

GOVERNOR'S ENVIRONMENTAL EXCELLENCE



AWARDS

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The Governor's Environmental Excellence Awards recognize successful and innovative efforts that improve Virginia's environment. The annual awards program is run as a partnership between the Department of Environmental Quality and the Department of Conservation and Recreation.

Catawba Hospital

GREENING OF GOVERNMENT **GOLD**

Catawba Hospital is a mental health facility in Roanoke that serves Virginia citizens in their recovery. When the Plastic Pollution and Solid Waste Reduction initiative began, Catawba Hospital formed a multidisciplinary "Green Team," with employees representing departments across the hospital, such as food services and administration. The Green Team began work to achieve the waste diversion goals of the initiative; challenges quickly arose due to the limited availability of recycling and composting programs in the area. Catawba Hospital overcame obstacles with innovative actions and instead of diverting landfill-bound waste by swapping from single-use plastics to compostable or recyclable alternatives, the agency pivoted to "reduce, reduce and reduce" the waste they produced. To accomplish this, the agency diverted from disposable items, and converted to durable and reusable food service ware. Catawba Hospital had the added task

of identifying reusable alternatives that would not pose a threat to the safety of staff and patients. One such solution was the switch to silicone tumblers and cups from disposable foam cups. Compared to disposables, these silicone cups annually save the agency \$7,207 and decrease the generated waste by a ton. Catawba Hospital also installed an anaerobic digester that diverts 55 tons of food waste from the landfill and eliminates the need for 10,400 large trash bags annually. Utilizing this technology saves the agency \$1,430 in trash bags alone. From July to November 2021, Catawba Hospital reduced their total waste generated by more than 28 percent, which, due to their remote location, corresponded with a decrease in waste removal costs of \$8,600 and savings of 2,080 gallons of diesel. Through these waste diversion efforts, Catawba Hospital is well on its way to achieving its goal of being a zero waste facility.



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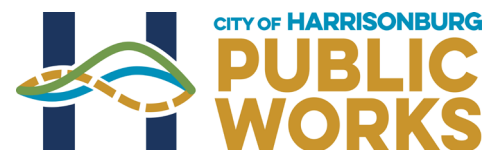


City of Harrisonburg - Dept. of Public Works - Urban Forestry Harrisonburg Urban Forestry Program

SUSTAINABILITY PROGRAM **GOLD**

The City of Harrisonburg's Urban Forestry Program is run by three certified arborists on staff in the Department of Public Works. The Urban Forestry Program maintains the City's urban trees, expands tree canopy coverage, educates residents about tree maintenance, and incorporates sustainability and community engagement into all its

activities. When the Emerald Ash Borer beetle was discovered in the city in 2017, it was imperative for the Urban Forestry Program to take quick action. The invasive beetles consume and kill ash trees, which accounted for over 14 percent of the City's urban trees at the time. This presented the potential for widespread tree loss and safety hazards.



Since then, staff have removed over 1,000 ash trees and have planted over 1,400 native trees throughout the city to maintain tree cover. Urban Forestry plants native species that ensure one species accounts for no more than 10 percent of trees to increase the resiliency of Harrisonburg's urban forests. Annually, 300-500 of the trees Urban Forestry plants are propagated and grown by staff in local greenhouses; this reduces costs by \$22,500 – \$37,500 each year and avoids greenhouse gases emissions during seedling transportation. The urban forests of Harrisonburg provide numerous benefits to residents and the environment

by reducing and filtering stormwater runoff, removing contaminants from the air, sequestering carbon, and decreasing the city's heat-island effect. Urban Forestry partners with Urban Wood to keep felled trees out of landfills and instead uses the wood to create park benches, bridges, furniture, firewood, or mulch that used throughout the Harrisonburg community. To date, Urban Forestry has repurposed around 1,000 tons of wood, saving around \$15,600 annually in tipping fees at the landfill and earning \$5,500 in revenue from lumber and firewood sales.

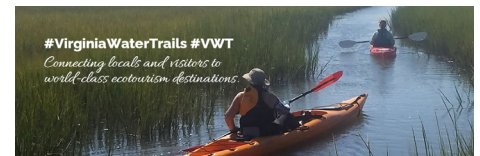


Coastal Virginia Ecotourism Alliance Virginia Water Trail

IMPLEMENTATION OF THE VIRGINIA OUTDOORS PLAN **GOLD**

In 2017, the Virginia Coastal Zone Management Program (CZM) supported the development of the Virginia Water Trails, managed by the Coastal Virginia Ecotourism Alliance (CVEA). The CVEA is a collaboration of the Northern Neck Planning District Commission (PDC), Middle Peninsula PDC, PlanRVA, Virginia Oyster Trail, Virginia Tourism Corporation and the National Oceanic and Atmospheric Administration/CZM, led by the Accomack-Northampton PDC that connects locals and visitors to world-class ecotourism destinations. CVEA has been standardizing the look and feel of water access points throughout eastern Virginia and created the Virginia Water Trails website. The site provides a unified platform for each region to share its unique water experiences with visitors and residents, and co-promotes on-shore activities of the Virginia Oyster Trail. The site shares information about water activities in a mapping-application and an events calendar, and includes safety tips and links to trip planning services. CVEA also promotes and features the Virginia Certified EcoTour Guide Course on the Virginia Water Trails website to increase

ecotourism in the Commonwealth. Site visitors can find certified EcoTour Guides and learn how to become certified themselves. The certification program trains future guides about the wildlife and habitats of Virginia, increases outdoor recreation opportunities, and promotes economic development and collaboration throughout the Virginia coastal region. More than 75 guides have been certified to date. An economic study found that ecotourism in the Middle Peninsula alone created 442 jobs and generated \$1.6 million in annual state and local tax, demonstrating the economic benefit of the ecotourism industry. Since ecotourism is reliant on healthy coastal waters, CVEA also provides educational information on the website and through interpretative signage on sites about coastal habitats, ecosystem services the habitats provide, and actions people can take to protect those resources. CVEA deliberately designed the Virginia Water Trails so that additional PDCs can join in the future – like PlanRVA – which ensures waterways throughout Virginia can be protected and enjoyed by all.



Fauquier County Upper Rappahannock River Water Trail

IMPLEMENTATION OF THE VIRGINIA OUTDOORS PLAN **GOLD**

This collaborative project involving both governmental and non-governmental organizations established the Upper Rappahannock River Water Trail, the first public access to the Rappahannock in Fauquier County. Friends of the Rappahannock River (FOR), Piedmont Environmental Council and John Marshall Soil and Water Conservation District led the planning and fundraising process that resulted in the creation of three public canoe and kayak launch sites along the state Scenic River: Riverside Preserve, Rector Track and Rogers Ford. It would not have been possible for the county to establish these public access areas without the generosity and collaborative efforts of various stakeholders. In 2019, landowner Charles McDonald donated 196 acres, creating Riverside Preserve. The American Battlefield Trust purchased and donated Rector Tract for public use. Riverside Preserve and Rector Track are held in permanent conservation easements with the Virginia Outdoors Foundation, which will protect the

historic and sensitive environmental resources of the areas while explicitly allowing for public access to the river. The public land of C.F. Phelps Wildlife Management Area contains the Rogers Ford access point. Through this project, two riparian buffers have been restored, and will be maintained and managed for invasive plants and protected for wildlife habitat. The new water access areas also provide opportunities for the public to hike along the Rappahannock, FOR to conduct more outdoor educational programs and economic benefits to the surrounding communities, such as downtown Remington. Moreover, while working on this project, Fauquier County Parks and Recreation and the Department of Wildlife Resources developed an innovative Memorandum of Understanding to determine responsibilities for the long-term management of the sites. This strategy is a resource that can be applied at future access sites planned along the Rappahannock and throughout the Commonwealth.



George Mason University Mason Sustainability Council's Circular Economy and Zero Waste Task Force

GREENING OF GOVERNMENT **GOLD**

George Mason University's Sustainability Council created the Circular Economy and Zero Waste Task Force (CEZW TF) to address the Plastic Pollution and Solid Waste Reduction initiative and conduct their plastic-use reduction efforts in two phases. During Phase One, the CEZW TF created an extensive purchasing guide of compostable foodservice items. Mason's local composting facility Freestate Farms, the Biodegradable Products Institute, and the Composting Manufacturers Association collaborated with the

CEZW TF on the guide to ensure that all identified products were healthy and safe for human use and the environment. This reference list is a valuable resource for other organizations that want to decrease their plastic use and has been viewed 650 times to date. The CEZW TF also piloted a new front-of-house composting program, communicated green purchasing requirements with the University's Fiscal Services division, and engaged all campus food vendors in transitioning their plastic and polystyrene



inventory items to certified compostables. Phase Two is currently underway. The CEZW TF is continuing to implement its 'buy less, buy better' philosophy and is converting more disposable items to sustainable and durable reusables. From April to October 2021, Mason Dining eliminated nearly 100,000 pounds of single-use plastic and polystyrene items from food service operations and diverted over 556,000 pounds of material from the landfill by composting and recycling. The CEZW TF collaborated

with all facets of the University in its mission to become zero waste and promote a circular economy; engineering students designed return receptacles for reusable dining containers and multiple faculty roundtables occurred discussing changes. Through its waste reduction efforts, George Mason has built a replicable, best practice model and created resources that other institutions can utilize to reduce their own environmental impact.



University of Virginia Waste Minimization

GREENING OF GOVERNMENT **GOLD**

The goals of the Plastic Pollution and Solid Waste Reduction initiative aligned well with the University of Virginia's (UVA) own sustainability plan. However, significant work was required to coordinate and expand these efforts due to the large size and decentralized nature of the UVA institution: UVA academically encompasses 18 million square feet of facilities and 30,000 students, faculty and staff, and UVA Health has over 8,000 fulltime employees and serves over 979,000 patients annually throughout the state. UVA's Office for Sustainability spearheaded the institution's single-use plastic reduction efforts and formed a diverse Working Group in April 2021 of over 40 employees from all facets of the UVA community. The Working Group established a plastic-use reduction implementation plan and developed a robust communications strategy to increase awareness and understanding of the requirements, and goals of the initiative. UVA hosted webinars, conducted virtual office hours, and

provided training to students, faculty, and staff about reducing waste and developed multiple helpful resources, including a list of certified compostable alternatives in their Zero Waste Guide and a Waste Reduction website. Messaging was created and distributed for the University as a whole and for specific target groups; for instance, UVA Procurement sent an email to all of its suppliers informing them of plastic items the university was no longer going to be purchasing and requesting information on available alternatives. UVA conducted further outreach through an extensive social media campaign and local news coverage, and engaged students through an undergraduate capstone course and curriculum. Since July 2021, this communication has already reached thousands of people affiliated with UVA and has successfully facilitated UVA's ongoing transition from single-use plastics to reusable and compostable items.

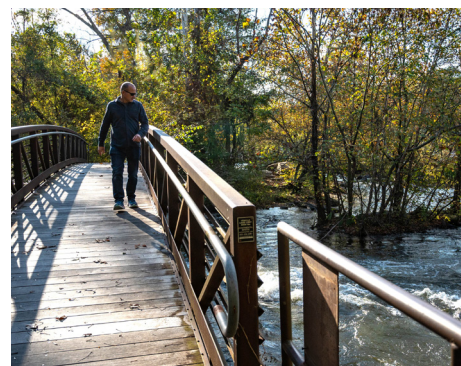


City of Petersburg Appomattox River Trail University Boulevard Overlook & Trailhead

IMPLEMENTATION OF THE VIRGINIA OUTDOORS PLAN **SILVER**

The Appomattox River Trail is a developing 25-mile long pedestrian-bicycle use trail that when fully completed will connect communities of six jurisdictions from Chesterfield to Prince George County. The City of Petersburg and Friends of the Lower Appomattox River (FOLAR) completed the University Boulevard Overlook and Trailhead to connect downtown Petersburg to this trail network. The one-third mile paved trail links the river overlook at University Boulevard with two pedestrian bridges that cross over the historic Battersea Dam and connect to the rest of the Appomattox River Trail system. The project included the installation of wayfinding signage at the trailhead, the creation of gardens with over 150 native plant species, and the removal of invasive plant species. Land adjacent to the Appomattox River

is being managed as wooded buffer and will provide a corridor of wildlife habitat and shade for the river and its ecosystems. Despite only being open for three months, the City of Petersburg has already seen a large increase in public use of the area and nearly 100 people attended its ribbon-cutting ceremony. The Tri-City Region of Virginia includes the City of Petersburg and contains localities with the lowest health outcomes and highest unemployment and poverty rates in Virginia. This project makes the Appomattox River Trail system more accessible to Petersburg residents, providing an affordable transportation option and recreational opportunities to encourage healthy lifestyles. The University Boulevard Overlook and Trailhead also promotes economic growth and tourism in downtown Petersburg.



Virginia Tech Plastic Pollution and Solid Waste Reduction Campus-Wide Working Group

GREENING OF GOVERNMENT **SILVER**

Virginia Tech (VT) has a large network of facilities throughout Virginia, including 108 Virginia Cooperative Extension offices and 11 agriculture research and extension centers. The network allows VT to achieve its mission of teaching, research and outreach. VT already had many of their own green programs underway when the Plastic Pollution and Waste Reduction initiative began in 2021. A working group of 18 campus leaders created for the initiative developed an implementation strategy focused on leveraging these existing sustainability commitments and programs. VT Dining Services has been testing more environmentally sensitive food service

items since 2008 and discontinued their use of polystyrene containers in 2015 due to these efforts. This pilot-testing program is now further helping the university to use its resources efficiently as it phases out single-use plastics by ensuring that products are fit-for purpose before purchasing them in bulk. A student Green Request for Proposal Program funds sustainable products and in 2011, resulted in the pilot of the first water refill station: 260 more stations have been installed since. Using funding from this program, the Working Group has so far diverted over 172,000 plastic straws by converting to a home and industrially compostable straw. Due to varied



composting and recycling infrastructure throughout the state, VT focused its initial implementation on its main campus in Roanoke with plans to expand successes to its other locations accordingly. In addition, Waste Consultation Services will

conduct an extensive waste and building audit on campus soon to enable VT to decrease its plastic pollution and solid waste and achieve its existing Climate Action Commitment to be a Zero Waste Campus by 2030.

William & Mary Institutionalized Composting

GREENING OF GOVERNMENT **SILVER**

William and Mary has been composting successfully since its Committee on Sustainability initiated the program in 2010, collecting pre- and post-consumer food waste and compostable cutlery in dining halls and at select drop-off locations throughout the campus. These efforts, coupled with campus dining halls previously discontinuing the use of single-use plastics and supplying reusable to-go containers, prepared the college well to meet the requirements of the Plastic Pollution and Solid Waste Reduction initiative. Since the coronavirus pandemic, William and Mary has expanded composting drop-off locations to accommodate the increase in outdoor dining. William and Mary's Dining Services manages the composting program and contracts with third-party company Natural Organic Processes Enterprises to collect and transport compost material from campus to the

industrial composting facility in Waverly, Virginia. Composting is well established and embraced by the college community and students are so passionate about these waste diversion efforts that multiple student internships have been created for the program within Dining Services. Student interns aid in William and Mary's composting by creating instructional signage that is displayed at drop-off locations and operating the composting stations at events to mitigate contamination and share information with visitors. All of these efforts resulted in William and Mary's composting program earning second place in the 2020 Race to Zero Waste competition out of all institutions of its size in the nation. Moreover, from 2017-2020, composting at William and Mary diverted 657 tons of food waste from the landfill, over five percent of the total waste generated by the university.



WILLIAM & MARY

CHARTERED 1693



Arlington-Fairfax Chapter Inc. Izaak Walton League of America Environmental Management System

SUSTAINABILITY PROGRAM **BRONZE**

The Arlington-Fairfax Chapter of the Izaak Walton League (IWLA) is a non-profit organization that owns and maintains a 110-acre recreational park for its members in Centerville. The park contains a fishing pond, hiking and nature trails, campgrounds, wildlife reserves, and active archery and shooting ranges. The organization was the first non-profit agency to become a recognized Virginia Environmental Excellence Program member in 2006 and has expanded their environmental management system (EMS) with innovative measures since then. Over the past 17 years, chapter members Mike Penders, Tom Ciarula, Ernie Padgette, and Bob Brino have been involved in the leadership, design, development, and maintenance of IWLA's EMS. The chapter regularly monitors water quality throughout its property, participates in recommended

best management practices for soil health, and engages in numerous land conservation and stewardship programs with community groups. The chapter exceeds the required phosphorus removal rates from park stormwater by utilizing a variety of management processes, including a dry swale drainage system. With its EMS, the chapter minimizes waste in its outdoor and indoor shooting ranges by using biodegradable targets and employing innovative methods to capture lead and other materials from ranges. The chapter has conducted two intensive lead collection and recycling efforts, recovering 200,000 pounds of lead in 2017 and over 250,000 pounds in 2020. The chapter has earned over \$500,000 by reclaiming, recycling, and reusing this lead and saved more than a million dollars in remediation costs.



Chesterfield County North Courthouse Library Neighborhood Connector Trail

IMPLEMENTATION OF THE VIRGINIA OUTDOORS PLAN **BRONZE**

The North Courthouse Trail was funded and constructed by Chesterfield County's Transportation Department in collaboration with three other county departments and connects the 1900-home Briarcliff subdivision with the North Courthouse Public Library and Fire Station. Completed in the spring of 2020, the paved trail is a third of a mile long and has already seen significant use by families of the subdivision, fire fighters and library visitors. There are two recreational areas located along the walking and bicycle trail that have playground and exercise equipment, providing additional recreational opportunities for the community. The

library utilizes the trail as an outdoor education area and featured books are displayed along the trail page by page. After a compliance review by the Army Corps of Engineers, Chesterfield County rerouted the trail to ensure that its path did not negatively impact sensitive wetlands, and trees felled in trail construction were repurposed for mulch in the exercise areas. Chesterfield County's comprehensive plan includes increasing trails to promote a healthy lifestyle. The success of this first library to the neighborhood trail provides a framework for several other libraries the County has identified as future locations to connect residents to public facilities.



Defense Supply Center Richmond Fuel Reduction Program

ENVIRONMENTAL PROGRAM **BRONZE**

The Defense Supply Center is an aviation demand and supply chain manager for the Defense Logistics Agency (DLA) and stores repair supplies and equipment that serves the Department of Defense. All of the buildings on the 600-acre complex of the Richmond Defense Supply Center were heated using fuel oil that was stored in aboveground and underground tanks. This fuel oil released large amounts of carbon dioxide when burned and created potential environmental hazards if tanks were to leak. When the agency decided to lessen its environmental impact in 2019, 21 facility buildings were converted from fuel oil boilers to natural gas. Paired with the installations efforts to increase energy efficiency while modernizing, the Richmond Defense Supply Center reduced the carbon dioxide it emitted by 30 percent or 5,075,000 pounds.

Storage tanks of converted buildings were removed, and 281 tons of steel and concrete from removed tanks were recycled. Recycling this material saved the agency \$65,000 in landfill costs. Fuel oil used annually was reduced by 85 percent, corresponding with cost savings of \$850,000 that paid for the cost of completing the tank removal project in less than a year. The conversion to natural gas has also decreased annual employee-hours needed by 1,750 hours, saving an additional \$87,500 in taxpayer dollars.



Virginia Tech - Office of Sustainability Student Internship Program

SUSTAINABILITY PROGRAM **BRONZE**

Virginia Tech's Office of Sustainability began its Internship Program in 2014 due to the strong student demand for more environmental programming and professional development opportunities. Each year, the Internship Program brings in 20 student interns and assigns them to one of the four focus areas of energy, water, waste or food according to their interests. Each team has an Office of Sustainability employee 'Advisor' who works to connect the students with various partners from offices and academic units throughout campus to collaboratively develop projects. Internship Program projects fall into three categories: technical partner projects, outreach and education, and large university-wide campaigns. All

contribute to Virginia Tech's Climate Action Commitment. From August 2020 to May 2021, student interns directly collected and donated 339 pounds of food to community charities, created an approved proposal to install three electric vehicle-charging stations on campus, and planted 6,000 trees with another student group. The work of the student interns has also contributed to the decrease in VT's emissions, generated solid waste, and energy use since 2014. Student interns gain real-world work experience, network with sustainability professionals, and develop professional competencies while participating in this Internship Program. Accordingly, past interns have a high placement rate in sustainability positions after they graduate.



VIRGINIA TECH.



Hitachi Energy USA Inc. Paint Line Process Improvement Project

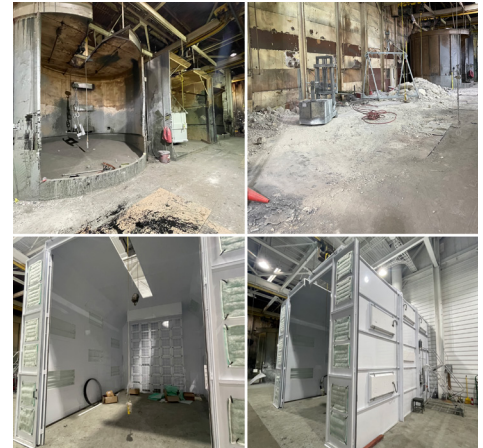
ENVIRONMENTAL PROGRAM - HONORABLE MENTION

Hitachi Energy in South Boston successfully renovated their paint line system for electrical transformers to decrease its environmental impact. The original system used flow coat paint that contained high levels of volatile organic compounds (VOCs), produced hazardous waste and required oven drying, which was powered by natural gas and produced carbon dioxide. The company developed a new process that uses paints that have significantly less VOCs, are mixed and applied with an automated process, and quickly air-dry, eliminating the need for oven drying. These

improvements increased the efficiency of the paint line by 10 percent, reduced air emissions by eight tons, saved 30,000 MMBtu of natural gas annually and decreased hazardous waste produced by 25,000 pounds a year.

HITACHI
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 **Hitachi Energy**



Smith Creek Watershed Partnership C/O Ridge to Reefs, Inc. Yancey Bioreactor

ENVIRONMENTAL PROGRAM - HONORABLE MENTION

Smith Creek Watershed Partnership and Ridge to Reefs worked together to install the Yancey Bioreactor on Yancey Smith Creek Headwaters Farm to filter legacy nitrates, nitrates that have accumulated over decades of land use, out of a spring that feeds into Smith Creek. Installed in 2020, it is one of the first denitrifying spring bioreactor in Virginia and decreases a form of nitrogen pollution previously unaddressed by Chesapeake Bay cleanup efforts. The Yancey Bioreactor treats an average of 125,000 gallons of water per day and its anaerobic bacteria convert approximately

2,000 pounds of nitrate into harmless di-nitrogen gas each year; this reduces the nitrate load of the spring by 20-30 percent. To date, the Yancey Bioreactor has removed 2,677 pounds of nitrogen pollution at a cost of less than \$1 per pound.



