce the topic, define the nature of predictive versus preventative maintenance, pre-populate several questions into our slideshow, and open up the floor to questions. Like in many other industries, the world of IoT and utilizing “Big Data” can also apply to recycling. Utilizing predictive maintenance – as

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		<p>opposed to preventative maintenance - which draws upon data streams collected by IoT devices in recycling facilities, is a tool that, if utilized correctly, can improve efficiencies and reduce downtime for recyclers and may improve bale quality overall. But before any investment of time and capital is made, an effort to understand the goals of predictive maintenance and implementing IoT capacity is important. This session will introduce this fascinating topic and answer essential questions for our Virginia colleagues. Questions that we will answer during our presentation:</p> <ol style="list-style-type: none"> <li>1. What is predictive maintenance?</li> <li>2. What is preventative maintenance?</li> <li>3. How does the waste industry use both?</li> <li>4. What technology is involved?</li> <li>5. How does IoT aid predictive and preventative maintenance?</li> <li>6. How is this different from a year or 5 years ago?</li> <li>7. How do these technologies benefit the industry?</li> <li>8. What are some of the challenges?</li> <li>9. What is the future of technology/IoT in predictive and preventative maintenance?"</li> </ol>
3:30 – 4:00	Prefunction	<b>Break</b>
4:00 – 5:30		<b>Breakout Sessions</b>
	Hanover	<p><b>Breakout 1: Recycling Difficult Materials</b></p> <p>→ <i>Recycling Mattresses, Jonathan Kiser, Kiser Environmental</i></p> <p>This presentation will discuss the technical assessment Kiser Environmental Consulting (KEC) recently completed for Mecklenburg County, NC comparing mattress landfilling versus recycling. Presentation results will feature whether it made sense to recycle this difficult material. The presentation will also include successful mattress recycling case studies in select U.S. states. Conference attendees will be introduced to the innovative methodologies used by KEC to determine the landfill cubic yard impact from mattress disposal, the impact on landfill life from disposal, the landfill life extension from recycling mattresses, revenue generation potential from mattress recycling, and more. Attendees will learn about the challenges associated with mattress management, how to determine whether recycling mattresses is better than disposal in a particular community, and more.</p> <p>→ <i>Glass recycling, Eric Forbes, Fairfax County</i></p> <p>→ <i>Scott MacDonald, Prince William County</i></p>

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	<p>Henrico Ballroom A</p>	<p><b>Breakout 2: Virginia DEQ</b></p> <p>→ DEQ Recycling Updates, <i>Prina Chudasama and Sanjay V. Thirunagari, DEQ</i></p> <p>→ Virginia Environmental Excellence Program (VEEP), Source Reduction and Reuse Promotions- <i>Morgan Goodman, DEQ Office of Pollution Prevention</i></p> <p>DEQ's Virginia Environmental Excellence Program (VEEP) was established to encourage superior environmental performance by encouraging organizations to go above and beyond their legal requirements. This presentation will discuss the benefits of an Environmental Management System and voluntary programs like VEEP.</p>
	<p>Henrico Ballroom B</p>	<p><b>Breakout 3: Changing Recycling Behaviors</b></p> <p>→ Whole-School Recycling Behavior Change, <i>Beth Gingold, Recycle Leaders</i></p> <p>The likelihood of success of a whole-school recycling effort is not at all correlated with socio-economic characteristics of its students. Rather it is highly dependent on the leadership of individuals within the school community, especially custodians. Yet custodians are often not included in green teams and rarely receive high quality professional development related to school greening efforts. Drawing from her experience catalyzing recycling in more than 100 traditional public schools and 30 public charter schools in Washington DC, Beth Gingold, Founder, Recycle Leaders, LLC will share practical guidance on how to activate custodian leaders to achieve whole-school recycling behavior change.</p> <p>→ How2Recycle – How It Influences Recycling Behaviors- <i>Caroline Cox, Sustainable Packaging Coalition</i></p> <p>Ms. Cox will first briefly explain what the How2Recycling labeling system is, then begin sharing how it influences decisions and behaviors throughout the packaging supply chain - from material manufacturers and converters, brands, and end users. The program incentivizes industry to design for recyclability, which in turn makes it easier for the general public to recycle more and more easily. In addition, because public receives clear step-by-step on package instructions regarding proper preparation for recycling, they are empowered to send more high value, less contaminated material into the recycling stream. More volume with better quality leads to a better recycled material, which brings us full circle within the supply chain.</p>

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		<p style="text-align: center;">→ Contamination in the Crosshairs, <i>John MacDonald, Recycle Coach and Karen Day, Town of Blacksburg</i></p> <p>Stay at the forefront of recycling communications in this case study review, designed to help you execute an educational campaign targeting contamination. Attendees will gain critical insights into how they can implement the latest outreach tools to forge meaningful connections with their communities. They’ll also learn to develop and deliver engaging educational content that makes a measurable impact on recycling behavior. Finally, we’ll breakdown the data to provide proof that communities of all sizes, no matter the budget, can make recycling contamination a thing of the past. In this session, you’ll learn to:</p> <ul style="list-style-type: none"> <li>→ Identify current trends in recycling outreach and education</li> <li>→ Develop an engaging campaign that targets plastic bag contamination</li> </ul> <p>Use data to demonstrate knowledge gain and behavior change</p>
6:00 – 7:30	Terrace	<b>Reception and lawn games</b>



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<b>Wednesday, May 8, 2019</b>		
<b>Time</b>	<b>Room</b>	<b>Activity/Topic/Speakers</b>
7:30 – 9:00	Prefunction	<b>Breakfast</b>
8:00 – 12:00	Prefunction	<b>Exhibit hall open</b>
8:00 – 12:00	Prefunction	<b>Registration open</b>
8:30 – 10:00	Henrico Ballroom	<p><b>Legislation 101</b>            Learn how the sausage is made in Richmond. This panel discussion will cover two components: 1) an explanation of how the legislative process works in Virginia at the state level - Process? Timing? Roles? Opportunities? 2) Strategies to affect solid waste legislation strategy: how do we work together to improve recycling and sustainable materials management/ integrated waste management in Virginia? Best approaches?</p> <p style="text-align: center;">→ <i>Sarah Taylor, City of Alexandria</i>            → <i>Joe Lerch, Virginia Association of Counties</i>            → <i>Joel Andrus, Lobbyist, Kemper Consulting</i></p>
10:00 – 10:30	Foyer	<b>Break</b>
10:30 – 12:00		<b>Breakout Sessions</b>
	Hanover	<p><b>Breakout 1: Litter Session</b></p> <p style="text-align: center;">→ <i>Secure Your Load, Gloria Puffinburger, Frederick County, VA</i></p> <p style="text-align: center;">→ <i>Inspiring students to recycle and become environmental stewards, Carol Doss, Upper Tennessee River Roundtable &amp; Keep Southwest Virginia Beautiful</i></p> <p>Carol Doss hopes her children's book, "Project Bellville: Let's Recycle," will encourage young people to appreciate the environment by recycling and reducing waste. Her book tells of Sarah Sweete, a young teen who becomes so fascinated with recycling that she convinces others in the fictional town of</p>

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		<p>Bellville to join her dreams of saving the Earth. The 119-page book also contains practical tips for recycling; quotes about saving the Earth, and examples for reducing, reusing and recycling.</p> <p>Carol will also talk about a website and curriculum guide she co-created with her son, Christopher Anama-Green, called "Teach the Clinch." The guide was created as part of the Clinch River Valley Initiative, but can be adapted to any watershed. Lessons are included for litter prevention, recycling, rain gardens, stream monitoring, watersheds, and more.</p> <p>Each session attendee will receive a copy of Ms. Doss’ children’s book on recycling, “Project Bellville: Let’s Recycle.”</p> <p>→ Watersheds, Stormwater and Litter- <i>Lindy Durham, Henricopolis Soil and Water Conservation District</i></p>
	<p>Henrico Ballroom A</p>	<p><b>Measure, Measure, Measure!</b></p> <p>→ Municipal Measurement Program, <i>Rachel Kipar, The Recycling Partnership</i></p> <p>→ Analyzing Recycling Streams to Survive a Tough Market, <i>Stacey Demers, SCS Engineers</i></p> <p>This presentation will describe recycling composition analysis and highlight how these studies – and the data that results from them – can be used to make recycling program planning decisions. Many solid waste professionals have used waste composition studies to understand the types and quantities of materials being disposed of in their communities. Recycling composition studies can be similarly used. These studies provide valuable community-specific data on the types of materials recovered as part of a recycling program. This presentation will provide specific data from recently completed recycling composition studies from across the United States. The presentation will describe the following: Methods and resources necessary to complete these studies, opportunities for tailoring these studies to specific local programs, results for recently completed recycling composition studies from municipalities across the United States, and details on how the results are used to make program-planning decisions.</p> <p>→ Measuring Recyclables Composition &amp; Contamination at a MRF, <i>Phil Bresee, MSW Consultants</i></p>

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		<p>This presentation will discuss the methodologies used for sorting and characterizing single-stream recycling composition and measuring contamination at the MRF, including lessons learned and suggested best practices. In particular, the presentation will share critical insights about the accuracy and variability of these studies based on 3 years’ worth of quarterly data. Finally, the presentation will examine innovative solutions that can apply these best practices with a cloud-based composition data management platform to standardize ongoing composition and contamination monitoring and to make such composition analysis much more affordable.</p>
	<p>Henrico Ballroom B</p>	<p><b>Environmental Career Management Panel Discussion</b></p> <ul style="list-style-type: none"> <li>→ Pamela Gratton, Fairfax County, retired</li> <li>→ Scott MacDonald, Prince William County</li> <li>→ Kristi Rines, City of Virginia Beach</li> </ul>
<p>12:00 – 12:30</p>		<p><b>Adjourn</b></p>