Virginia's Waste Management & Pollution Prevention

Waste management is "how we handle our trash." Most communities use an integrated approach to waste management, meaning they use a variety of ways to handle the trash produced by their citizens. Some of these include pollution prevention, landfilling, recycling, composting, waste reduction, waste-to-energy plants, hazardous waste disposal and litter prevention and control.

The Concept of Zero Waste

Some individuals, organizations and communities strive to attain the concept of "zero waste." Zero waste is when people make an effort to reuse, compost and recycle every item with the goal of nothing being sent to a landfill. Zero waste people will bring their own containers to restaurants to take home leftovers. When they go to the grocery store they will bring their own bags and will not purchase items that come in packaging that cannot be recycled or reused. People who target being zero waste are sending a message to companies that produce and products should contain the most minimal (if any at all) packaging.

In November 2015 the Arlington County Board posted a resolution to have as its zero waste policy a 90% diversion plan for refuse by 2038. This means that 90% of the waste collected from businesses and residents will be reused, recycled or composted while only 10% will go to the landfill.

The Zero Waste Alliance is an organization that strives to assist businesses and communities in achieving zero waste goals.

Landfills

Landfilling is the most common waste disposal method. It has also been around for the longest time. The ancient Greeks began landfilling when they required citizens to take their trash outside the city gates and dispose of it. Dumps-large holes in the ground where trash was dumped-began this way.

Today we do not use dumps (although some people still call them that). Instead, we use sanitary landfills. Landfills differ because they are lined on the bottom with clay, special plastic, or a combination of both to protect against leachate. Leachate is any liquid that collects potentially hazardous materials that could pollute the water or land. Modern landfills have leachate management systems built into them and gas management systems to handle the methane gas produced as the waste decays. Every day, the garbage is crushed and covered by a layer of soil to keep out pests and to

reduce bugs and odors. These facilities are regulated by state and federal laws and must meet certain criteria or face closure.

Siting a new landfill is difficult and there is always a great deal of concern about how we would deal with our trash. In response, an integrated approach to waste management-using a variety of methods-was adopted by many communities to extend the life span of landfills including: source reduction, recycling, energy recovery and waste combustion.

Mount Trashmore Park in Virginia Beach

Mount Trashmore Park in Virginia Beach is a good example of what can happen to a landfill once it has been closed. This park encompasses 165 acres and has two man-made mountains, two lakes, two playgrounds, a skate park, vert ramp and multi-use paths.

Recycling

Recycling is an excellent way to reduce the amount of trash going into a landfill and, at the same time, conserve natural resources. Today, recycling programs focus on three key elements: collecting materials; reprocessing or re-making materials; and selling the re-made materials.

Most communities in Virginia have recycling programs in place. Newspaper, glass, metal and plastic are the most common materials collected and recycled. While some recyclables are used to create the same product again, others are transformed into different items than their original use. For example, plastic soda bottles, may be made into plastic toys, or carpeting, or even clothing. A steel car body may end up in its "second life" as a steel bridge.

Item	Recycled By
Appliances	Local Convenience/Transfer Stations
Batteries	Some Battery Retailers
Books	Used Book Stores
Computers	Some Computer Retailers
Clothing, Household Goods	Consignment Shops and Thrift Stores
Metals	Salvage Yards
Motor Oil/Filters	Many Auto Parts Stores/Garages
Music CDs	Some Music Retailers
Packing Supplies	Mail Centers, Packaging Stores
Photography Equipment	Some Camera Retailers

Item	Recycled By
Plastic	Regional Recycling Centers
Tires	County Transfer Stations
Toner Cartridges	Cartridge Remanufacturers
Video Games	Many Video Rental Stores

In addition to more commonly recycled items, communities have learned the importance of recycling things like motor oil, anti-freeze, scrap metal (from appliances), tires, all sorts of paper and magazines and other forms of plastic. By taking these items out of the waste "stream," communities are helping the state achieve its goal of 25% reduction in wastes statewide.

While some counties and towns have exceeded the 25% goal, others are close to achieving it. Since 2005, Virginia's recycling rate has grown from 32.2 percent to a high of 43.5 percent. Successful recycling depends upon a "market" for the collected materials; that is, a vendor or vendors who will buy and use the materials. Some regions in the state do not yet have full recycling "markets," but that is changing and, as it does, recycling will become more economical (and available) across the state.

Regional differences still exist, however, because buyers accept materials in different condition. For example, one paper company may only want newsprint, while another may take mixed papers and a third may only want white paper. A particular community's recycling "rules" are usually established according to its proximity to buyers and to those buyers' preferences.

Once collected, materials that are reprocessed must be sold at a profit. While early efforts to sell re-made items often faced an "inferiority" complex, consumers today believe in reprocessing and actually look to purchase recycled (and recyclable) materials.

You can help conserve Virginia's natural resources by becoming an active recycler and purchasing recycled products. Recycling requires a little effort and attention to local rules. For instance, if you throw the wrong kind of container into a separated load, you can contaminate the entire load (which will get pulled and thrown into a landfill). Ask for a copy of your community's recycling program rules before you get started. Look at product labels in the store to see if they have recycled content. For your efforts, you will be rewarded with the knowledge that you truly are making a difference to your community's future.

Recycling Programs in Virginia

Keep Virginia Beautiful promotes the annual "Recycle Bowl." In 2015 there were 11 schools in Virginia that participated in this challenge. There is

always a state and a national winner. Winners are determined on the recycling of selected items based upon the most recycling per enrolled student per school.

Nearly every locality in Virginia can recycle #1 and #2 plastics and most grocery stores have a bin for plastic bag collections outside the front door. Look on the bottom of the container and if you see a mobius (the three arrows shaped in a triangle with a number next to it) it means that it can be recycled. Check with your recycling coordinator to find out what items can be accepted locally for recycling. The Virginia Recycling Association has a list of places that can accept materials for reuse and recycling. Earth911.com allows you to look up materials that you wish to recycle and can tell you the closest collection site near your home.

The University of Virginia has a collection program for many items to be recycled. The university also has a unique reuse program called the Reuse Office Supply Exchange (ROSE). Anyone can bring unwanted office supplies to ROSE or come to the free exchange to take whatever is needed.

Composting

Another way to help reduce Virginia's waste stream is through composting. Composting is as easy as separating leaves, grass clippings and other organic materials from your garbage and placing them in a separate area to decompose. As they decompose, you add layers of soil and turn the pile regularly to prevent heat build-up. Once decomposed, the mixture of organic materials becomes a rich soil additive that you can use in flower and vegetable gardens or in planting beds. It gives plants the boost they would receive from fertilizer but in a natural way (see Soil chapter)

Some counties, cities and towns have a special composting facility or have a contract with a private firm to accept and compost organic materials. Since organic food debris make up about 21% of a community's average waste stream, composting it will greatly extend landfill space and help meet the state's recycling goals.

Composting in Virginia

Virginia has numerous commercial composters that collect feed materials for compost either on-site or from the community. Charlottesville will accept materials from citizens for composting. The city also provides tips for homeowners to compost in their backyards. Other local governments provide composting information on their websites too.

Pollution Prevention is the Key

Pollution Prevention, or waste reduction, is the key to reducing the amount of waste going into the waste stream, because it avoids the generation of wastes altogether. It most commonly means re-using items or cutting back

on the amount of waste produced. It means planning ahead and purchasing only what is needed so wastes are minimized. When shopping, consumers can request and purchase items with less packaging, or buy re-usable products that create less throw-away material. Buying in bulk whenever possible is one method to reduce packaging. Buying fewer disposable items, such as paper plates and plastic wrap, is another example. Think of how much waste would be reduced if everyone brought a reusable mug to the coffee shop. Examples of creative re-use of products are coffee cans used to store nails; baby food jars used for crafts and hobbies; and clothes given away to charitable organizations or people in need. When you begin to focus on what you're throwing away, you'll discover all sorts of uses for items that were formerly considered trash.

Demanding that manufacturers cut down on packaging is yet another challenge for consumers. Asking your favorite maker of laundry detergent to produce a refill alternative is just one example of market pressure from environmentally-sensitive buyers.

All of these ideas can be neatly summed up as the "5 R's" - reduce, reuse, recycle, reject and respond. We've covered the first three.

- Reject means to consider: "Do I really need this item?" "Can I buy it used instead of new?" "Can I buy it with less packaging?" and "Can I buy a refill instead of a new container each time?" Leave it on the shelf if you don't really need it or it wastes resources.
- Respond means to write or call companies that put out products creating more trash than necessary. Over the past decade, many manufacturers have reduced packaging in response to consumer feedback. You can make a difference! In a nutshell, waste reduction calls upon each of us to become wise, environmentally sensitive shoppers.

The Role of Industry

Just as the waste reduction movement has made us wiser shoppers, many industries in Virginia have found innovative ways to reprocess their waste into less toxic alternatives.

"Waste-to-energy," or resource recovery, plants are facilities that burn trash in order to produce steam or electricity. They are expensive to build but reap important benefits- processing more than 28 million tons of waste annually. They aren't without waste of their own since the incineration process produces ash, which must be sent to a landfill.

Resource recovery facilities have numerous air pollution controls in place and are heavily regulated, but many people still have concerns about them and about the ash they produce. The steam or electricity produced by a plant is

usually sold to a nearby company to keep operating costs down. The northeastern states have more plants than other areas of the country-partly because the Northeast has limited landfill space available.

Household hazardous waste disposal has received much more public attention over the last few years. Many people are just becoming aware how much potentially hazardous waste we produce in our homes and dispose of in a typical landfill. Much of this waste should be separated and taken to a special facility equipped to handle hazardous materials or one offering a "household hazardous waste" collection program. Such landfills have double liners and strict safety procedures. Continued education about household hazardous waste is needed to help people make wise decisions about products used at home and to encourage consumers to switch to safer cleaning products or dispose of hazardous materials in a safer manner.

Litter prevention and control are other aspects of waste management and include education efforts and community participation in planned clean-up projects. Littering is illegal and it hurts community pride. It is often expensive to clean up and can harm birds, mammals and fish along the way.

Education about its negative impacts on animals, humans and communities is the most effective way to deal with litter. A quick response in the form of community clean-ups is a way to lessen its long-term toll on everyone.

Waste Management is a complex issue and presents challenges for any community. Improper waste disposal can result in serious health problems, unnecessary and hazardous filling of landfill space and unwise use of our natural resources. As Virginia citizens, you will benefit from knowing basic facts about waste management so you can make informed personal and community-wide decisions.

Additional Resources

Web Sites:

- **Virginia Department of Environmental Quality, Office of Pollution Prevention**
- **U.S. Environmental Protection Agency**

Other Resources:

Fundamental Lessons Related to Waste Management

- Handling and disposing of waste has become an environmental issue because of concerns to public health, pollution of groundwater, location of landfills, depletion of land and air pollution.
- The rate of waste and types of waste generated are variable. Analyzing what is disposed of can help determine how to manage waste more effectively.