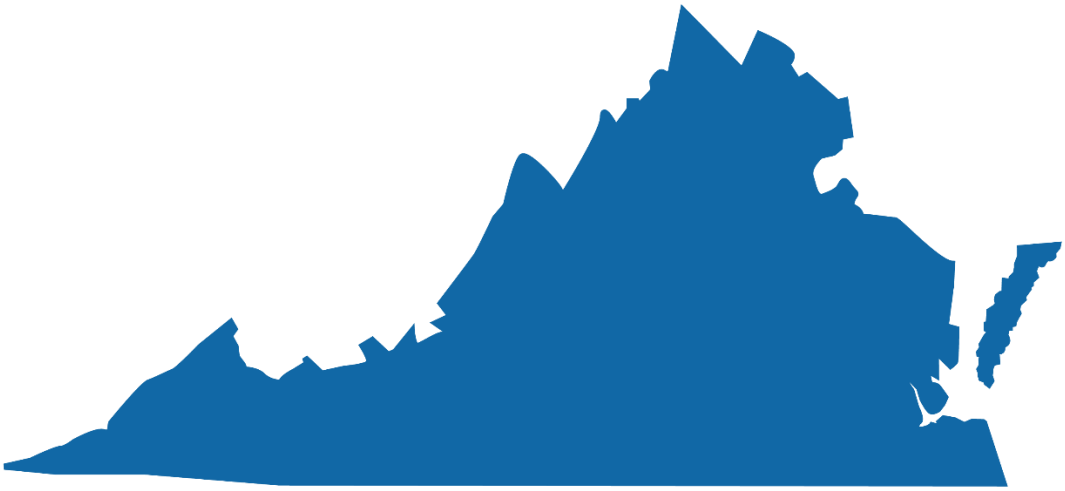
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

2025 CONSOLIDATED ANNUAL REPORT

Commonwealth of Virginia

Department of Environmental Quality



December 2025

EXECUTIVE SUMMARY

This is the first Consolidated Annual Report submitted by the Virginia Department of Environmental Quality (DEQ) to the Governor and General Assembly pursuant to § 10.1-1183.1 of the Code of Virgina. Chapter 112 of the 2024 Acts of Assembly (HB 1379) established § 10.1-1183.1 of the Code of Virginia, which became effective on January 1, 2025. This statutory provision consolidated multiple existing stand-alone reports into a single Consolidated Annual Report. Submission of the Consolidated Annual Report to the Governor and the General Assembly satisfies the statutory reporting requirements for the individual reports included in this report.

As provided for in § 10.1-1183.1 of the Code of Virginia, this Consolidated Annual Report includes the following reports in each year:

1. The **FY2025 Pollution Prevention Annual Report** required by § 10.1-1425.17 of the Code of Virginia. This report describes DEQ's Office of Pollution Prevention's activities and highlights the recipients of the Governor's Environmental Excellence Awards.
2. The **Air Quality and Air Pollution Control Policies of the Commonwealth of Virginia Report**, required by § 10.1-1307 of the Code of Virginia. This report details the status of Virginia's air quality, provides an overview of air division programs, and briefly summarizes federal and state air quality programs.
3. The **Virginia Annual Water Resources Report** required by § 62.1-44.40 of the Code of Virginia. This report focuses on water quantity and supply, summarizing reported water withdrawals for the 2024 calendar year and identifying water withdrawal trends.
4. The **2025 Annual Solid Waste Report for CY2024** required by § 10.1-1413.1 of the Code of Virginia. This report describes the amount of solid waste managed in the Commonwealth during the preceding calendar year.
5. The **2023 Virginia Toxics Release Inventory Report** required by § 10.1-1186.1 of the Code of Virginia. This report provides chemical use, release, and waste management information to the public using calendar year 2023 industry reports, which is the most recent available year of data.
6. The **Eastern Virginia Groundwater Management Advisory Committee 2025 Annual Report** required by § 62.1-256.2 of the Code of Virginia. The report describes the four meetings of the committee that were held from July 1, 2024 through June 30, 2025.
7. The **Virginia Roanoke River Basin Advisory Committee 2025 Annual Report** required by § 62.1-69.35:2 of the Code of Virginia. The committee did not meet in 2025.
8. The **Roanoke River Basin Bi-State Commission 2025 Annual Report** required by § 62.1-69.44 of the Code of Virginia. The commission did not meet in 2025.

In addition, because this report is submitted in an odd-numbered year as provided for in § 10.1-1183.1 of the Code of Virginia, this Consolidated Annual Report includes the following reports:

9. The **Evaluation of Administrative Fees for Aboveground Storage Tank Facilities, Pipeline Facilities and Tank Vessels that Store and Handle Oil** required by § 62.1-44.34:21 of the Code of Virginia. This report provides an evaluation of DEQ's implementation of the fee programs established under Article 11 (Virginia Code § 62.1-44.34:14. et seq.) of the State Water Control Law (SWCL) for aboveground storage tank facilities, pipeline facilities, and tank vessels that store and handle oil for the 2022 and 2023 fiscal years.
10. The **Reduction of Toxics in State Waters 2025 Biennial Report** required by § 62.1-44.17:3 of the Code of Virginia. This report documents the Commonwealth's commitment to improving water quality, specifically in relation to chemical contamination which may induce toxic effects on aquatic life, other wildlife, or on human health.

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A. FY2025 Pollution Prevention Annual Report

B. The Air Quality and Air Pollution Control Policies of the Commonwealth

C. Virginia Annual Water Resources Report

D. 2025 Annual Solid Waste Report for CY2024

E. 2023 Virginia Toxics Release Inventory Report

F. Eastern Virginia Groundwater Management Advisory Committee 2025 Annual Report

G. Virginia Roanoke River Basin Advisory Committee 2025 Annual Report

H. Roanoke River Basin Bi-State Commission 2025 Annual Report

I. Evaluation of Administrative Fees for Aboveground Storage Tank Facilities, Pipeline Facilities and Tank Vessels that Store and Handle Oil

J. Reduction of Toxics in State Waters 2025 Biennial Report

A

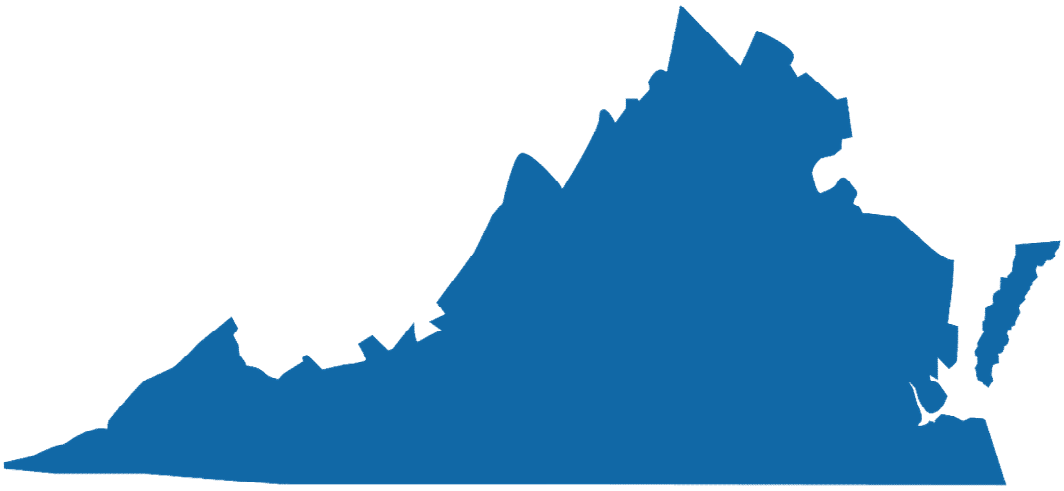
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

FY2025 POLLUTION PREVENTION ANNUAL REPORT

Commonwealth of Virginia

Department of Environmental Quality

Office of Pollution Prevention



December 2025

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EXECUTIVE SUMMARY

The Department of Environmental Quality supports its mission to protect and enhance the environment of Virginia in multiple ways. DEQ administers laws and regulations related to air quality, water quality, water supply, renewable energy, and land protection. In addition, DEQ has programs that encourage its customers to go beyond these regulatory requirements. The Office of Pollution Prevention (OPP) coordinates programs that aim to improve Virginia's environment, by avoiding environmental waste as opposed to managing it. These programs allow DEQ to recognize environmental leaders and demonstrate how DEQ can proactively partner with customers.

Since 1994 DEQ has summarized its pollution prevention (P2) activities in an annual report. In 2025, the report became part of DEQ's consolidated annual report, which is submitted at a slightly different time of year. To accommodate this change, the pollution prevention report will shift to covering activities during the fiscal year. As a result, this report covers a 6-month period from January through June 2025. Beginning in 2026, the report will cover the entire fiscal year.

A few highlights include:

- Hosting a regional workshop to share pollution prevention best practices and support participants of the Virginia Environmental Excellence Program with networking opportunities, specifically a networking session with DEQ regulatory staff.
- Continuing pollution prevention outreach through Virginia Green to micro-brewers through site visits and recognition.
- Preparing to launch the Food Rescue and Composting Subaward Program to provide colleges and state agencies funding to reduce the amount of wasted food being sent to landfills by supporting food waste prevention, food rescue, and food waste composting.

DEQ remains committed to protecting Virginia's natural resources, and OPP will continue to play a key role through its programs that benefit businesses, institutions, communities, and citizens. OPP will continue to promote pollution prevention practices through the Virginia Environmental Excellence Program, Virginia Green, Governor's Environmental Excellence Awards, DEQ's Environmental Management System, and the Food Rescue and Composting Program. In addition, OPP will start a pilot program focusing on auto shops using U.S. Environmental Protection Agency (EPA) funding.

VIRGINIA ENVIRONMENTAL EXCELLENCE PROGRAM

BACKGROUND

The Virginia Environmental Excellence Program (VEEP) recognizes facilities that have demonstrated a commitment to enhanced environmental performance and encourages innovations in environmental management.

Since 2000, DEQ has promoted the non-regulatory VEEP as a mechanism to encourage "beyond-compliance" environmental results. VEEP provides recognition and incentives to facilities meeting the program requirements. There are two separate and distinct VEEP tracks: Sustainability Partners (SP) and the Environmental Management System (EMS) track.

VEEP SP is designed to encourage organizations to make environmental sustainability part of their culture through leadership, innovation, and continual improvement and provides recognition to members. An EMS is not a requirement to be an SP.

The **VEEP EMS** track has three levels of participation, all supplying recognition and other benefits such as permit fee discounts, a single point of contact at DEQ, and recognition. Each level of the EMS track builds on the previous level, requiring a more robust system to identify and address environmental risks. The three levels of participation for the VEEP EMS track are:

- **E2** (Environmental Enterprise) for facilities that have made significant progress toward the development of an EMS, have made a commitment to pollution prevention, and have a record of sustained compliance with environmental regulations.
- **E3** (Exemplary Environmental Enterprise) for facilities that have exceeded the E2 requirements and have a fully implemented EMS.
- **E4** (Extraordinary Environmental Enterprise) for facilities that have exceeded the E3 requirements, have completed at least one full cycle of an EMS as verified by a third-party auditor, and have demonstrated a commitment to continuous and sustainable environmental progress and community involvement.

OPP administers VEEP, which includes reviewing applications and renewals, performing site visits, coordinating compliance reviews, organizing recognition events, and providing educational resources. Throughout the year, OPP reviewed and provided comments on approximately 20 EMS track applications and 5 SP applications, representing over 125 Virginia facilities.

2025 VEEP HIGHLIGHTS

OPP works continuously to support, promote, and improve VEEP and its goals. This includes keeping program participants up to date, reaching out to potential new members, and improving internal systems to provide better support.

Pollution Prevention Resources

OPP works throughout the year to highlight real world P2 examples, identify successful new technologies, and encourage Virginia facilities to implement P2 practices. OPP maintains a series of Case Studies that feature facilities that have implemented these P2 strategies as a resource. The office also promotes P2 by providing guidance to organizations by request, during program-related site visits, and connecting during outreach events. Examples of this outreach include the following:

- **VEEP Workshop**: OPP hosted a VEEP Workshop at Brightpoint Community College in Chester on July 15 in DEQ's Piedmont Region, which was attended by over 65 people, making it one of the most well attended workshops to date. The event included the opportunity to network with DEQ regulators and learn from sessions on energy efficiency, recycling, and general pollution prevention efforts. The workshop also provided significant opportunities for networking with peers. In a survey following the event, 90% of respondents noted that the content was relevant and that they learned something that would improve their environmental programs. OPP is planning a similar event in the Tidewater Region for later in 2025.

Left: DEQ's Piedmont Regional Office Director, Jerome Brooks, welcomes participants to the VEEP workshop.

Right: Coles Jennings and Jacqui Bauer of the Community Climate Collaborative lead a session on energy efficiency during the workshop.

- **P2 Walk-Throughs**: As part of a recent EPA grant, OPP received funding to conduct P2 walk-throughs at seven facilities to identify P2 opportunities. These facilities must be within the specific industrial categories identified by EPA as a result of their high potential for P2 opportunities, including:

  1. Food and Beverage Manufacturing and Processing
  2. Chemical Manufacturing, Processing, and Formulation
  3. Automotive Manufacturing and Maintenance
  4. Aerospace Product and Parts Manufacturing and Maintenance
  5. Metal Manufacturing and Fabrication

  These walk-throughs were done in parallel with regulatory inspections at the sites. OPP then

2025 Walk-Throughs Completed

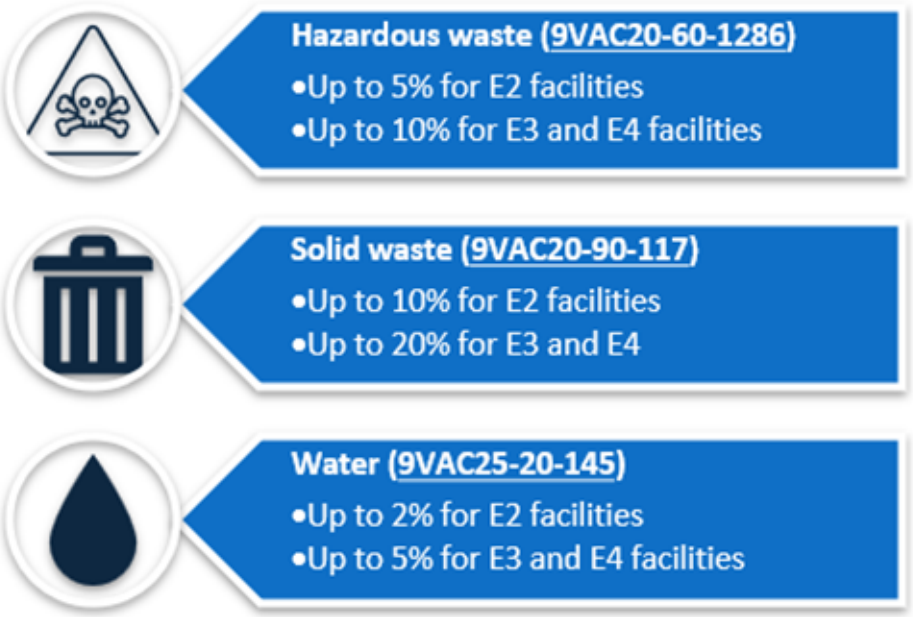
- SIPCA Securink Corporation
- ChemTreat
- Commonwealth Galvanizing
- Celanese Acetate
- Gerdau Long Steel North America

At least two additional walk-throughs are planned for the upcoming year.

provided P2 feedback and suggestions to the sites independent of any regulatory feedback. Areas of emphasis have been on reducing hazardous waste, energy and water conservation, and opportunities to establish renewable energy. OPP staff will follow up on the P2 recommendations suggested and provide additional implementation details on any of the suggested P2 practices in which a facility is interested. Additional walk-throughs are planned for the upcoming year.

Annual Permit Fee Discounts for VEEP Facilities

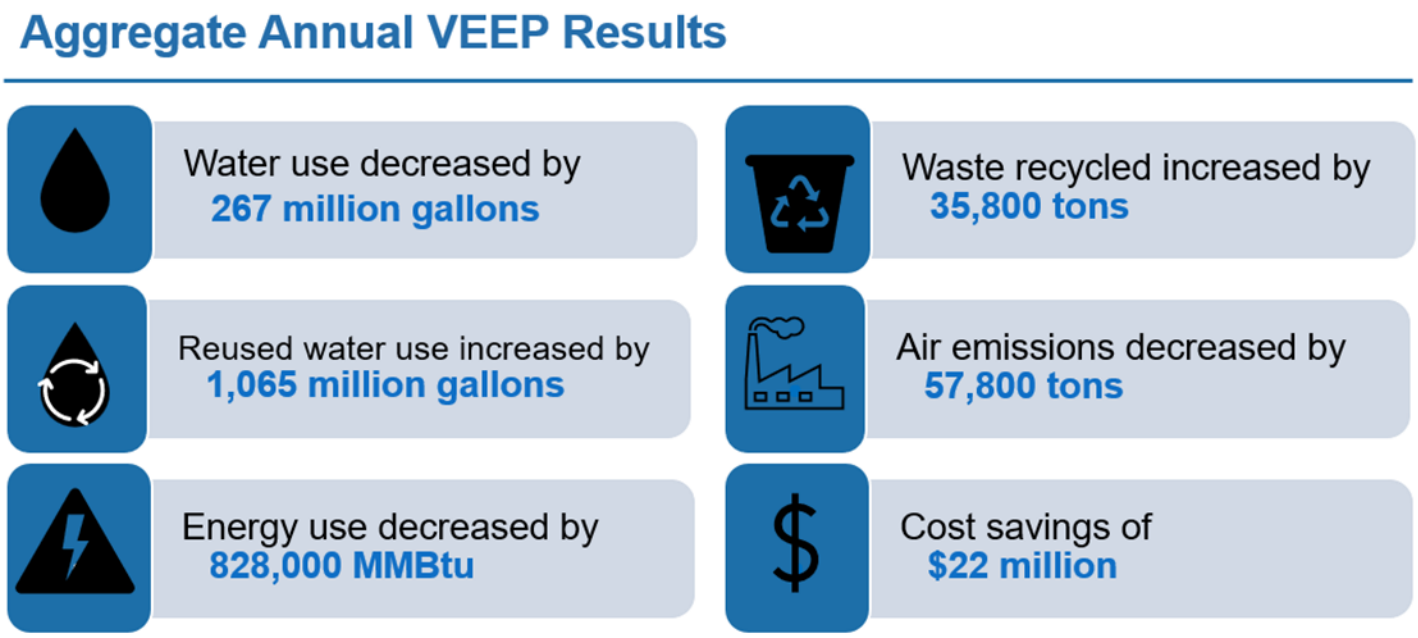
When legislation establishing annual permit fees for facilities was enacted, the General Assembly acknowledged that VEEP members "go beyond" compliance and determined that their improved environmental performance merited permit fee discounts. The discount varies by permit type and membership level as shown on the right.



The total discounts available for each media is capped at a fixed level, and the discount received will drop if the total is exceeded. In 2025, VEEP members received discounts on 96 permits. The total member savings was approximately $156,000.

Environmental Results

To remain in VEEP's EMS track, members must submit an annual progress report including detailed metrics. When applying for and renewing participation, facilities select from a list of more than 40 environmental indicators that they then use as the basis of their VEEP annual reporting. Members report results in both actual and normalized quantities (i.e., results based on product, number of employees, etc.). Normalized results allow facilities to better compare year-to-year performance. In their annual application, VEEP SP members also include quantifiable results using the same indicators.



Results from P2 initiatives implemented reported in 2025 are based on calendar year 2024 accomplishments. The overall program results, as presented above, are normalized and should be considered a general indication of VEEP facility performance because: (1) the program is voluntary and data is submitted by the facilities; (2) facilities may have limited experience tracking environmental results data; and (3) the aggregate results are a snapshot from one year and may not reflect overall reduction trends.

VIRGINIA GREEN TRAVEL

BACKGROUND

Virginia Green is the Commonwealth's voluntary initiative to promote P2 practices across all sectors of the tourism industry. Participating tourism businesses and organizations voluntarily commit to engage in P2 practices in the areas of waste reduction, water and energy conservation, and in the support of green events and meetings. OPP oversees development of programmatic guidance and requirements for membership. Coordination of the application review process, marketing, and promotion is done by DEQ's partners: the Virginia Green Travel Alliance (VGTA), the Virginia Tourism Corporation (VTC), Virginia State Parks, and the Virginia Restaurant, Lodging, and Travel Association.

VGTA, a fully accredited 501(c)(3) non-profit organization, was created in 2014 to help promote Virginia Green and its partners. The VGTA processes all Virginia Green certification applications, promotes program partners on the VGTA website and social media outlets, and administers outreach efforts, including promoting companies that supply environmentally friendly products.

Run by the VGTA, the certification process is fee-based and includes two levels of participation. The Commitment Level, Virginia Green's entry level, requires that a tourism business certify that it has made commitments to implement sustainable practices. Many businesses start at the Commitment Level and work towards being Fully Certified, which means that they have implemented a required number of sustainable practices in various categories such as recycling and waste reduction, water and energy conservation, and green event management. Fully Certified Partners submit an application that requires photographs and additional documentation of the green programs they have implemented.

2025 VIRGINIA GREEN HIGHLIGHTS:

OPP has maintained an active role in Virginia Green by continuing to provide technical resources and oversight of the certification standards.

Virginia Green Resources

OPP has worked with the VGTA and other partners to promote the implementation of P2 initiatives and to look for opportunities where providing additional resources would increase implementation of green practices. VGTA and DEQ have hosted virtual Virginia Green Tourism Forums which have featured environmental issues, opportunities, and success stories that affect Virginia's tourism industry. A list of the recent forums is below, and recordings of all previous forums are posted on the OPP website. More forums are scheduled for the coming months.

- A New Day! The Re-Branding/Re-Launching of the Virginia Green Travel Program
- Massanutten Resort's Holistic Approach to Sustainability

Expanded Polystyrene (EPS) Ban Awareness

In 2021, the General Assembly passed legislation banning food vendors from using expanded polystyrene (EPS) food service containers. The ban's effective dates are based on the size of the food establishment:

- July 1, 2025 for food establishments with 20 or more locations, and
- July 1, 2026 for remaining food establishments.

Virginia Green has been working to raise awareness of the requirement to transition away from EPS containers. Virginia Green members are an excellent resource, as being a foam-free establishment has been a Virginia Green requirement since the program began.

Brewery Outreach

Funded in part by a grant from EPA, OPP has continued its outreach targeted at breweries. This outreach aims to increase recognition of green breweries in Virginia and highlight successful practices that reduce pollution while lowering costs. OPP has partnered with the VGTA to visit breweries, document best practices, and provide feedback on improving environmental performance. Following the visits, each brewery is provided with feedback that includes potential resources available to brewers and actionable items to help improve environmental performance. OPP is currently working to collect implementation information to assess results and is partnering with Craft Beer Professionals, a national network supporting brewers, to recognize participants at an upcoming Virginia based event.

Annual Virginia Green Conference and Awards Ceremony

The 12th annual Virginia Green Travel Conference and Green Travel Star Awards Ceremony was held at Busch Gardens in Williamsburg on March 20-21. The conference focused on engaging and innovative ways to address sustainability programs in the tourism industry, including interactive methods of obtaining feedback. Tourism professionals from across the Commonwealth gathered to discuss sustainable solutions that protect Virginia's environment while increasing local and regional tourism.

The Virginia Green Travel Star award winners were announced during the conference. This year, ten Virginia tourism operations received the program's highest award level, the Virginia Green Travel Star Award. Seven additional tourism businesses were recognized with a Virginia Green Travel Leader Award for their continued environmental stewardship, seven businesses received honorable mentions, and six individuals received the Green Team All-Star Award for their leadership of their organization's green efforts.

Planning is underway for the 2026 conference and awards. The awards application will continue to emphasize providing data to document the benefits of the programs being implemented.

Highlights from the Virginia Green Travel Awards

Massanutten Resort

GREEN ATTRACTION OF THE YEAR

Massanutten Resort diverts more than 125 tons of recyclable material from the landfill annually. To conserve water when snowmaking, the resort uses high efficiency snow guns, and water is sourced from on-site retention ponds. The resort installed 200 LED lights on its slopes for night skiing and snowboarding, and is committed to using Energy Star equipment.

Patch Brewing Company

INNOVATIVE GREEN PROJECT

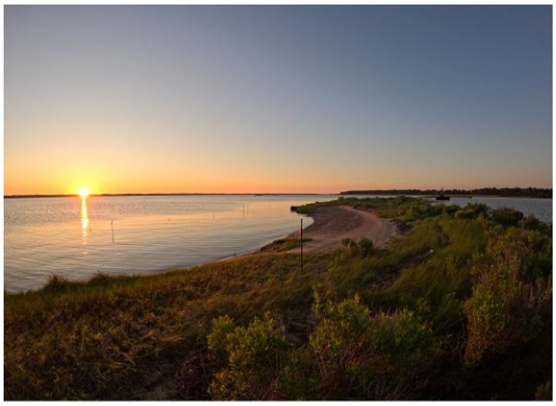
Patch Brewing Company implemented a spunding project to reduce the total use of carbon dioxide (CO_2) in the brewery. The spunding process allows brewers to capture the CO_2 that is produced naturally during the fermentation process of making beer and use it to carbonate the beer. The process saves approximately 1,000 pounds of CO_2 annually and saves time and money.

GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARDS

BACKGROUND

The Governor's Environmental Excellence Awards recognize successful and innovative efforts that improve Virginia's environment. The awards program is run annually by DEQ in partnership with the Department of Conservation and Recreation. There are four broad categories of awards: Program, Project, Land Conservation, and Implementation of the Virginia Outdoors Plan.

On April 8, the winners of the 2025 Governor's Environmental Excellence Awards were announced at the Environment Virginia Symposium held at the Virginia Military Institute. This year, Governor Youngkin recognized 11 winners and three honorable mention recipients as Virginia's environmental leaders. Summaries of all those recognized are included in the following pages.



Photos from top to bottom:
Naval Weapons Station Yorktown: Living Shoreline Project
Department of Defense: Chesapeake Bay Program
HRSD: James River Land Improvements - Trails Phase

GOLD

Department of Defense

CHESAPEAKE BAY PROGRAM

The Department of Defense (DoD) was one of the first federal departments to be formally involved in Chesapeake Bay watershed restoration efforts. These efforts advance the goals and outcomes of the Chesapeake Bay Watershed Agreement in Virginia. DoD's Chesapeake Bay Program (CBP) not only sustains but improves the health of the Bay and its broad value for the welfare of the Commonwealth's residents. The CBP's success is rooted in staff and partners' commitment and dedication.

One example of CBP's commitment is the leadership roles taken by its members within the broader multi-state Chesapeake Bay Program Partnership, which works together to protect the bay. DoD's CBP team also ensures that Virginia's military installations are leading in actions taken to protect the bay. They host internal quarterly meetings with all Bay Watershed installation staff and stakeholders to facilitate cross-service information exchange, success-story sharing, and updates on relevant topics.

The CBP completes annual progress evaluations for all installations, including annual strategic planning meetings, tracking implementation status, and reporting on metrics. The Chesapeake Bay benefits from the expertise the CBP shares with other installations. For example, DoD's CBP Coordinators played a pivotal role in partnering with many others to put forth a successful application package resulting in the formal designation of two Sentinel Landscape Partnerships in the Commonwealth.

Staff from DoD CBP have also worked to review draft guidance on the beneficial use of dredged material and to support DoD living shorelines by serving as a resource for others in the engineering and development of living shorelines. In the last 2 years, their efforts have led to the installation of over 4,000 linear feet of shoreline restoration, 1,000 feet of stream restoration, 125 acres of impervious surfaces treated, and 44 acres of trees planted.■

Hampton Roads Sanitation District

GOLD

JAMES RIVER LAND IMPROVEMENTS - TRAILS PHASE I

Hampton Roads Sanitation District (HRSD), in partnership with the City of Newport News, developed a mile of new trails around Riverview Farm Park as part of the Sustainable Water Initiative for Tomorrow (SWIFT) program. Located near its James River Treatment Plant, HRSD completed the first phase of trail upgrades to Riverview Farm Park, including a new trail system with boardwalks along Flax Mill Creek, Deep Creek, and the James River.

The project also features pathways connecting to boardwalks, along with trailheads, scenic overlooks, and parking facilities. HRSD and the City of Newport News reached an agreement for HRSD to purchase property and install the aquifer replenishment wells in exchange for enhanced amenities and new trails at Riverview Farm Park. The additions help protect wildlife, improve access to amenities, and foster a greater understanding of the importance of sustainability for future generations of the City of Newport News.

HRSD hosted multiple open houses and engagement events to gather feedback on desired park amenities from the community. These trails not only provide safer, longer paths, but also serve as an educational resource for younger generations, allowing them to explore local ecosystems and the history of the park.

The new trail systems provide expansive views of the water and surrounding natural areas that were previously inaccessible to the public, while allowing for aquifer replenishment.■

swift
Powered By HRSD

GOLD

Naval Weapons Station Yorktown

PENNIMAN SPIT LIVING SHORELINE PROJECT: INSTALLATION RESILIENCE & ECOSYSTEM ENHANCEMENT

The US Navy partnered with the Virginia Institute of Marine Science to design and permit a living shoreline restoration project. Through this project, Naval Weapons Station Yorktown reduced erosion along three miles of shoreline, fortified federal Superfund sites, protected military training grounds, complied with the Sikes Act for natural resource protection, supported the 2014 Chesapeake Bay Agreement's environmental objectives, and preserved the unique ecosystem of the York River.

This project used an innovative design for a living shoreline, addressing long-term sea level rise by elevating all project elements to higher elevations. This proactive approach helps future-proof the shoreline against the impacts of rising waters. Additionally, the project incorporated new, alternative substrates for oyster attachment, which are manmade structures designed with varied configurations to maximize surface area, encouraging oyster recruitment and supporting ecosystem health.

One of the standout features of the project was its use of grant funding from the Readiness and Environmental Protection Integration Program (REPI) and the REPI Challenge Grant Program.

By combining cutting-edge engineering design, a commitment to environmental stewardship, and strategic funding, this project not only enhances coastal resilience but also contributes to the longterm sustainability of local ecosystems and economics. Its success paves the way for similar initiatives aimed at mitigating the effects of sea level rise while preserving vital marine habitats.

The Penniman Spit Living Shoreline makes a significant contribution to environmental conservation and restoration by

addressing critical ecological and community health concerns along the York River. By restoring a spit that protects a unique soft mud bottom habitat, the project safeguards a biodiverse ecosystem essential to river fauna. The innovative methods employed in this initiative incorporate elements of hybrid living shorelines, including oyster reef sills and alternative oyster reefs, to enhance resilience.■

BEFORE

AFTER

BEFORE

SILVER

Arlington County Department of Environmental Services

BALLSTON WETLAND PARK

Arlington County Department of Environmental Services retrofitted Ballston Wetland Park, which improves stormwater flow and serves as a wildlife refuge. This project converts a neglected dry pond into a constructed wetland, which includes design features such as a forebay to collect sediment, a Watergoat trash net to collect floating debris, multiple water channels to maximize water quality treatment, various types of wetland habitat for wildlife, a new viewing platform for educational purposes, and a trash rack at the outflow to collect trash for removal.

Cleared of sediment and now capable of taking excess rainwater from 450 surrounding acres, the retrofitted Ballston Wetland improved stormwater flow and filtering, in addition to the capture of trash, while also serving as a wildlife refuge and pastoral commons in Ballston's urban core. Retrofitting the pond to provide more water quality treatment is an innovative conversion of an underutilized space to provide water quality benefits, wildlife habitat, recreational benefits, and educational value.

The project also helps the County comply with its municipal separate storm sewer permit requirements and contributes to restoring the Chesapeake Bay. The wetland the single largest water quality treatment facility in Arlington, treating stormwater from 230 impervious acres and removing over 150 pounds of phosphorus, 1,250 pounds of nitrogen, and 126,000 pounds of sediment a year, which is equivalent to 10% of the County's Chesapeake Bay clean-up target.

The wetland also maintains the pond's design to reduce peak flows in Lubber Run by 30%, reducing flood risk and making Arlington more flood resilient.■

AFTER

SILVER

Department of Corrections (DOC) State Farm Correctional Complex

STATE FARM CONSERVATION PROJECT - JAMES RIVER SUBWATERSHED RESTORATION

Through the State Farm Conservation Project, DOC's Agribusiness Unit mitigates natural resource degradation through efforts that promote soil stabilization, encourage natural regeneration in wetlands, and reduce nutrient and sediment runoff at the State Farm Correctional Complex. DOC's Agribusiness Unit is charged with assisting DOC Food Service by producing and distributing foods to reduce the department's institutional food cost and oversees a 4,500-acre farm operated by staff and inmates.

The Conservation Project represents the first quadrant of a four-part initiative. Its planning began in fall of 2020 and was completed in fall of 2023 thanks to the input of many partners. The completed portion of this restoration project improves natural regeneration and provides a healthy environment for livestock. To reduce pollutants from entering the watershed, DOC installed over 5,500 linear feet of fencing, installed 13 water troughs, and planted nearly 26 acres of forested riparian buffer with native hardwood species. These ongoing efforts promote soil stabilization, natural regeneration in wetland and riparian areas, and reduce nutrient and sediment runoff.

The project has provided training for numerous inmates and allowed DOC to pilot the Chesapeake Bay Landscaping Professional certification through Wetlands Watch, the James River Association, and the Virginia Cooperative Extension. Inmates with farm work assignments learn new skills, providing a competitive advantage upon re-entry.■

BEFORE

AFTER

BEFORE

AFTER

SILVER

Giles County

TRAIL CENTER AT MOUNTAIN LAKE LODGE

The newly opened Giles County Trail Center at Mountain Lake is an exemplary project supported by the Virginia Outdoors Plan. The Trail Center provides residents and visitors with information on the rich diversity of outdoor recreation opportunities within Giles County, which drive the County's tourism industry. The Center promotes access and awareness of the many opportunities in Giles, including over 50 miles of the Appalachian Trail, 37 miles of the New River, and world-class fishing and hunting.

The Trail Center meets all the criteria of the Virginia Outdoors Plan for a regional featured project, including both statewide and regional significance, addresses needs identified in the Virginia Outdoors Demand Survey, and has the support of multiple jurisdictions. The Trail Center, through its promotion of the multitude of outdoor recreation opportunities in the area, is designed to help reduce pressure on some of the locations that realize excessive visitation.

Many partners came together to make this project a reality. Giles County sees the Trail Center as a service that provides value to its residents, visitors, and businesses, demonstrating that the County should be providing these services supporting human health and economic development.■

Giles
VIRGINIA'S MOUNTAIN PLAYGROUND®

SILVER

Historic Germanna

SIEGEN FOREST TRACT & GERMANNA FORD BOAT LAUNCH

Historic Germanna's 164-acre open space easement safeguards the historically significant Germanna Ford area along the Rapidan River, a key site during early European settlement and the Civil War, while also improving year-round public access to the river. Held by the Virginia Department of Historic Resources, the easement ensures the site's long-term preservation and protection.

Partnerships among environmental groups, historic preservation organizations, government entities, and community stakeholders ensure the protection of this cultural and ecological landmark while promoting public engagement and education.

Because of the proximity to water, diversity of plant life, and complex structure, riparian forests like those of the Siegen Forest provide critical habitat to hundreds of wildlife species. These areas are especially important to migratory birds, providing a place to rest and feed during their long journey. The Siegen Forest Tract is now accessible to the public 365 days a year.■

SILVER

The Mariners' Museum & Park

MARINERS' ENVIRONMENTAL INITIATIVE

The Mariners' Environmental Initiative engages students and educators through high-quality environmental education programming at no cost, while increasing environmental literacy and empowering students to embrace an active role as environmental stewards. During the pandemic, many local environmental education providers closed their doors or significantly reduced their outreach efforts. The cost of these experiences, coupled with the additional strain from a lack of personnel to transport students to these experiences, made it difficult to provide environmental education.

In 2020, the Museum began to assess how Mariners' Park could best serve students, the largest and most important segment served, and in turn, the broader community. The project was initially funded through a Chesapeake Bay Watershed Education and Training Program Grant. This three-year project was the beginning of a transformative effort among community partners from private, public, higher education, and nonprofit organizations to improve learning outcomes among students and to encourage the next generation of environmental stewards.

The Mariners' Environmental Initiative was thoughtfully designed to improve the health and sustainability of Mariners' Lake and the broader Chesapeake Bay Watershed through engagement with 9th-grade students through hands-on, nature-based learning experiences. This initiative not only aids in restoring the local ecosystem but also allows students to witness the positive, tangible effects of their actions, emphasizing the importance and power of community-based environmental restoration efforts.

The Mariners' Environmental Initiative offers a unique, equitable approach to environmental education, addressing gaps in access for underserved students on the Virginia Peninsula by providing barrier-free access, place-based learning, and student leadership.■

BRONZE

Arlington County Solid Waste Bureau

ON-STREET FOOD SCRAPS COLLECTION FOR MULTI-FAMILY BUILDING RESIDENTS

Arlington County's Solid Waste Bureau (SWB) launched an On-Street Food Scraps Collection for Multi-family Building Residents program to reduce the amount of food waste in the trash stream. The program focuses on residents with limited access to food waste diversion by creating a system that allows residents in apartment buildings and condos to compost.

The program provides 14 collection sites located in high-density multi-family areas that are conveniently spread around the County. The collection sites are equipped with smart collection bins that remotely indicate container fullness levels and display container locations for users through an online tool. This

technology benefits both residents and collection staff. Residents can check the available capacity before heading to a bin, ensuring there is sufficient space for their food waste. Collection staff can optimize pickups by reducing unnecessary stops.

SWB paired its food waste collection efforts with a program to educate residents about avoiding food waste, enabling them to address the source of wasted food. In less than six months, the County was able to divert almost 19 tons of food waste, reducing methane emissions and creating a nutrient-rich soil amendment.■

BRONZE

Fairfax County Park Authority Farmers Market Program

FOOD SCRAPS COLLECTION AT THE FARMERS MARKETS

The Fairfax County Park Authority Farmers Market Program runs its Food Scrap Collection at the Farmers Markets. In 2020 the Department of Public Works and Environmental Services began a pilot program, allowing the public to drop off food waste at locations at two farmers markets. Since then, the program has grown to all 10 farmers market locations, providing an opportunity for even more County residents to divert food waste to composting. Of the participants who are now composting food waste, 48% had never composted their food waste before this opportunity. In addition, three quarters of the participants said they were likely to continue participating in the program by continuing to bring food waste to collection points.

In the last year, over 70 tons of food waste has been collected. Fairfax is the most populous County in Virginia, and the Farmer Market collection sites provide a cost-efficient way of providing compost collection. The program has been funded through 2028 with funds coming from the plastic bag tax revenue fund.■

BRONZE

Marstel-Day with Partners New River Land Trust & The Nature Conservancy

EASTERN DIVIDE CONSERVATION PLAN & PARTNERSHIP

Marstel-Day, in coordination with The Nature Conservancy (TNC) and the New River Land Trust (NRLT), developed the Eastern Divide Partnership GIS Strategic Conservation Plan using a data-driven framework for prioritizing conservation efforts. Through GIS analysis, the project evaluated critical factors including biodiversity, water quality, forest resilience, scenic viewsheds, and agricultural value throughout the study area.

Marstel-Day led all technical development, while NRLT and TNC served as advisors for the plan and GIS tool development, providing guidance and expertise that shaped the effort. Engagement from the partners was critical in shaping this stakeholder-driven model. Partners also led direct engagement with a larger group of Eastern Divide conservation partners that reviewed the project.

NRLT and TNC currently lead implementation of the Eastern Divide Conservation Partnership, which leverages this plan and tool for improved conservation decision-making. The project aims to enhance ecological resilience, climate adaptation, and landscape connectivity.

This effort demonstrates the value of multi-criteria conservation planning to ensure long-term sustainability and resilience in managing natural landscapes given limited resources.■

HONORABLE MENTIONS

Henrico Dept. of Public Works, Environmental Services Div., Vector Surveillance & Control

MOSQUITO ELEMENTARY OUTREACH PROGRAM

Henrico Department of Public Works Environmental Services Division's Vector Surveillance and Control group initiated the Mosquito Elementary Outreach Program to engage the County's youngest residents in its efforts to control mosquitos. The program is designed to educate students in grades K-2 on how to control mosquitos in their own yards. The program focuses on controlling mosquitos without the use of chemicals, which can be devasting to other insect species, including pollinators. By including information on anatomy, life cycle, and habitats into the program, it aligns with the Virginia Standards of Learning objectives for those grade levels, adding value to schools.■

Rappahannock Regional Solid Waste Management Board

COMPOST OUTREACH PROGRAM

Stafford County's Rappahannock Regional Solid Waste Management Board (R-Board) developed an outreach program focused on composting. The program aims to educate residents on proper composting techniques and to encourage more households to compost.

The program offers composting classes and Mini-Compost-A-Thon events, where participants learn about backyard composting from a Master Gardener and receive complimentary compost bins and starter kits. In the program's two years, over 1,500 residents have participated. By providing information and tools, the program helps residents successfully compost at home and reduces the amount of food and yard waste being landfilled.■

What About the Turtles

TANYA'S TURTLE PROJECT

Tanya's Turtle Project, coordinated by the non-profit What About the Turtles, collaborates with construction contractors to remove turtles that become trapped by perimeter silt fencing. Silt fencing, which often encloses an entire area to reduce runoff from construction sites, can trap turtles in these work zones.

These efforts focus on safely relocating the animals to nearby areas of suitable habitats while minimizing harm. Beyond rescue operations, the project is dedicated to public education, raising awareness about the challenges faced by long-lived reptiles like turtles, and the critical need for conservation. Through presentations, training sessions, and outreach materials, the project engages the community to inspire action and foster a deeper understanding of the importance of protecting native wildlife.■

DEQ LEADING THE GREENING OF GOVERNMENT

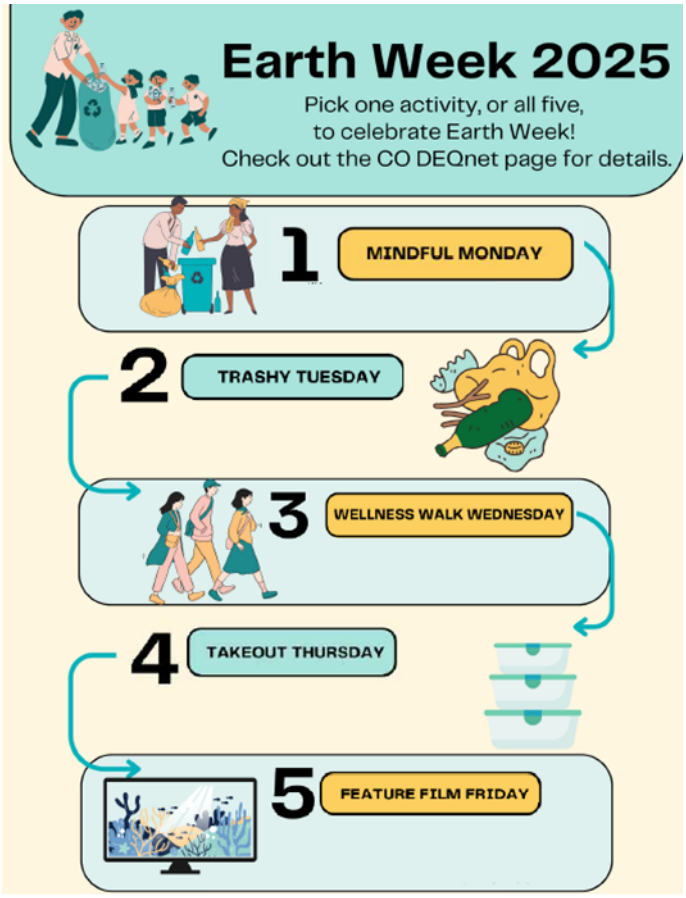
BACKGROUND

DEQ embraces its role as a leader in the greening of state government. By continually looking for ways to reduce its own environmental footprint, DEQ can encourage others to do the same. Continuous environmental improvement is part of DEQ's day-to-day decision-making. From the programs OPP runs to the way DEQ does business, protecting and enhancing Virginia's environment is DEQ's core mission. OPP leads by example, creates tools for others to use, and actively seeks to provide technical assistance to agencies interested in implementing P2 programs. DEQ uses an Environmental Management System (EMS) to evaluate the environmental impacts of its operations to increase recycling and waste diversion while reducing energy and water consumption. By understanding DEQ's own environmental impacts, it is better equipped to provide outreach to encourage state employees to recycle, reduce waste, and increase their sustainability efforts.

DEQ'S ENVIRONMENTAL MANAGEMENT SYSTEM

OPP is integral in the ongoing implementation of DEQ's EMS; with the goal of not only reducing DEQ's environmental footprint but also engaging employees in the day-to-day awareness and decision-making that is a cornerstone of environmental management. DEQ strives to continually improve the EMS and environmental awareness at its facilities across the state.

The agency-wide EMS Team meets quarterly to discuss ways to enhance environmentally sound practices, increase environmental awareness through annual training, increase communication of mutually beneficial knowledge, and encourage innovative environmental solutions. Annual awareness events are planned for Earth Day in April and America Recycles Day in November to increase discussion about the EMS Team's efforts. These awareness events serve as a crucial way to engage with DEQ staff on the importance of protecting the environment through actions at home and in the office. These efforts go hand-in-hand with DEQ's mission of protecting and enhancing Virginia's environment and promoting the health and well-being of the citizens of the Commonwealth.



Objectives & Targets

Since 2014, the EMS Team has implemented numerous objectives and targets to address risks identified by annual reviews of the agency's environmental aspects and impacts. Nineteen objectives and targets have been implemented and completed. Some of these completed objectives remain ongoing to continually improve efforts like reducing energy use, increasing green purchasing, and greening DEQ meetings and events. The EMS Team will continue to implement action plans to maintain these goals.

The EMS Team also provides an annual EMS Awareness Training to all employees about the agency's priorities and progress on environmental goals. Increasing environmental awareness is an important part of encouraging employees to assess the daily decisions they make that impact the environment.

Results

Each year, DEQ's EMS Team compiles an annual report for the DEQ Leadership Team on P2 and EMS efforts. The 2024 report showed that DEQ's electricity consumption was down slightly from 2023. The agency's EMS Team has taken an active role in working to decrease printing across the agency and there was a 9% decrease in DEQ print totals from 2023 to 2024. Beneficial programs like recycling and local cleanups continue, and DEQ's Central Office has continued composting to divert food waste from landfills. The EMS Team is committed to encouraging employees to find ways to reduce their environmental impact and embrace green practices both at the office and at home.

STOPPING FOOD WASTE

BACKGROUND

OPP continues to support Governor Youngkin's Executive Order (EO) 17, which includes three areas for DEQ to encourage recycling: supporting the Department of General Services efforts to encourage recycling at state agencies, coordinating with the Virginia Economic Development Partnership to identify opportunities to attract businesses that use post-consumer recycled content, and partnering with the Department of Agriculture and Consumer Services to identify ways to reduce food waste.

2025 STOPPING FOOD WASTE HIGHLIGHTS

Over the past year OPP's efforts to reduce food waste have been focused on implementing OPP's portion of the Priority Methane Reduction Project in Virginia Climate Pollution Reduction Grant (CPRG) through the development of DEQ's new Food Rescue and Composting Program. The $9.6 million CPRG project provides funding to DEQ for 5-years, which includes support for an additional staff person and funding for approximately 15-20 subaward projects at colleges, universities, and state agencies in Virginia. Over the past few months, the majority of OPP's engagement around food waste prevention has been focused on compiling a comprehensive study on the state of food waste in Virginia, creating resources, and preparing for the anticipated launch of the Food Rescue and Composting Subaward Program in September 2025.

Staff Supporting Outreach

In January, OPP hired a new staff member to support the implementation of the CPRG food waste program. This additional staff member has allowed OPP to increase its engagement in food waste prevention, food rescue, and composting. DEQ's outreach has included numerous meetings and conversations with groups who are interested in food waste, including colleges and universities, businesses, community organizations, and local government partners from Virginia and other states around the country. In addition to these meetings, staff in the OPP conducted site visits at George Mason University, the Convertus Compost Facility in Prince William County, the University of Virgina, Virginia Commonwealth University, and the University of Richmond.

ReFED Food Waste Solutions Summit

In June 2025, OPP was invited to participate in the "Regulations Driving Results: How State-Level Policy is Moving the Needle" Panel at the nation ReFED Food Waste Solutions Summit in Seattle, Washington, to showcase Virginia's approach to food waste through EO 17 and the CPRG program.

Subaward Program

OPP plans to launch the Food Rescue and Composting Subaward Program in September 2025 and anticipates that successful applications will be selected and awarded by early 2026. The program will support food waste prevention, food rescue, and food waste composting. Colleges, universities, and state agencies were selected as the eligible recipients for the subaward program because of their role as large food producers and their previous work with DEQ. These institutions have the ability to address many parts of the food system and promote behavior change campaigns to a large audience.

To encourage collaboration and idea sharing among peer institutions, OPP organized engagement opportunities to highlight examples of successful food waste prevention, food rescue, and composting programs. Successful programs were discussed in a three-part collaborative meeting series. Potential subaward applicants were the primary audience for the calls, which featured guest speakers from the University of Richmond, George Mason University, the Virginia Institute of Marine Science, the University of Virginia, Virginia Tech, Virginia Commonwealth University, the University of Mary Washington, and the Rhode Island School Recycling Project. At each call, panelists and meeting participants had the opportunity to ask questions and discuss their experiences. Recorded calls are available on OPP's Stopping Food Waste webpage.

Resources for Subawardees

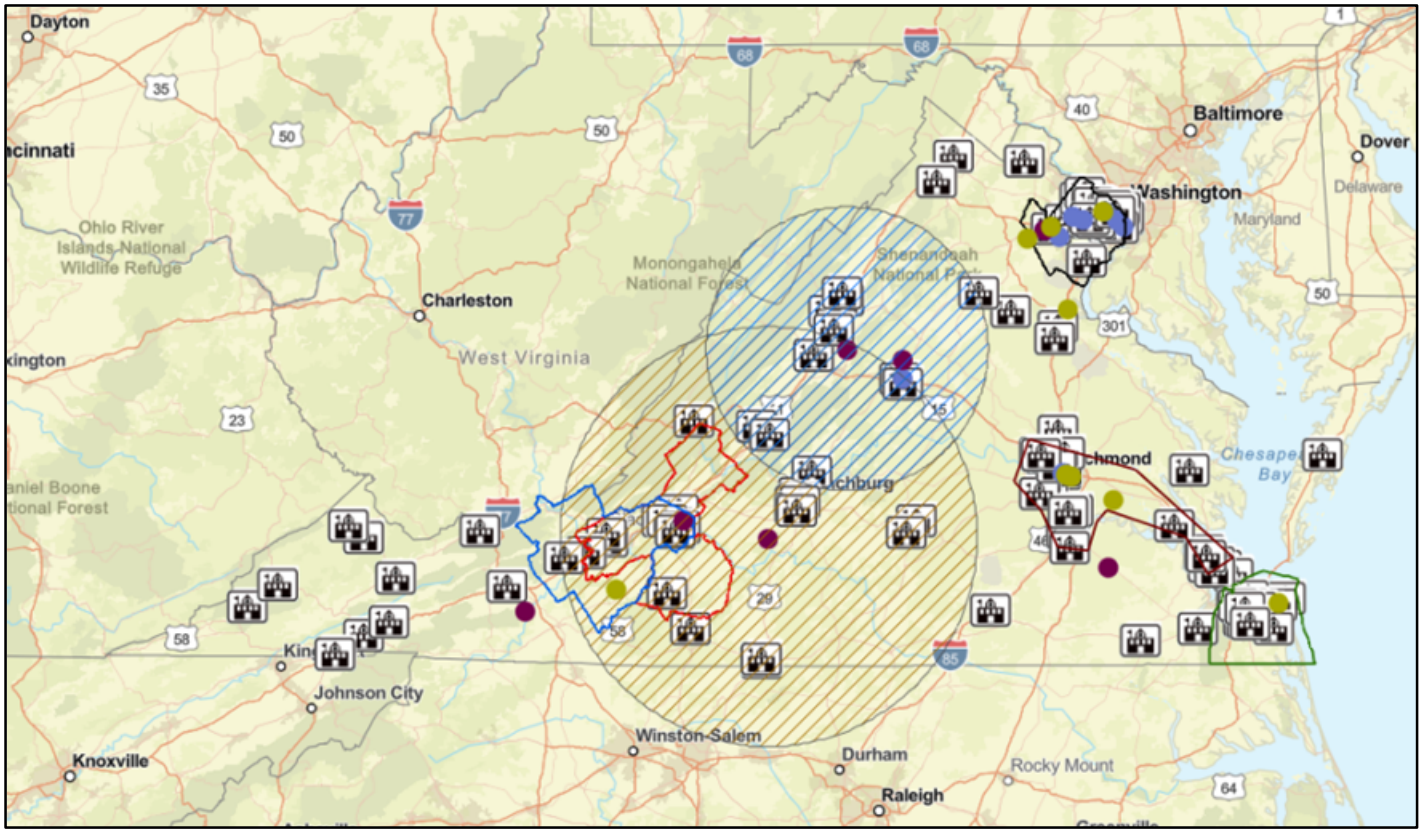
To prepare potential subawardees for the application period, OPP has worked to create recourses and facilitate educational peer sharing calls. Relevant resources were developed by OPP staff and made available to applicants on the DEQ website. These resources discuss the following:

- Advantages of Wasting Less Food,
- State of Food Waste,
- Program Development and Priorities,
- Case Studies and Examples from Virginia Colleges, Universities and State Agencies,
- Challenges, Trends and Best Practices,
- Consumer Education on Food Waste Prevention,
- Management of Food Waste, and
- Composting of Food Waste

In addition to these resources, DEQ has compiled a list of other helpful resources and link that are available to applicants on the DEQ webpage.

Excess Food Opportunities Map

OPP has also on the development of the soon-to-be-released Virginia Excess Food Opportunities Map, an interactive tool that allows users to locate different organizations and businesses that might be interested in supporting food waste prevention, food rescue, and food waste diversion efforts. The map includes layers that were created by the College of William & Mary's Center for Geospatial Analysis to support the FeedVA map, which is sponsored by the Virginia Foundation for Healthy Youth. These layers are accompanied by other publicly available layers as well as data layers created by DEQ in support of the project, including the following: Food Waste Composting Facilities, Approximate Service Areas of Food Waste Haulers, Community Partners, and Municipal Compost Programs.



Preview of the Excess Food Opportunities Map highlighting the location of colleges/universities, compost hauling areas and community partners.

RESOURCES

General Information

www.deq.virginia.gov/business-construction/pollution-prevention

Executive Order Seventeen

www.governor.virginia.gov/media/governorvirginiagov/governor-of-virginia/pdf/eo/EO-17-Recognizing-The-Value-of-Recycling-and-Waste-Reduction.pdf

Governor's Environmental Excellence Awards Program

www.deq.virginia.gov/business-construction/pollution-prevention/governor-s-environmental-excellence-awards

Pollution Prevention Case Studies

www.deq.virginia.gov/business-construction/pollution-prevention/case-studies

Stopping Food Waste

http://www.deq.virginia.gov/our-programs/pollution-prevention/stopping-food-waste

Virginia Environmental Excellence Program

https://www.deq.virginia.gov/business-construction/pollution-prevention/virginia-environmental-excellence-program

Virginia Green Tourism Program

https://www.deq.virginia.gov/business-construction/pollution-prevention/virginia-green

www.virginia.org/green/

http://www.virginiagreen.net

Virginia Information Source for Energy

https://www.deq.virginia.gov/business-construction/pollution-prevention/virginia-information-source-for-energy

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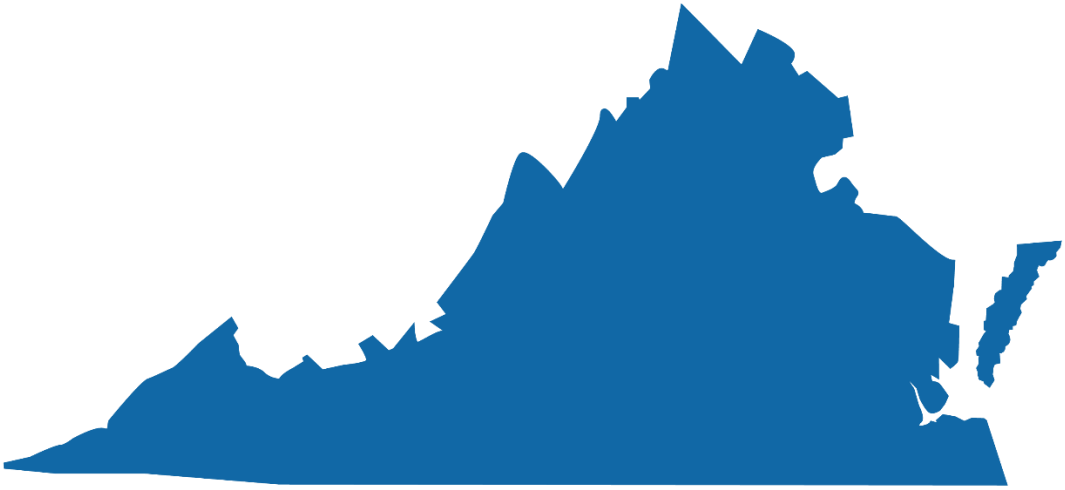
B

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY AND AIR POLLUTION CONTROL POLICIES OF THE COMMONWEALTH OF VIRGINIA

Commonwealth of Virginia

Department of Environmental Quality



December 2025

AIR QUALITY AND AIR POLLUTION CONTROL POLICIES OF THE COMMONWEALTH OF VIRGINIA

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AIR QUALITY AND AIR POLLUTION CONTROL POLICIES OF THE COMMONWEALTH OF VIRGINIA

Commonly Used Abbreviations

AQM	Office of Air Quality Monitoring
CAA	Clean Air Act
CMS	Compliance Monitoring Strategy
CO	Carbon monoxide
CSAPR	Cross State Air Pollution Rule
CTG	Control Technique Guideline
DEQ	Virginia Department of Environmental Quality
ECHO	Enforcement and Compliance History Online
EPA	Environmental Protection Agency
FCE	Full Compliance Evaluation
GVWR	Gross Vehicle Weight Rating
HAP	Hazardous Air Pollutant
I/M	Motor Vehicle Inspection and Maintenance Program
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics Standard
$\mu g/m^3$	Micrograms per cubic meter
MSOS	Mobile Source Operations Section
NAAQS	National Ambient Air Quality Standard
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
NSR	New Source Review
ORE	On-Road Emissions Program
ORVR	On Board Refueling Vapor Recovery
OTR	Ozone Transport Region
Pb	Lead
PCE	Partial Compliance Evaluation
PM_{10}	Particulate matter not more than 10 micrometers in diameter
$PM_{2.5}$	Particulate matter not more than 2.5 micrometers in diameter
ppb	Parts per billion
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RBIS	Risk Based Inspection System
SAPCB	State Air Pollution Control Board
SBA	Small Business Assistance
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SOP	State Operating Permit
tpy	Tons per year
VDH	Virginia Department of Health
VOC	Volatile Organic Compounds

AIR QUALITY AND AIR POLLUTION CONTROL POLICIES OF THE COMMONWEALTH OF VIRGINIA

1. EXECUTIVE SUMMARY

This report was prepared by the Virginia Department of Environmental Quality (DEQ) pursuant to § 10.1-1307 H of the Code of Virginia. This report details the status of Virginia's air quality, provides an overview of the air division programs, and briefly summarizes federal and state air quality programs.

1.1. Air Quality in the Commonwealth

Ambient concentrations of fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and ozone in Virginia met United States Environmental Protection Agency (EPA) National Ambient Air Quality Standards (NAAQS) in 2024. Virginia has submitted an attainment plan for the Giles County SO_2 nonattainment area and is developing a redesignation request for the Northern Virginia, Metropolitan Washington, D.C. ozone nonattainment area.

1.2. Air Quality Policies in the Commonwealth

Virginia continues to work on regional haze analysis requirements stemming from the 2019 federal guidance. On March 6, 2024, EPA issued a revised $PM_{2.5}$ NAAQS, lowering the annual $PM_{2.5}$ standard from 12.0 micrograms per cubic meter ($\mu g/m^3$) to 9.0 $\mu g/m^3$. All areas of the Commonwealth comply with this new standard. On December 10, 2024, EPA issued a revised secondary SO_2 NAAQS, setting the new standard at 10 parts per billion (ppb) calculated as the three-year average of the annual hourly SO_2 values. All areas of the Commonwealth comply with this new secondary SO_2 NAAQS. Uncertainty exists at the federal level concerning the implementation of a variety of regulations, policies, and grant funds.[1]

1.3. Summary of Annual Air Division Activities

Table 1-1 provides a summary of air division activities related to permitting, compliance and enforcement under the Clean Air Act.

Table 1-1: Summary of Activity and Milestones

Activity	*Milestone*
Monitoring Locations:	34
Monitoring Instruments:	104
Minor Source Permits Issued:	303
State Major Source Permits Issued:	1
PSD Permits Issued:	0
General Permits Issued:	2
State Operating Permits Issued:	23
Federal Operating Permits Issued:	4[2]

[1] https://www.epa.gov/newsreleases/epa-launches-biggest-deregulatory-action-us-history.
[2] DEQ also issued 47 federal operating permit renewals during state fiscal year 2025.

Activity	*Milestone*
Compliance Evaluations (all):	3,058
On Site Inspections:	593
Enforcement Actions:	345
Vehicle Emission Inspections Performed:	851,135[3]
Vehicle Emission Inspection Failures:	14,784
Vehicle Emission Inspection Station Overt Audits:	444
Vehicle Emission Inspection Station Covert Audits:	170
Consent Orders Issued:	33
Consent Order Civil Charges Collected ($):	$391,613

2. STATUS OF AIR QUALITY IN THE COMMONWEALTH OF VIRGINIA

DEQ monitors a variety of pollutants in the ambient atmosphere. A portion of Virginia's monitoring network measures concentrations of the criteria pollutants: ozone, $PM_{2.5}$, PM_{10}, NO_2, SO_2, lead (Pb), and CO. Criteria pollutants can be harmful to public health and the environment, and EPA has set NAAQS for these pollutants to protect public health and welfare. The two criteria pollutants that have historically presented challenges in Virginia are ozone and $PM_{2.5}$. Air quality for both pollutants improved through 2024. $PM_{2.5}$ air quality was in the healthy range across Virginia through 2024, and during that time, air quality met federal ozone standards across the Commonwealth. The federally required SO_2 monitoring site, which began operations in 2017 and is located near Lhoist North America – Kimballton Plant, recorded compliant data in 2024 due to the curtailment of facility operations.

2.1. Criteria Pollutant Overview

Ozone is not generally emitted directly into the atmosphere. Rather, a photochemical reaction between volatile organic compounds (VOC) and oxides of nitrogen (NO_X) creates this pollutant when these precursors combine in the presence of sunlight. Ozone, the primary component of smog, is a lung irritant and interferes with the ability of plants to process food and ward off diseases.

Particulate Matter (PM), also referred to as particulate pollution, is a mixture of solid particles and liquid droplets found in the air. Some particles are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks or fires. Most particles form in the atmosphere because of complex reactions of chemicals such as SO_2 and NO_X, which are pollutants emitted from power plants, industries, and automobiles. PM contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Particle pollution includes PM_{10} and $PM_{2.5}$.

PM_{10} is an airborne particulate of solid or liquid matter that is less than or equal to 10 micrometers in

[3] Number of vehicle emissions inspections completed at stations and the number of on-road vehicle emission inspections completed.

diameter. PM_{10} particles are larger than $PM_{2.5}$ but are still in a size range that can pose health problems because they can be inhaled and retained in the human respiratory system, causing breathing difficulties, and eye, nose, and throat irritation.

$PM_{2.5}$ is an airborne particulate of solid or liquid matter that is less than or equal to 2.5 micrometers in diameter. Small particles less than 10 micrometers in diameter can get deep into the lungs and may enter the bloodstream. Exposure to such particles poses adverse health impacts to the human respiratory and cardiovascular systems. $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States, including many national parks and wilderness areas.

NO_2 is a gaseous air pollutant that forms when fossil fuels such as coal, oil, gasoline, or diesel burn at high temperatures. NO_2 contributes to the formation of particle pollution by converting in the atmosphere to nitrate aerosols, a component of $PM_{2.5}$. This gas is also a building block of ozone.

SO_2 is one of a group of highly reactive compounds known as “oxides of sulfur.” The largest source of SO_2 emissions is fossil fuel combustion at power plants and at other types of industrial facilities. Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore, coking, and the combustion of sulfur-laden fuels by locomotives, large ships, and non-road equipment. Emissions of SO_2 also contribute to the formation of particle pollution by converting in the atmosphere to sulfate aerosols, a major component of $PM_{2.5}$.

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. In the past, emissions from cars and trucks using leaded gasoline were the primary sources of lead in the atmosphere. Efforts by EPA to remove lead from motor vehicle gasoline resulted in dramatic reductions of lead in the ambient air from 1980 to 1999. Now the major sources of lead in the air are ore processing, metals processing, ammunitions manufacturing, and piston-engine aircraft operating on leaded aviation gasoline.

CO is a colorless, odorless gas emitted from combustion processes. Particularly in urban areas, most CO emissions to ambient air originate from mobile sources. CO can cause harmful health effects by reducing oxygen delivery to the body’s organs.

2.2. Monitoring Network

DEQ’s Office of Air Quality Monitoring (AQM) maintains an extensive air quality monitoring network throughout the Commonwealth. As of July 1, 2024, approximately 104 instruments at 34 sites monitored ambient air quality across Virginia. One SO_2 monitoring site that is part of DEQ’s network is maintained by an independent company. Two federal ozone monitors are also included as part of the DEQ network. The number of instruments has decreased significantly from the last report due to the conversion from filter-based particulate samplers to continuous instruments and due to the shutdown of the Radford Pb monitoring site.

Figure 2.1 shows the various ozone monitoring sites in Virginia. All monitoring sites meet EPA's siting criteria (40 CFR Part 58, Appendices D and E), and all sites conform to EPA guidance documents and

generally accepted air quality monitoring practices. AQM's quality assurance procedures assures all data gathered from the Virginia air quality monitoring network is in accordance with federal requirements (40 CFR Part 58, Appendix A). EPA performs the quality assurance at the two federal ozone sites. Lhoist North America – Kimballton Plant is responsible for performing quality assurance procedures at the Giles County SO_2 monitor. The data are published annually in the *Virginia Ambient Air Monitoring Data Report* and are available from the DEQ website at https://www.deq.virginia.gov/our-programs/air/reports.

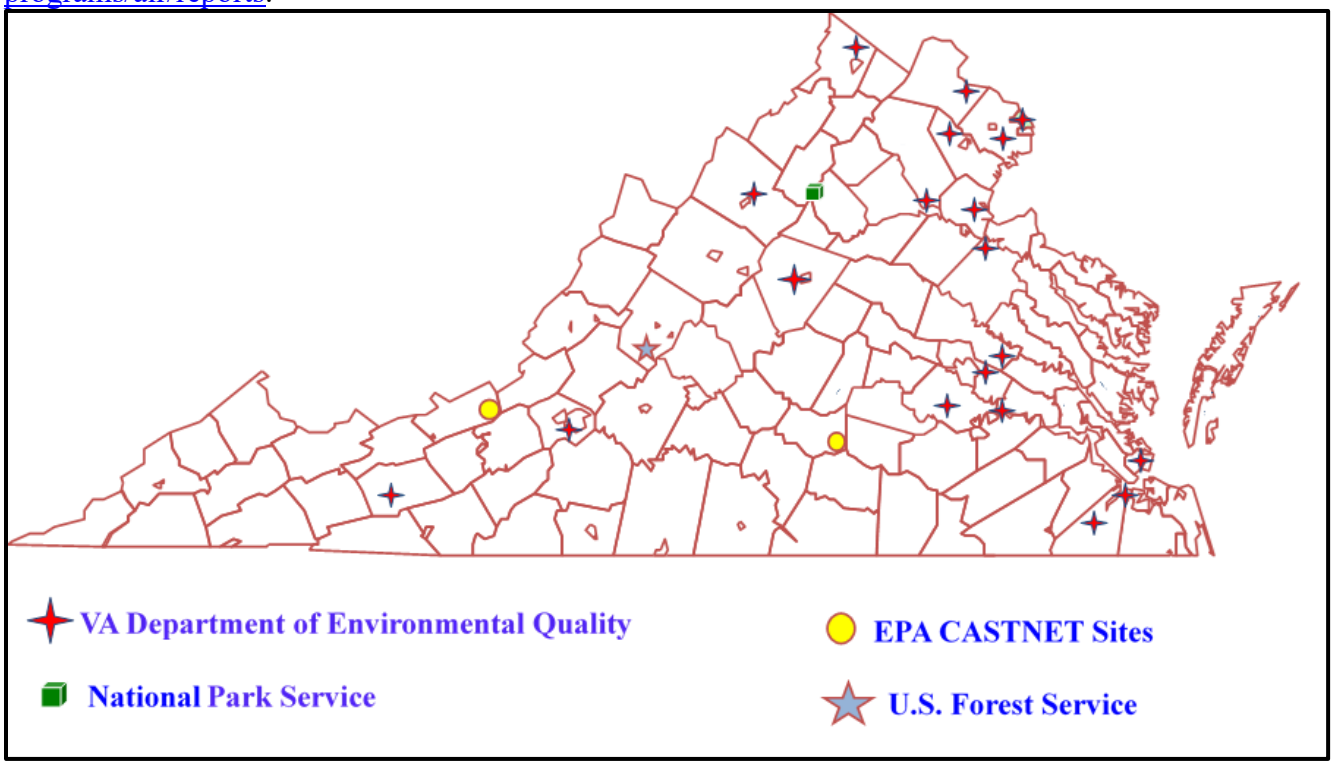


Figure 0-1: Virginia Ozone Monitoring Network

2.3. Near-Road Monitoring for NO_2

In February 2010, EPA promulgated a NO_2 NAAQS, setting the standard at 100 parts per billion (ppb). This standard included a requirement for the installation and operation of monitoring stations near heavily traveled roadways. According to federal mandates, DEQ must install three such monitoring stations. DEQ has installed two of the three monitoring stations. The Richmond station at Bryan Park is adjacent to the I-95 and I-64 interchange and has been running since October 2013. The northern Virginia site, which is in Springfield on Backlick Road, began sampling in April 2016. These data from these sites are available on DEQ's webpage at https://www.deq.virginia.gov/our-programs/air/monitoring-assessments/air-quality-forecast. A third monitoring station will be installed in the Tidewater area and is expected to be operational by Winter 2026.

2.4. TAME Study

In October 2020 the Office of Air Quality Monitoring received a $526,603 grant to study particulate and

air toxics metals pollution in two communities in Tidewater Virginia. The affected communities in this study are the East End Community of Newport News and the Lamberts Point Community in Norfolk. Both are low income and disadvantaged communities and have been historically impacted by coal transporting and loading facilities within their communities. The study is called the Tidewater Air Monitoring Evaluation (TAME) Study and has the following goals:

- Sample for particulate pollution in these communities;
- Analyze air toxics metals from these samples;
- Have VDH perform a health assessment using the air quality data collected from the study; and
- Significantly and actively engage community residents in the study to address current and historic concerns relative to air quality in general and the specific impacts from the coal operations in their community.

The study is projected to be completed in October 2027.

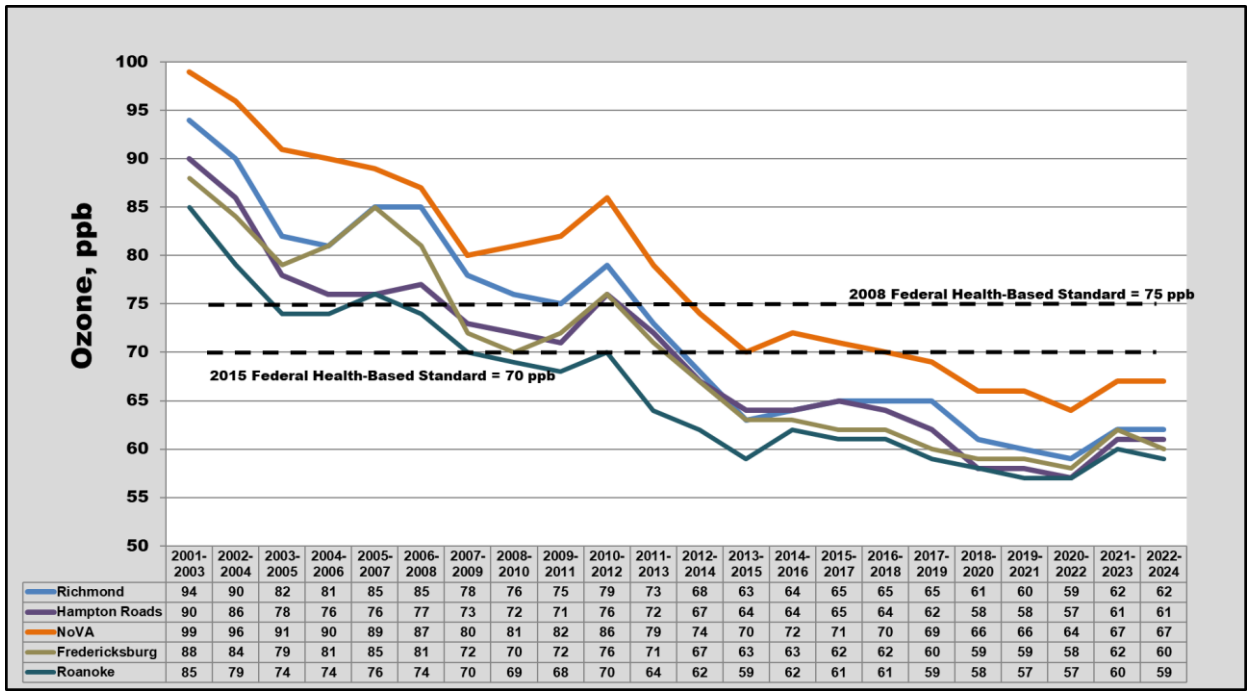
2.5. Data Trends for Criteria Pollutants

Trends for most criteria pollutants across Virginia show significant improvements over the past decade through 2024. These improvements are the result of emission reductions associated with a variety of control programs. Emissions from nearby states also have decreased such that less pollution is transported into the Commonwealth from upwind areas.

Impacts of the COVID-19 pandemic influenced some 2020 design values. Emissions sources such as the transportation sector, agricultural burning, and prescribed fire activities emitted less pollution during part or all of 2020 due to stay-at-home orders and other factors.

Air quality impacts from wildfires influenced some of the 2023 design values, mainly those for $PM_{2.5}$ and ozone. While 2023 design values may have increased as compared to 2022 design values for these pollutants, the measured values in 2023 comply with federal health-based standards.

Figure 0-2 provides the three-year average ozone design value concentrations in the Hampton Roads, Richmond-Petersburg, Fredericksburg, Roanoke, and Northern Virginia areas. All areas demonstrate compliance with the 2008 ozone NAAQS of 0.075 ppm (75 ppb) as well as the 2015 ozone NAAQS of 0.070 ppm (70 ppb).



	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Richmond	94	90	82	81	85	85	78	76	75	79	73	68	63	64	65	65	65	61	60	59	62	62
Hampton Roads	90	86	78	76	76	77	73	72	71	76	72	67	64	64	65	64	62	58	58	57	61	61
NoVA	99	96	91	90	89	87	80	81	82	86	79	74	70	72	71	70	69	66	66	64	67	67
Fredericksburg	88	84	79	81	85	81	72	70	72	76	71	67	63	63	62	62	60	59	59	58	62	60
Roanoke	85	79	74	74	76	74	70	69	68	70	64	62	59	62	61	61	59	58	57	57	60	59

Figure 0-2: Ozone Concentrations, Three Year Average

Figure 0-3 provides the $PM_{2.5}$ daily design value concentrations for Hampton Roads, Richmond-Petersburg, and Northern Virginia. Figure 0-4 provides the annual average $PM_{2.5}$ design value concentrations for these three areas. Concentrations of $PM_{2.5}$ follow these trends across the Commonwealth and comply with the 2006 $PM_{2.5}$ daily NAAQS of 35 $\mu g/m^3$, the 2012 $PM_{2.5}$ annual NAAQS of 12.0 $\mu g/m^3$, and the 2024 $PM_{2.5}$ annual NAAQS of 9.0 $\mu g/m^3$.

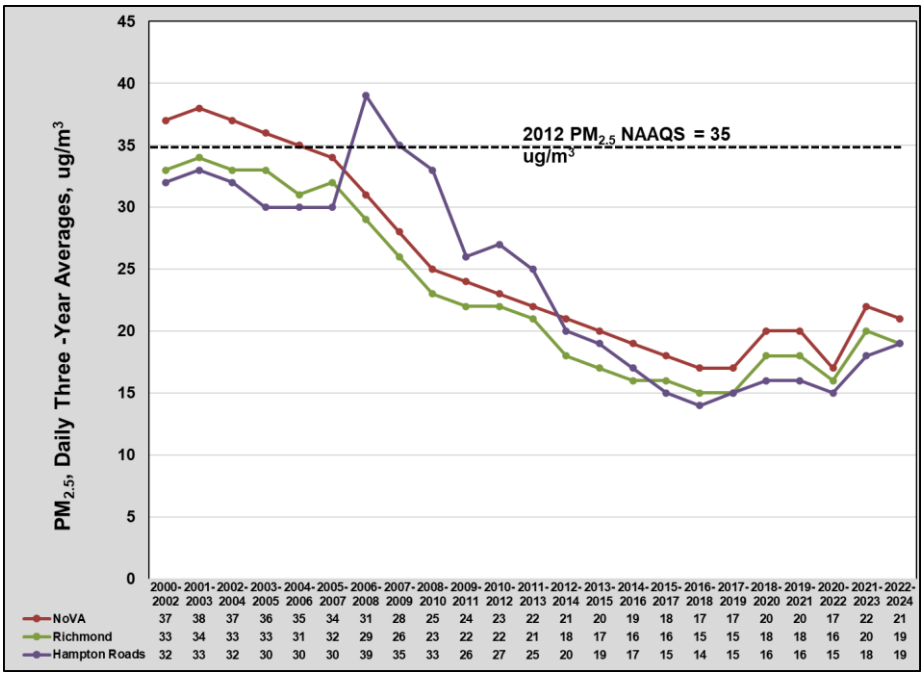


Figure 0-3: Daily $PM_{2.5}$ Averages

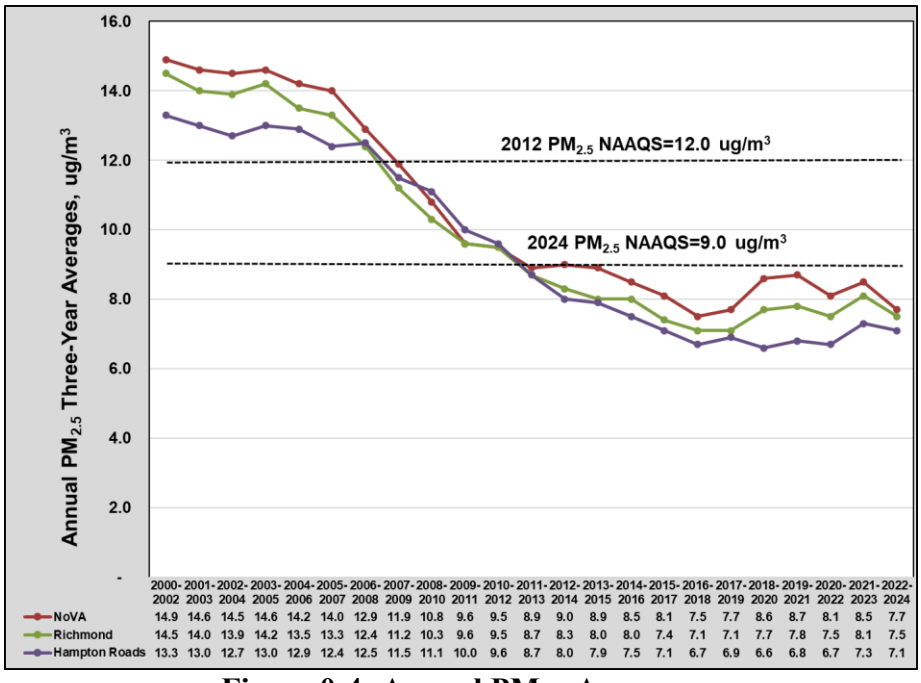
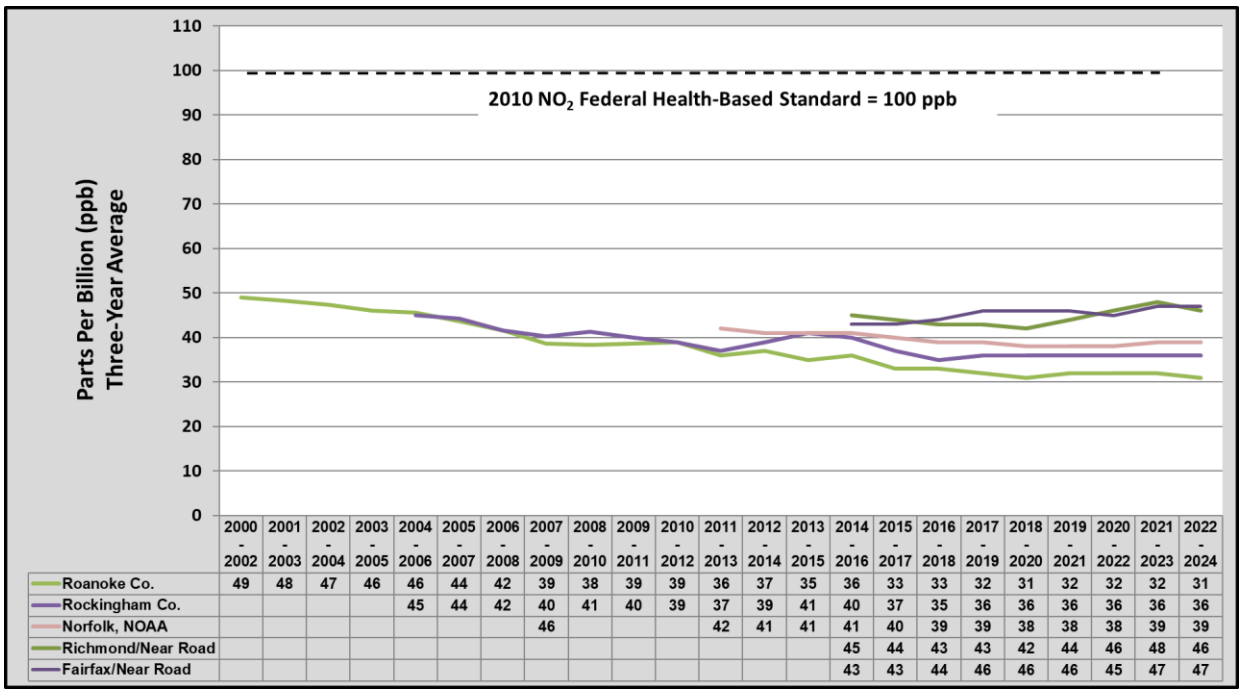


Figure 0-4: Annual $PM_{2.5}$ Averages

Figure 0-5 provides NO_2 measurements for the monitor with the highest recorded value in each area of the Commonwealth and compares this data to the 2010 NO_2 NAAQS of 100 ppb. All data show values well under the health-based standard.

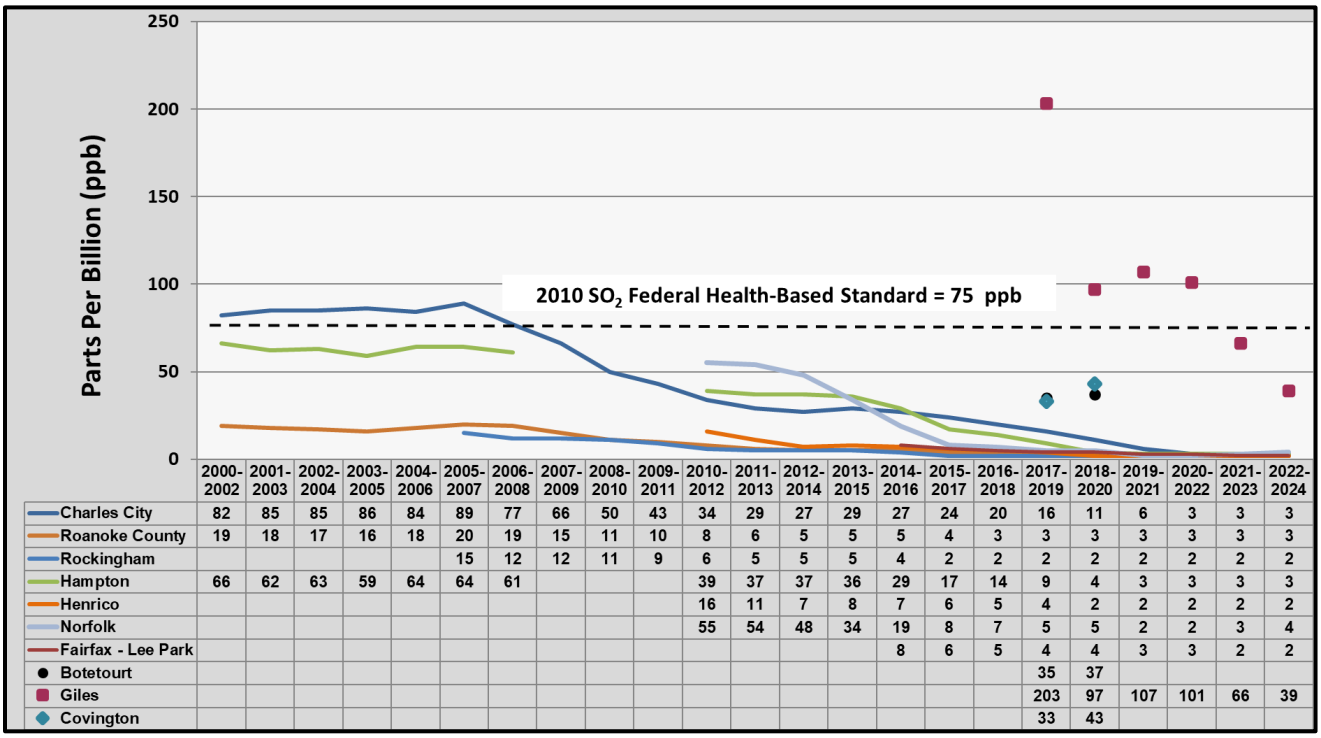


	2000 - 2002	2001 - 2003	2002 - 2004	2003 - 2005	2004 - 2006	2005 - 2007	2006 - 2008	2007 - 2009	2008 - 2010	2009 - 2011	2010 - 2012	2011 - 2013	2012 - 2014	2013 - 2015	2014 - 2016	2015 - 2017	2016 - 2018	2017 - 2019	2018 - 2020	2019 - 2021	2020 - 2022	2021 - 2023	2022 - 2024
Roanoke Co.	49	48	47	46	46	44	42	39	38	39	39	36	37	35	36	33	33	32	31	32	32	32	31
Rockingham Co.					45	44	42	40	41	40	39	37	39	41	40	37	35	36	36	36	36	36	36
Norfolk, NOAA								46				42	41	41	41	40	39	39	38	38	38	39	39
Richmond/Near Road															45	44	43	43	42	44	46	48	46
Fairfax/Near Road															43	43	44	46	46	46	45	47	47

Figure 0-5: Virginia NO_2 Measurements

The 2010 SO_2 NAAQS federal implementation rule at 40 CFR 51 Subpart BB required certain facilities in Virginia to monitor the air quality near their property to determine if the facility's emissions caused SO_2 air quality violations. This approach stemmed from EPA's determination that ambient SO_2 concentrations were predominantly impacted by large industrial sources with high SO_2 emissions. These SO_2 monitors, which were installed in accordance with federal requirements and operated by the respective facility, recorded four years of data from 2017 to 2020 and are therefore included in the Commonwealth's SO_2 monitoring network. Figure 0-6 provides SO_2 measurements for all monitors currently in the network including the facility-specific monitors and compares this data to the 2010 SO_2 NAAQS of 75 ppb. The facility-specific monitoring sites for Botetourt and Covington show data for two, three-year averages, 2017-2019 and 2018-2020. As shown in this figure, the data points for Botetourt and Covington comply with the 2010 SO_2 NAAQS and registered values of less than 50% of the standard. Therefore, in accordance with federal guidance, the monitors in Botetourt and Covington were removed in early 2021.

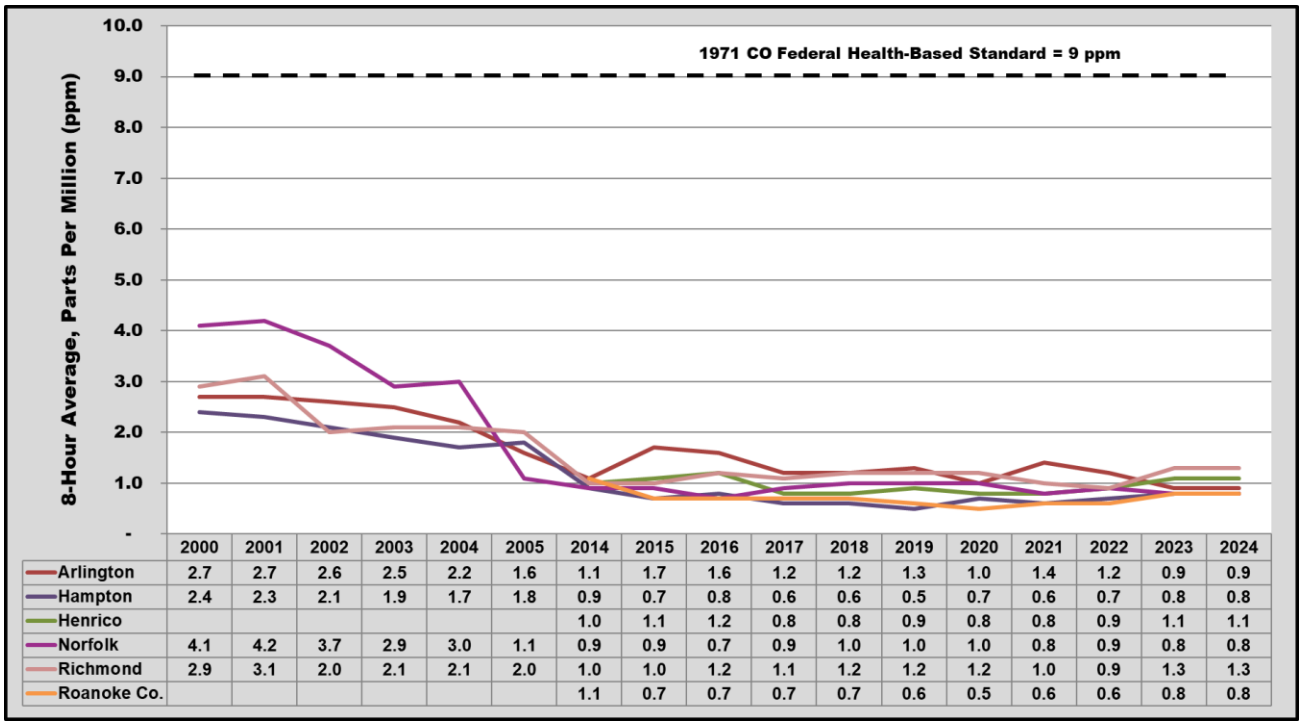
Until 2023, the Giles County three-year averages were above the health-based standard of 75 ppb. The violating data resulted in the portion of Giles County around the Lhoist North America – Kimballton Plant, the operator of the Giles County SO_2 monitor, to be designated nonattainment for the 2010 SO_2 NAAQS. Measurements in 2023 and 2024 are below the 2010 SO_2 NAAQS. In 2024, the facility did not have significant operations. See Section 0 for more information on this nonattainment designation.



	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014	2013-2015	2014-2016	2015-2017	2016-2018	2017-2019	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Charles City	82	85	85	86	84	89	77	66	50	43	34	29	27	29	27	24	20	16	11	6	3	3	3
Roanoke County	19	18	17	16	18	20	19	15	11	10	8	6	5	5	5	4	3	3	3	3	3	3	3
Rockingham						15	12	12	11	9	6	5	5	5	4	2	2	2	2	2	2	2	2
Hampton	66	62	63	59	64	64	61				39	37	37	36	29	17	14	9	4	3	3	3	3
Henrico											16	11	7	8	7	6	5	4	2	2	2	2	2
Norfolk											55	54	48	34	19	8	7	5	5	2	2	3	4
Fairfax - Lee Park															8	6	5	4	4	3	3	2	2
Botetourt																		35	37				
Giles																		203	97	107	101	66	39
Covington																		33	43				

Figure 0-6: Virginia SO_2 Measurements

Figure 0-7 provides CO measurements from currently operating monitors for comparison against the 1971 CO NAAQS of 9 ppm. All monitors are well beneath the standard.



	2000	2001	2002	2003	2004	2005	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Arlington	2.7	2.7	2.6	2.5	2.2	1.6	1.1	1.7	1.6	1.2	1.2	1.3	1.0	1.4	1.2	0.9	0.9
Hampton	2.4	2.3	2.1	1.9	1.7	1.8	0.9	0.7	0.8	0.6	0.6	0.5	0.7	0.6	0.7	0.8	0.8
Henrico							1.0	1.1	1.2	0.8	0.8	0.9	0.8	0.8	0.9	1.1	1.1
Norfolk	4.1	4.2	3.7	2.9	3.0	1.1	0.9	0.9	0.7	0.9	1.0	1.0	1.0	0.8	0.9	0.8	0.8
Richmond	2.9	3.1	2.0	2.1	2.1	2.0	1.0	1.0	1.2	1.1	1.2	1.2	1.2	1.0	0.9	1.3	1.3
Roanoke Co.							1.1	0.7	0.7	0.7	0.7	0.6	0.5	0.6	0.6	0.8	0.8

Figure 0-7: Virginia CO Measurements

3. AIR POLLUTION CONTROL OVERVIEW

This overview describes planning, permitting, compliance, enforcement, and other initiatives. Each section provides information on significant current policy issues related to each category.

3.1. Air Quality Planning and Regulatory Initiatives

Air quality planning strategies focus on meeting all federal requirements associated with current NAAQS and regional haze. DEQ also expends resources on improving the Virginia portion of EPA's emissions inventory and modeling platforms and analyzing potential effects of proposed rules and federal guidance documents.

3.1.1. 1971 CO NAAQS

On August 31, 2011 (76 FR 54294), EPA issued a decision to retain the primary CO NAAQS, which were originally promulgated in 1971. The primary standards are 9 ppm measured over an eight-hour period and 35 ppm measured over a one-hour period. EPA revised the CO monitoring network requirements to include near-road CO monitoring sites in large urban areas. All jurisdictions within the Commonwealth are attaining these standards and are designated either attainment areas or attainment/maintenance areas for the 1971 CO NAAQS.

3.1.2. 2006 $PM_{2.5}$ NAAQS

On October 17, 2006 (71 FR 61144), EPA promulgated a revised $PM_{2.5}$ NAAQS. The 2006 standard revised the daily $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ and retained the $PM_{2.5}$ annual standard of 15.0 $\mu g/m^3$. On November 13, 2009 (74 FR 58688), EPA published the final designations for the 2006 daily $PM_{2.5}$ standard, and all areas of the Commonwealth were designated as attainment or unclassifiable.

3.1.3 2008 Ozone NAAQS

On March 27, 2008 (73 FR 16436), EPA revised both the primary and the secondary NAAQS for ozone to 0.075 ppm. EPA published the final area designations and classifications for this standard on May 21, 2012 (77 FR 30088). EPA designated all areas of the Commonwealth, except for Northern Virginia, as attaining this standard. EPA designated Northern Virginia as nonattainment, with a classification of marginal. On April 15, 2019 (84 FR 15108), EPA redesignated the Northern Virginia area as attainment/maintenance for this standard.

Due to *South Coast Air Quality Management District v. EPA* legal decisions, DEQ submitted, and EPA has approved second maintenance plans for the Richmond-Petersburg area (approved March 23, 2023, 88 FR 17376), the Hampton Roads area (approved October 17, 2023, 88 FR 71489), and the Fredericksburg area (April 12, 2024, 89 FR 25812). DEQ submitted a second maintenance plan for the Page County/Madison County Shenandoah National Park maintenance area to EPA on August 12, 2025.

3.1.4. 2008 Lead NAAQS

On November 12, 2008 (73 FR 66964), EPA strengthened the NAAQS for Pb, revising the level of the health-based standard to 0.15 $\mu g/m^3$. On November 22, 2011 (76 FR 72097), EPA published the final Pb designations for the 2008 Pb NAAQS and designated the entire Commonwealth as attainment/unclassifiable since monitoring data showed compliance with the new standard.

3.1.5. 2010 NO_2 NAAQS

On February 9, 2010 (75 FR 6474), EPA revised the primary NO_2 NAAQS and set the standard at 100 ppb over a one-hour average. On February 17, 2012 (77 FR 9532), EPA classified all areas of the Commonwealth as attainment/unclassifiable for this standard.

3.1.6. 2010 SO_2 NAAQS

On June 22, 2010 (75 FR 35520), EPA finalized a new primary NAAQS for SO_2. This regulation significantly strengthened the short-term requirements by lowering the standard to 75 ppb on a one-hour basis. On January 9, 2018 (83 FR 1098), EPA designated all jurisdictions in Virginia as attaining this standard except for Buchanan County, Alleghany County, Botetourt County, Giles County and the City of Covington. Buchanan County was designated unclassifiable. EPA based these attainment designations on modeling analyses and data from the SO_2 monitoring network.

EPA designated Botetourt County, Alleghany County, and the City of Covington as attaining the

standard on March 26, 2021 (86 FR 16055). Based on air quality monitoring data and Virginia's April 24, 2020, recommendations, EPA designated the portion of Giles County containing the Lhoist North America – Kimballton Plant as nonattainment for the standard. The remainder of Giles County was designated attainment/unclassifiable.

As shown in Figure 0-6, in 2023 the monitor in Giles County registered compliant data (66 ppb) for the first time since its inception. The data in 2024 was compliant with the standard and showed a significant margin of safety. However, Lhoist North America – Kimballton Plant operated only minimally 2024.

DEQ has developed an attainment plan, including a site-specific modeling analysis and state operating permit for Lhoist North America – Kimballton Plant, to address planning requirements under the CAA for this NAAQS. DEQ submitted this plan to EPA in final form on August 11, 2025. Based on the compliant air quality, DEQ expects to draft a redesignation request and maintenance plan in the next year.

3.1.7. 2012 $PM_{2.5}$ NAAQS

On January 15, 2013 (78 FR 3086), EPA published a rule strengthening the NAAQS for $PM_{2.5}$. This rule left the daily value initially published in 2006 unchanged at 35 $\mu g/m^3$ but reduced the annual threshold from 15.0 $\mu g/m^3$ to 12.0 $\mu g/m^3$. On January 15, 2015 (80 FR 2206), EPA designated all of Virginia unclassifiable/attainment for this standard.

3.1.8. 2015 Ozone NAAQS

On October 26, 2015 (80 FR 65292), EPA revised the NAAQS for ozone. This revision lowered the standard from 0.075 ppm to 0.070 ppm. On June 4, 2018 (83 FR 25838), EPA designated all areas of the Commonwealth except nine jurisdictions in Northern Virginia as attaining this standard. The nine jurisdictions in Northern Virginia designated as a marginal nonattainment area were the Counties of Arlington, Fairfax, Loudoun, and Prince William and the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park. These jurisdictions are part of the Metropolitan Washington, D.C. nonattainment area, which consists of jurisdictions in Maryland and Virginia and includes the District of Columbia. The compliance date for this area was August 3, 2021.

On October 7, 2022, EPA reclassified the area to moderate based on air quality data from years 2018 through 2020 showing levels just slightly higher than 0.070 ppm (87 FR 60917). However, monitoring data for 2021 and 2022 showed that the Metropolitan Washington DC area, of which Northern Virginia is a part, attained the standard. Based on the compliant data, EPA published a proposed clean data determination for the area on February 1, 2023 (88 FR 6688). A clean data determination would suspend many of the attainment planning requirements and allow states to focus on developing and submitting a maintenance plan for the 2015 ozone NAAQS. Current data continues to demonstrate compliance with the 2015 ozone NAAQS in this area.

This year DEQ must work with facilities on the reasonably available control technology (RACT) requirements for the 2015 ozone NAAQS, as required by §182 and §184 of the CAA. These RACT requirements apply to major stationary sources of NO_X and VOC in the Northern Virginia nonattainment

area.

On June 5, 2023, EPA published a final rule to address Good Neighbor provisions under the CAA (88 FR 36656). The Good Neighbor provisions mandate that states may not cause or significantly contribute to downwind state ozone nonattainment areas or interfere with maintenance of a standard in downwind states. This federal implementation plan applies to both electric generating units and industrial units emitting NO_X in Virginia. Industrial units such as boilers, natural gas compressor stations, and cement manufacturing operations are subject to requirements under this federal implementation plan. However, on June 27, 2024, the Supreme Court blocked the Good Neighbor provisions from taking effect while litigation over the merits of the CAA ozone transport rule play out in lower courts. Additionally, EPA has announced a reconsideration of this rule as part of EPA's *Powering the Great American Comeback* program.[4]

3.1.9. 2024 $PM_{2.5}$ NAAQS

On March 6, 2024, EPA published a final reconsideration of the NAAQS for $PM_{2.5}$ (89 FR 16202). EPA revised the primary annual $PM_{2.5}$ standard by lowering the level from 12.0 $\mu g/m^3$ to 9.0 $\mu g/m^3$. EPA retained the primary 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. As shown in Figure 0-4, Virginia's $PM_{2.5}$ monitors demonstrate compliance with the new annual standard even with the unusually high reading during 2023 from wildfire impacts. The fate of this regulation is currently uncertain since EPA has announced that it intends to revisit this NAAQS as part of EPA's *Powering the Great America Comeback* program.[5]

3.1.10. 2024 Secondary SO_2 NAAQS

On December 27, 2024, EPA published a revised air quality standard to better protect public welfare against adverse effects caused by SO_2. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. EPA set this new standard at 10 ppb, as an annual average over three years. The previous secondary SO_2 NAAQS were 0.5 ppm averaged over three hours and 0.02 ppm averaged over any year, in 1971. As shown in Table 3-1, data from Virginia's SO_2 monitoring network are compliant with this new standard. Virginia's designation recommendations for the 2024 secondary SO_2 NAAQS are due to EPA in December 2025.

Table 3-1: 2024 Secondary SO2 NAAQS Design Values

Monitor Location	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Charles City County	0 ppb	0 ppb	0 ppb	0 ppb	0 ppb
Henrico County	0 ppb	0 ppb	0 ppb	0 ppb	0 ppb
Roanoke County	0 ppb	0 ppb	0 ppb	1 ppb	1 ppb
Rockingham County	0 ppb	0 ppb	0 ppb	0 ppb	0 ppb

[4] https://www.epa.gov/system/files/documents/2025-03/good-neighbor-plan_powering-the-great-american-comeback_fact-sheet.pdf.
[5] https://www.epa.gov/system/files/documents/2025-03/pm-naaqs_powering-the-great-american-comeback_fact-sheet.pdf.

Monitor Location	2018-2020	2019-2021	2020-2022	2021-2023	2022-2024
Fairfax County	0 ppb	0 ppb	0 ppb	0 ppb	0 ppb
City of Hampton	1 ppb	1 ppb	1 ppb	1 ppb	1 ppb
City of Norfolk	0 ppb	0 ppb	0 ppb	0 ppb	0 ppb
Giles County	3 ppb	3 ppb	3 ppb	2 ppb	2 ppb

3.1.11. Regional Haze

Section 169 A of the Clean Air Act (CAA) mandates the protection of visibility in national parks, forests, and wilderness areas, referred to as Class I federal areas. The absorption and scattering of light by fine particles cause visibility impairment (haze) in these areas. Sources and activities that emit fine particles and their precursors, such as NO_X, SO_2, VOC, and ammonia, contribute to this problem. In 1999, EPA finalized the Regional Haze Rule, which requires that state, tribal, and federal agencies work together to improve visibility in 156 national parks and wilderness areas.

DEQ developed a first-round state implementation plan (SIP) to address visibility impairment in the Commonwealth's two Class I areas, the Shenandoah National Park and the James River Face Wilderness Area, as well as a progress report showing visibility improvements achieved and expected future visibility improvements. Figure 3-1 shows actual visibility improvements at Dickey's Ridge in the Shenandoah National Park. The left image shows visibility at 30.54 deciview, the visibility impairment measured during 2002 on 20% most impaired days. The right image shows visibility at 16.33 deciview, the visibility impairment measured during 2022 on 20% most impaired days. This progress in visibility improvement is mainly due to the reduced emissions of SO_2 and sulfates from fuel combustion sources.

Figure 3-1: 2002 (left) and 2022 (right) 20% Most Impaired Day Visibility at Dickey's Ridge, Shenandoah National Park

In concert with other southeastern states, DEQ has finalized the next regional haze SIP revision. As part of this submission, the CAA requires that DEQ undertake a four-factor analysis for certain sources and emissions sectors to determine if reasonable controls are in place or available. The comment period for Virginia's second round Regional Haze SIP closed on June 19, 2025. DEQ submitted this regional haze SIP revision to EPA in October of 2025.

DEQ has also developed the required second round regional haze progress report. The comment period for this document closed August 28, 2025.

3.2. Air Permitting Activities

DEQ issues two basic types of air permits: construction permits and operating permits. Construction permits, termed New Source Review (NSR) permits, apply to new facilities as well as existing facilities that undergo an expansion or modification. Operating permits apply to sources that are already in operation.

DEQ has three construction permit programs for criteria pollutants, as described below:

The Prevention of Significant Deterioration (PSD) major new source review program applies to major sources that are in an area that is in attainment with the National Ambient Air Quality Standards (NAAQS). Sources must apply Best Available Control Technology (BACT) as well as undergo a

thorough air quality analysis demonstration (i.e., air modeling) to assure the new facility or major modification to an existing facility will not cause or contribute to a violation of the NAAQS or have an adverse impact on any Class I area. DEQ did not issue any PSD Significant Amendment permits in state fiscal year 2025.

The second program is the nonattainment major NSR program, which applies to major sources located in an area designated as nonattainment for one or more NAAQS. A facility in a nonattainment area must apply the Lowest Achievable Emission Rate (LAER), which is often more rigorous than BACT, and must obtain offsets for the pollutant for which the area is not in attainment. DEQ did not issue any nonattainment NSR permits in state fiscal year 2025.

The third program is the minor NSR program. This program applies to new sources or existing sources that are undergoing a modification and are below major source emissions thresholds. During the 2025 fiscal year, DEQ issued 303 minor NSR permits. Additionally, the minor NSR program is used to issue state major source permits, which apply to those sources that have emissions greater than 100 tpy of a criteria pollutant but do not fit the criteria to be classified as PSD or nonattainment major NSR. DEQ issued 1 state major permit in fiscal year 2025. Virginia also has general permits (i.e., permits by regulation) for non-metallic mineral processors and distributed generation. If a facility meets the necessary requirements, the facility may use the general permit process instead of the normal minor NSR permitting process. DEQ issued 2 general permits during state fiscal year 2025.

DEQ issues two types of operating permits: state operating permits (SOPs) and federal operating permits, including federal Title V operating permits and federal Acid Rain program permits, as described below:

SOPs are used primarily to cap a source's emissions to keep it below major source emissions thresholds and therefore exempt from a major source permitting program. Facilities often use SOPs to place federally and state enforceable limits on hazardous air pollutants (HAPs) to remain exempt from the federal HAP program. The federal HAP program generally requires the implementation of maximum achievable control technology (MACT) standards. A source may request SOPs at any time, and DEQ may issue SOPs as necessary (due to a modeled or actual exceedance of a NAAQS or to meet a CAA requirement). DEQ issued 23 SOPs during the state fiscal year 2025.

The federal operating permits issued by DEQ include federal Title V operating permits as well as federal Acid Rain program permits. The Title V permit program applies to sources that meet the criteria for being "major" under Title V of the CAA. The purpose of a Title V permit is to compile all requirements from a source's multiple air permits and applicable regulations into one permit document. A newly constructed source that is large enough to qualify as a Title V source must apply for a Title V permit within one year of starting operation. Title V permits must be renewed every five years. Acid Rain permits also are considered federal operating permits. DEQ must issue these permits to sources that are subject to the federal Acid Rain program (CAA Title IV). DEQ issued 4 federal operating permits and 42 operating permit renewals during the state fiscal year 2025.

The Air Permitting Program continues to utilize DEQ's Permit Enhancement and Evaluation Platform (PEEP). Air Permitting is consistently meeting all target timelines established in PEEP.

Additional information about air permitting activities at DEQ is available on DEQ's website at https://www.deq.virginia.gov/permits/air.

3.3. Air Compliance Activities

DEQ's air compliance program identifies and addresses potential violations of applicable regulations and laws to ensure compliance by facilities operating within the Commonwealth. The focus of the air compliance program is to return facilities to compliance expeditiously, supporting DEQ's mission to protect the environment and human health. To do so, air compliance personnel perform partial compliance evaluations (PCEs) and full compliance evaluations (FCEs). These actions include onsite inspections, test observations, and comprehensive evaluations of the facility records and equipment associated with pollutant emissions, including examination and review of documents detailing throughputs, emissions, monitoring, testing, and various reports submitted by the facilities.

DEQ's air compliance program operates in accordance with EPA's 2016 Clean Air Act Stationary Source Compliance Monitoring Strategy (CMS). This strategy primarily identifies the largest potential emitters of air pollution for an FCE at a minimum recommended frequency of either once every two or five years. Depending on available resources, DEQ's air compliance program also identifies smaller potential emitters under its Risk-Based Inspection Strategy (RBIS). This strategy allows flexibility during inspection planning, and DEQ regional offices may identify facilities for a FCE based on potential noncompliance or in response to sector initiatives.

Virginia has 3,732 registered air facilities, excluding gasoline service stations. For the 2024 federal fiscal year (October 1, 2023, through September 30, 2024), the air compliance program conducted 3,058 compliance evaluations, including 593 on-site inspections and 157 stack test observations. As a result, the air compliance program issued 345 enforcement actions.

DEQ reports compliance and enforcement activities related to Virginia's regulated facilities to EPA on a weekly basis. This information is publicly available on EPA's Environmental Compliance and History Online (ECHO) website: https://echo.epa.gov.

3.4. Air Enforcement Activities

The goal of enforcement is to take appropriate actions to address violations of environmental laws and return facilities to compliance with Virginia's statutory and regulatory requirements. The mechanism used by DEQ to achieve compliance is proportional to the violation, responsive to the facility's compliance history, and protective of human health and the environment. In addition, an appropriate enforcement action, which may include a civil charge and recovery of economic benefit, sends a message of deterrence to the regulated community. In the federal fiscal year 2024, DEQ issued 33 consent orders that resulted in a total of $391,613.47 in civil charges collected.

3.5. Small Business Assistance

DEQ provides various forms of compliance assistance to potentially thousands of small businesses throughout the Commonwealth. DEQ provides these services at no cost to facilities to inform, educate, and assist small businesses in complying with environmental regulations. More generally, the Small Business Assistance (SBA) program conducts personal and web-based outreach to small businesses, providing access to various resources including regulatory updates, fact sheets, checklists, brochures, enforcement case assistance, and financial resources. DEQ maintains the SBA website at: https://www.deq.virginia.gov/our-programs/small-business-assistance.

3.6. Motor Vehicle Inspection and Maintenance Program

Virginia's motor vehicle inspection and maintenance (I/M) program improves air quality by identifying high-emitting vehicles in need of repair operating in the Commonwealth's nonattainment area and requiring them to be fixed as a prerequisite to vehicle registration. The CAA mandates I/M for several areas across the country, including the Northern Virginia area, based upon criteria such as air quality classification, population, and geographic location.

DEQ's decentralized I/M program includes over 500 permitted emissions inspection stations and approximately 200 certified repair facilities. These stations and facilities use the latest accepted technology to determine which vehicles emit excessive pollutants. Gasoline-powered vehicles up to 10,000 pounds gross vehicle weight rating (GVWR) and newer than 25 model years and diesel-powered vehicles up to 8,500 pounds GVWR and 1997 model year and newer registered in the I/M area are required to pass an emissions test or receive a waiver every two years to obtain vehicle registration. In calendar year 2024, inspection stations performed 740,039 initial vehicle emissions inspections, of which 14,784 (or 1.7%) failed inspection, prompting repair of these vehicles. DEQ maintains an I/M program website at Vehicle Emissions (Air Check) | Virginia DEQ.

3.6.1. Mobile Source Operations Section

The Mobile Source Operations Section (MSOS) of DEQ's Northern Regional Office monitors the performance of the various emissions inspection stations, certified emissions repair facilities, over 200 certified emissions repair technicians and over 1,500 licensed emissions inspectors within the I/M program. In the calendar year 2024, MSOS personnel conducted 444 overt and 170 covert performance audits at emissions inspection stations.

3.6.2. On-Road Emissions Monitoring Program

Virginia's On-Road Emissions (ORE) program is designed to use on-road, remote sensing devices to identify both high-emitting and very clean vehicles. With few exceptions, gasoline-powered vehicles with a model year of 1968 and newer and 10,000 pounds GVWR or less registered or operated primarily (as defined by regulation) in the I/M area are subject to the ORE program. Emissions data are collected by remote sensing devices as vehicles travel through designated on-road sites. These data are then used to determine whether the emissions meet applicable standards and if any owner notification is warranted. Data are also used for program evaluation purposes.

Owners of high-emitting vehicles are sent a Notice of Violation (NOV) and are prompted to receive a confirmation test and necessary repairs. Vehicles failing the confirmation test must be repaired and re-inspected until they pass or receive a DEQ-issued waiver. Low-income owners may be eligible for repair assistance. In 2024, DEQ issued 1,633 NOVs to owners of high-emitting vehicles. Of the 1,033 vehicles submitted for confirmation tests, 35% failed and an additional 18% had emissions control monitors "not ready" indicating issues with the vehicle's emissions control system. Repairs resulting from this program help improve air quality and allow DEQ to monitor program compliance of subject vehicles between normal inspection cycles.

Owners of exceptionally clean vehicles subject to biennial inspections and meeting program requirements may receive a "clean screen" notice through the RAPIDPASS program and have the option to redeem them in lieu of vehicle testing at a traditional emissions inspection station. Legislation passed in 2012 allows up to 30% of the eligible I/M fleet to be clean-screened through the ORE program. In 2024, there were 111,096 on-road emissions tests completed.

Additionally, DEQ administers an evaporative emissions ("liquid leaker") advisory program, which uses the remote sensing devices to identify vehicles with very high evaporative emissions, separate from tailpipe exhaust emissions. Since this is advisory only, vehicles do not need to be registered or operated primarily in the I/M area; all Virginia-registered vehicles meeting other ORE criteria are subject to the program. Vehicle owners are mailed advisory notices explaining on-road detection, the potential leak and actions that may be taken if the owner decides to have their vehicle examined. The advisory notice clearly explains that no action is required but does request feedback should the owner choose to have the vehicle examined and/or repaired. Information provided to DEQ aids in evaluating air quality benefits associated with the identification and repair of evaporative emissions leaks. DEQ began sending these notices in June 2018. Of the eighty (80) advisory notices sent in the calendar year 2024, no responses were received from owners. DEQ will use this and subsequent years' data to estimate the potential emissions reductions and benefits these types of repairs may provide in continuing efforts to improve the Commonwealth's air quality.

4. EMISSION ESTIMATES AND CONTROL PROGRAMS

Figure 0-1 provides Virginia emissions data for the years 2011 and 2020 from EPA's National Emissions Inventory (NEI). As shown in Figure 0-1, anthropogenic emissions of NO_X, VOC, and SO_2 in Virginia have decreased significantly between 2011 and 2020. The reductions shown are the result of control programs implemented at the federal and state level as well as changing economic factors.

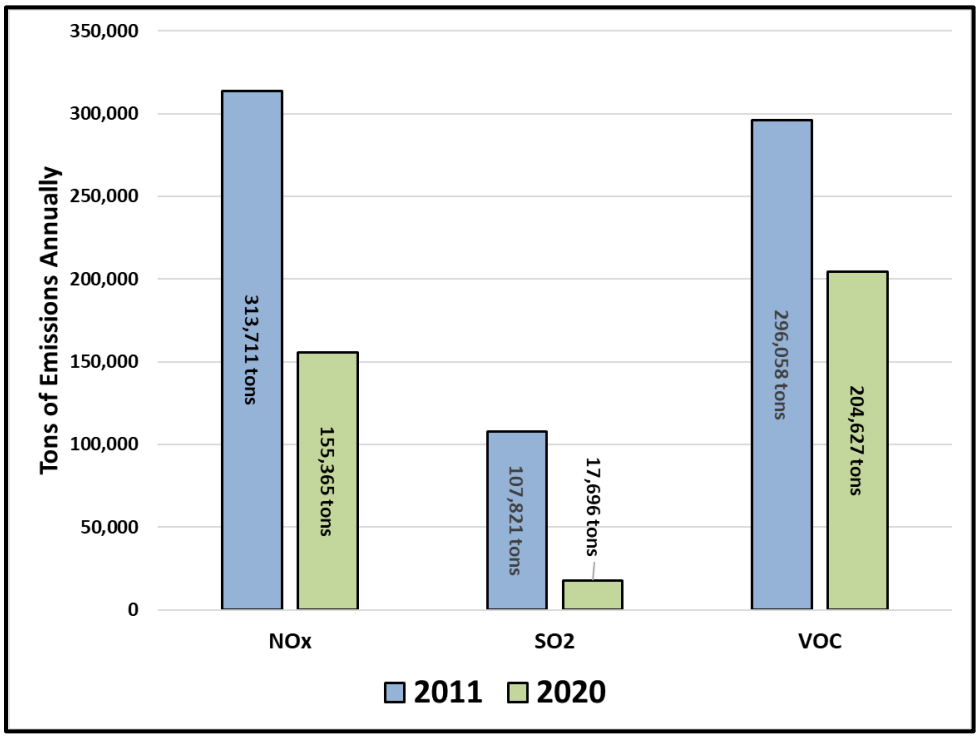


Figure 0-1: 2011 and 2020 Anthropogenic Emission Estimates for Virginia

Figure 0-2 compares the percentage of emissions for SO_2 and NO_X derived from each source sector in 2011 and 2020. For SO_2, emissions decreased from 107,821 tons in 2011 to 17,696 tons in 2020. In 2011, fuel combustion for the purposes of creating electricity accounted for 64% of the SO_2 emissions in Virginia. In 2020, this sector accounts for only 7% of total SO_2 emissions in Virginia. Industrial fuel combustion (28%) followed by metals processing (25%) accounted for the majority of SO_2 emissions in 2020.

NO_X emissions have decreased from 313,711 tons in 2011 to 155,365 tons in 2020. Figure 0-2 shows that highway vehicles and off-highway engines account for 68% of all anthropogenic NO_X emissions in 2011 and 63% of all anthropogenic NO_X emissions in 2020. NO_X emissions from highway vehicles and off-highway engines may have been depressed during 2020 due to the COVID-19 pandemic response.

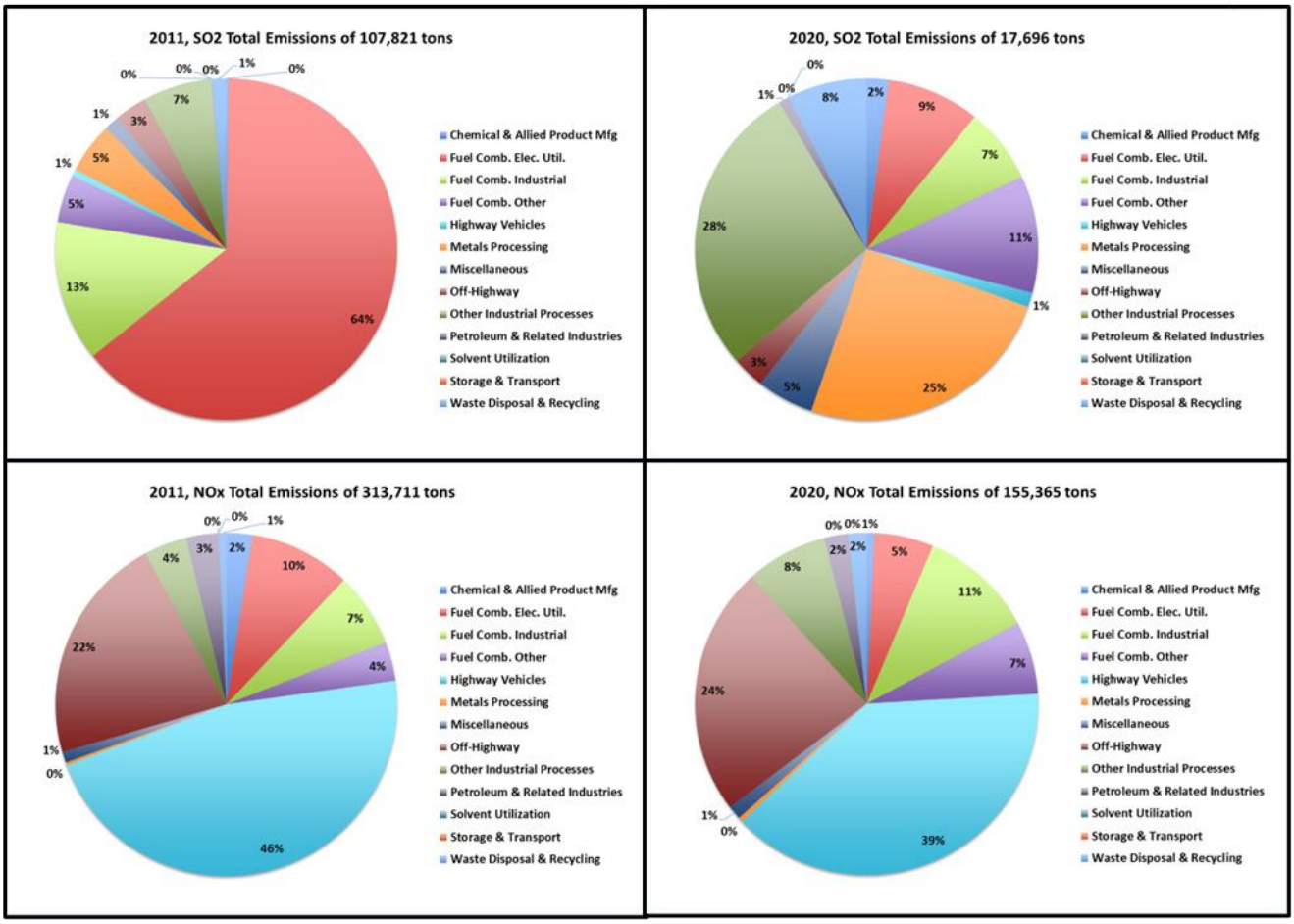


Figure 0-2: 2011 and 2020 Percent Emission of NO_X and SO_2 by Sector

4.1. Emissions from Electrical Generation

Figure 0-3 provides the annual emissions of SO_2 and NO_X from Acid Rain Program electrical generating units located in Virginia. These units are the largest fossil fuel-fired equipment in the Commonwealth. Emission reductions from this source sector are attributable to several factors, including control programs such as the federal Mercury and Air Toxics Rule; retirement of older, high-emitting units; and the construction and operation of new, very low-emitting units. Between 2002 and 2024, Virginia emissions and emission rates decreased in this source sector even though fuel usage rates, depicted by the solid line in Figure 0-3, have increased in recent years.

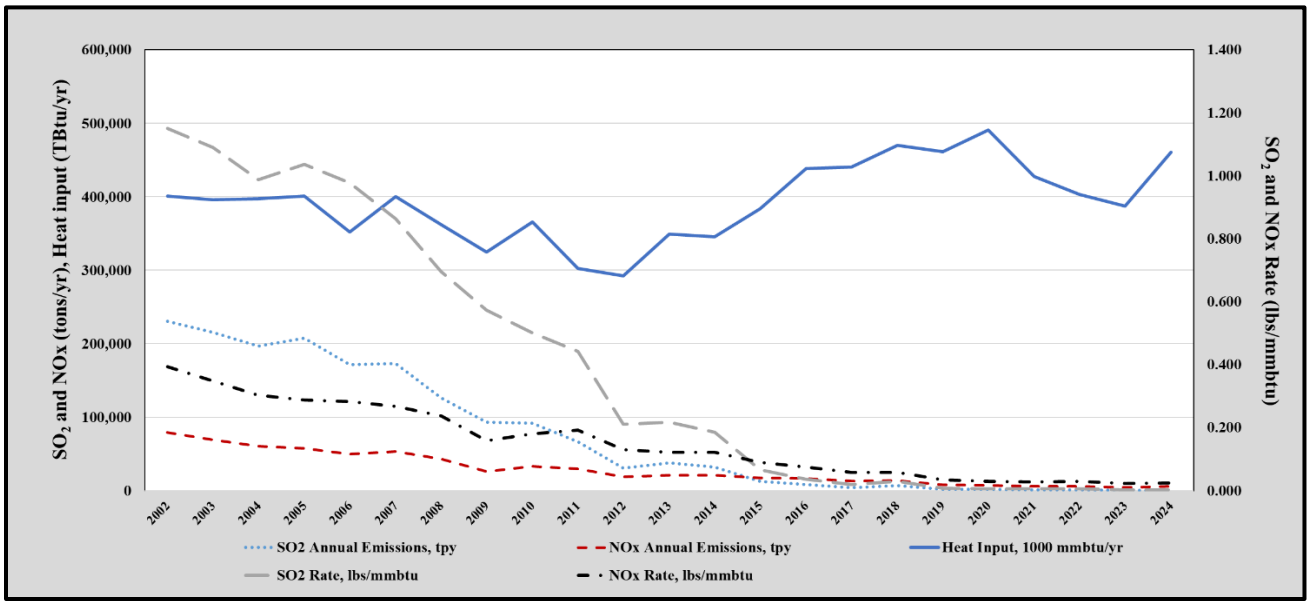


Figure 0-3: Virginia Acid Rain Unit Emissions

4.2. On Road Mobile Source Programs

On-road mobile sources include highway vehicles that use gasoline, diesel, and other fuels. These sources include both light duty and heavy-duty vehicles. In EPA's NEI data for 2011 and 2020, the on-road mobile source sector accounts for 46% and 39%, respectively, of Virginia's entire anthropogenic NO_X inventory. NO_X is the predominant cause of ozone in this part of the United States and contributes to nitrogen deposition in the Chesapeake Bay. Virginia on-road mobile source NOx emissions have steadily decreased from 2011 to 2020. On-road mobile source NO_X emissions in 2011 were approximately 145,762 tons while in 2020 the on-road mobile source NO_X emissions were approximately 60,394 tons. The data for 2020 may be somewhat depressed by the COVID-19 pandemic response.

On January 24, 2023 (88 FR 4296), EPA published a new rule controlling emissions from heavy duty engines and vehicles. This rule adopts stronger standards reducing NO_X emissions from heavy-duty vehicles and engines starting in model year 2027. On April 18, 2024 (89 FR 27842), EPA finalized a more stringent set of emission standards for light-duty and medium duty on-road engines that would phase-in over model years 2027 through 2032. The standards reduce passenger car, light truck, and medium-duty vehicle emissions of hydrocarbons, NO_X, and $PM_{2.5}$. The fate of these rules is uncertain since EPA has announced reconsiderations of these rules as part of EPA's *Powering the Great America Comeback* program.[6, 7]

[6] https://www.epa.gov/newsreleases/epa-announces-action-implement-potuss-termination-biden-harris-electric-vehicle.
[7] https://www.epa.gov/system/files/documents/2025-03/heavy-duty-vehicles-powering-the-great-american-comeback-factsheet.pdf

4.3. Reformulated Gasoline

Reformulated gasoline (RFG) is gasoline blended to burn more cleanly than conventional gasoline. Using this fuel reduces emissions of VOC, CO, and NO_X as well as some toxic pollutants like benzene. The CAA under § 211(k)(10)(D) mandated the use of RFG in certain large, metropolitan areas, including ten jurisdictions in the Northern Virginia area. Based on air quality, other Virginia areas opted into this program to garner reductions necessary to reduce ozone concentrations. Such areas in Virginia include seven jurisdictions in the Richmond-Petersburg area and 11 jurisdictions in the Hampton Roads area. Based on 2016 Virginia Department of Motor Vehicle data, these jurisdictions house 58% of all registered vehicles in Virginia. Based on Virginia Department of Transportation data, these jurisdictions account for 52% of all vehicle miles traveled in Virginia.

EPA estimates that RFG reduces mobile source emissions of VOC by 27% and NO_X by 7% as compared to emissions from conventional gasoline. Emission reductions occur for on-road use, such as in passenger vehicles and gasoline-powered trucks, and in other types of engines, such as lawn equipment, watercraft, and gasoline-powered generators. EPA also estimates that RFG emits 22% less toxic air pollutants than conventional gasoline. EPA provides more information on this program at https://www.epa.gov/gasoline-standards/reformulated-gasoline.

In 2017 DEQ evaluated the emissions benefits of this program using MOVES2014a and the 2011 input data for Virginia jurisdictions. This analysis estimated the daily and annual benefits achieved from implementation of the RFG program in 2011. Table 0-1 summarizes these estimated 2011 reductions from the RFG program on a daily and an annual basis.

Table 0-1: RFG Program - Emissions Benefit

Area	NO_X tons/day	NO_X tpy	VOC tons/day	VOC tpy	CO tons/day	CO tpy
Northern Virginia/D.C.	1.39	210.31	1.90	415.01	18.63	3,391.49
Richmond-Petersburg	1.13	162.50	1.64	321.52	14.35	2,575.94
Hampton Roads	1.49	187.94	2.05	347.49	19.75	2,665.26
Virginia Total	4.00	560.75	5.59	1,084.03	52.72	8,632.69

On December 4, 2020 (85 FR 78412), EPA finalized an action that updated many of the federal gasoline and diesel fuel quality programs, including the RFG program. The streamlined regulation does not affect the stringency of any of the fuel quality program standards. However, changes to recertification provisions may facilitate the distribution of an ethanol-free RFG in RFG areas should manufacturers decide to create and market such a product.

4.4. Non-Road Mobile Control Programs

Non-road mobile equipment includes off-road mobile sources that use gasoline, diesel, and other fuels. Source types include construction equipment, lawn and garden equipment, aircraft ground support equipment, locomotives, and commercial marine vessels. In EPA's NEI data for 2011 and 2020, the non-road mobile source sector accounts for 22% and 24%, respectively, of Virginia's entire anthropogenic NOx inventory.

Federal regulations control emissions of various pollutants from these non-road mobile source categories. These federal regulations require manufacturers to build cleaner engines. Most of these regulations have phase-in periods, where standards are more stringent for equipment manufactured in later years. These federal standards address a range of non-road sources including recreational vehicles, marine vessels, locomotives, and lawn and garden equipment. Air pollution benefits are realized through the purchase of new equipment and the benefits to air quality continue until the entire equipment fleet is replaced.

On October 20, 2023 (88 FR 72372), EPA published a final determination that Pb emissions from certain aircraft engines cause or contribute to air pollution, which may endanger public health and welfare. This determination requires EPA to develop proposed emission standards for Pb emissions from aircraft and to prescribe standards to control or eliminate lead from aircraft fuel. EPA provides more information on this rule at https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-lead-emissions-aircraft.

4.5. Volkswagen Environmental Mitigation Trust Agreement for State Beneficiaries

The Commonwealth of Virginia's Beneficiary Mitigation Plan (Plan) describes the range of eligible on road and non-road mobile source mitigation actions that Virginia may fund with the $93.6 million allocated to it under the fully executed Environmental Mitigation Trust Agreement for State Beneficiaries (State Trust Agreement) that took effect October 2, 2017, in the case, *In Re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation.* The State Trust Agreement is an element of the settlements resolving allegations that Volkswagen (VW) violated the Clean Air Act by the sale of approximately 590,000 2.0- and 3.0-liter diesel engine motor vehicles (model year 2009 to 2016) equipped with "defeat devices" in the form of computer software designed to cheat on federal emissions tests including approximately 16,000 vehicles in Virginia. DEQ was designated the Lead Agency by the Commonwealth of Virginia to manage the states' $93,633,980 allocation of the $2.95 billion Trust through a Beneficiary Mitigation Plan (BMP). The primary goal of the BMP is to mitigate approximately 2,000 short tons of excess NO_X emitted by more than 16,000 VW diesel vehicles registered in Virginia. Other priorities delineated in the BMP, including reducing air pollution in disproportionately impacted areas of the state, attaining and maintaining federal air quality standards for ground-level ozone, improving visibility under the regional haze program, and reducing nitrogen loads to the Chesapeake Bay.[8] More than $91 million of the $93.6 million is obligated for eligible NO_X mitigation projects delineated by the State Trust Agreement. Information on the implementation of the State Trust Agreement is provided on DEQ's VW Mitigation webpage at https://www.deq.virginia.gov/topics-of-interest/volkswagen-settlement-agreement.

[8] DEQ collaborated with EPA to develop a white paper entitled *Influence of Volkswagen Settlement Agreements on Chesapeake Water Quality*, which provides a standard method for converting reductions in NOx emissions achieved through the implementation of VW mitigation to reduced nitrogen loads to the Bay. This standard method can be used by all Chesapeake Bay Partner states (https://www.chesapeakebay.net/channel_files/28679/influence_of_volkswagen_settlement_agreements_on_chesapeake_water_quality_final_8-20-18.pdf).

5. GREENHOUSE GAS EMISSIONS INVENTORY

Pursuant to subsection H of § 10.1-1307, beginning with the report issued on October 1, 2022, and every four years after, DEQ shall include a greenhouse gas (GHG) emissions inventory for baseline calendar year 2010 and changes in GHG emissions relative to the GHG 2010 emission baseline case.

DEQ has now updated the annual statewide GHG inventory to 2021 and the results are shown below.

Figure 0-1 illustrates the estimated GHG emissions by sector for the baseline year 2010. In 2010, approximately 165 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) were emitted in the Commonwealth. The use of CO_2e as a standard measure allows for the comparison of greenhouse gases based on their global warming potential. For instance, a ton of methane emissions causes 28 times the amount of warming as a ton of CO_2 and can be described as 28 tons of CO_2e.

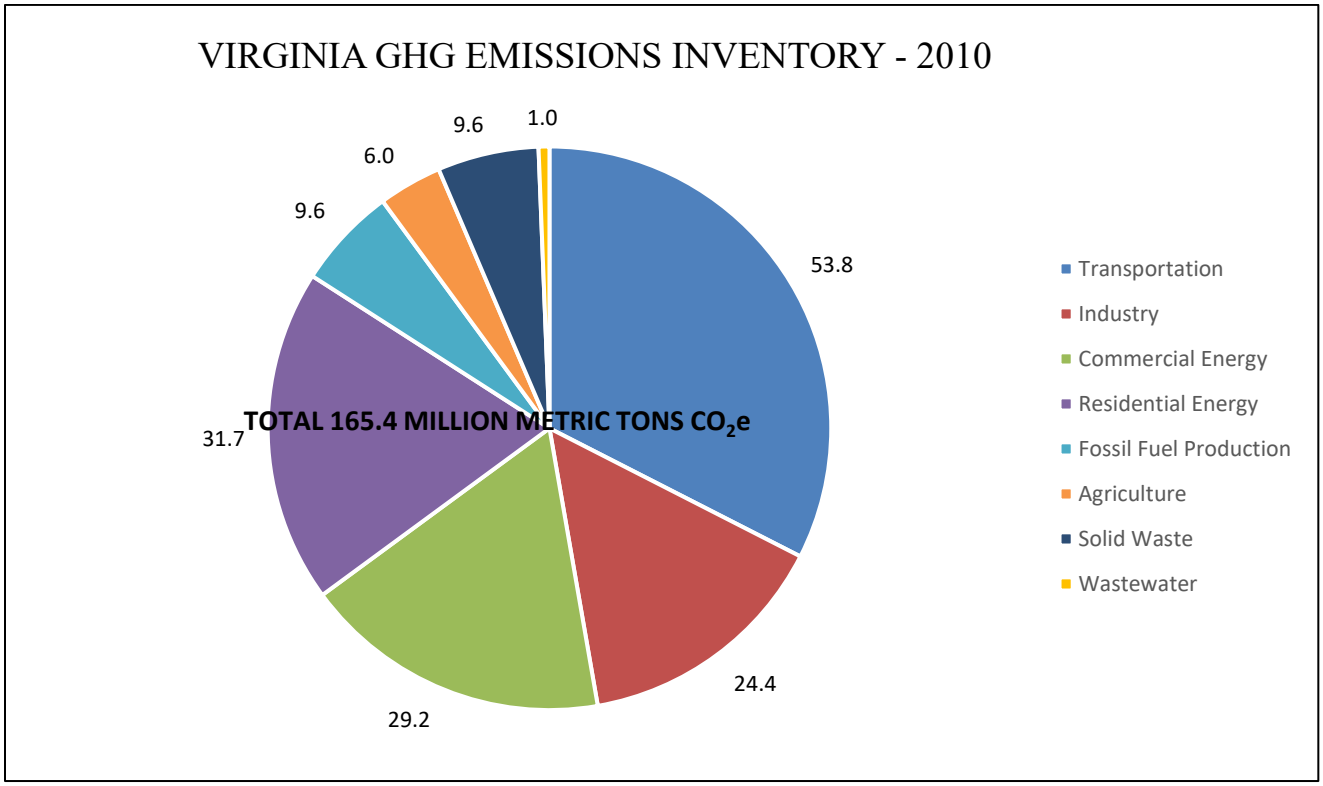


Figure 0-1: Updated 2010 Baseline GHG Emissions by Sector

Figure 0-2 on page 23 depicts the estimated GHG emissions by sector in 2021. In the calendar year 2021, approximately 139 $MMTCO_2e$ were emitted in the Commonwealth, reflecting a reduction of 16.1 percent compared to GHG emissions in 2010. During the development of the 2021 GHG Inventory, DEQ contracted support to review and recommend improvements to its inventory sources. Inventory refinement included the integration of fuel use data for marine, rail, and air transportation, the addition of certain industrial processes and land uses, and the substitution of solid waste landfilling and combustion data with state-sourced data. The 2010 baseline data have also been revised to the extent

possible using these updated sources and methodologies.

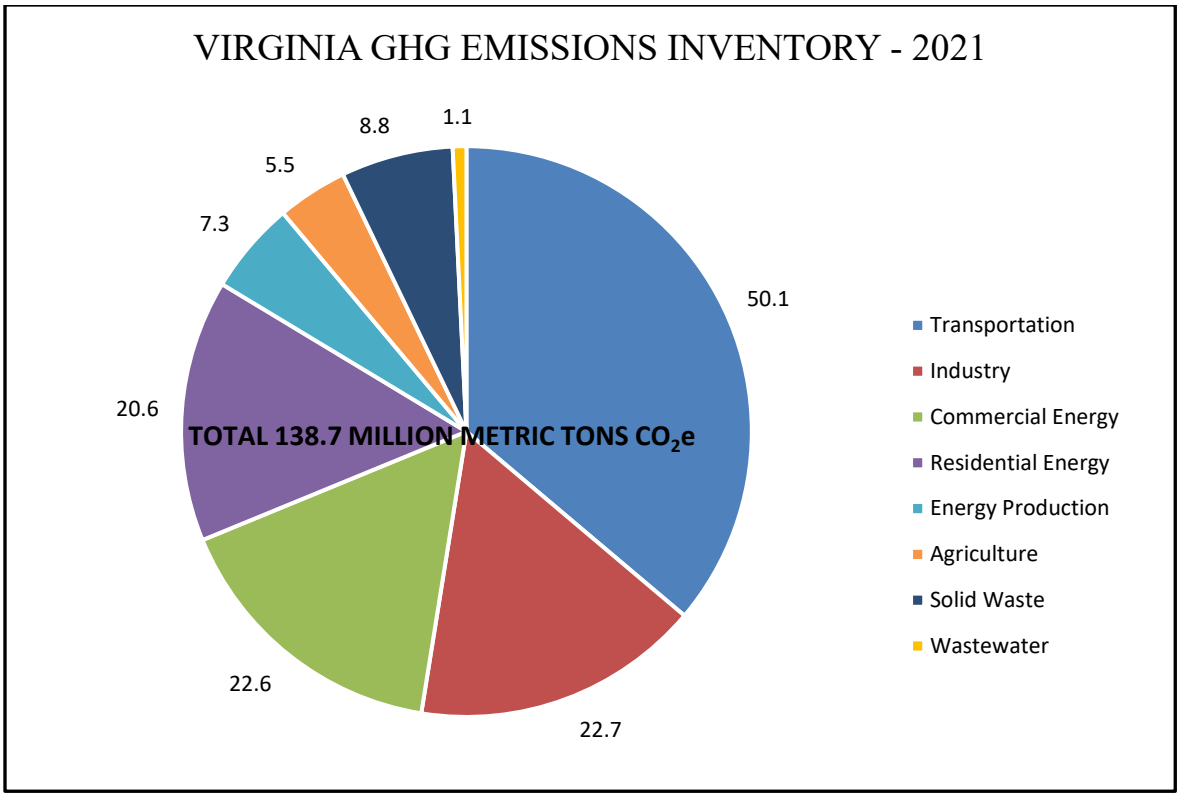


Figure 0-2: 2021 GHG Emissions by Sector

Virginia's GHG inventory includes emissions offset data from natural sources such as forests, soil, and urban trees. In 2021, natural sources offset 44.5 $MMTCO_2e$, compared to 45.6 $MMTCO_2e$ in 2010. This means that in 2021, natural sources sequestered 32.1 percent of Virginia's GHG emissions, compared to a sequestration rate of 27.6 percent in 2010.

Reports detailing the methodologies and findings of the 2010 baseline and 2016-2020 GHG emissions inventories, encompassing sector-specific emissions and emissions offset data, can be accessed on DEQ's website at: https://www.deq.virginia.gov/our-programs/air/greenhouse-gases.

C

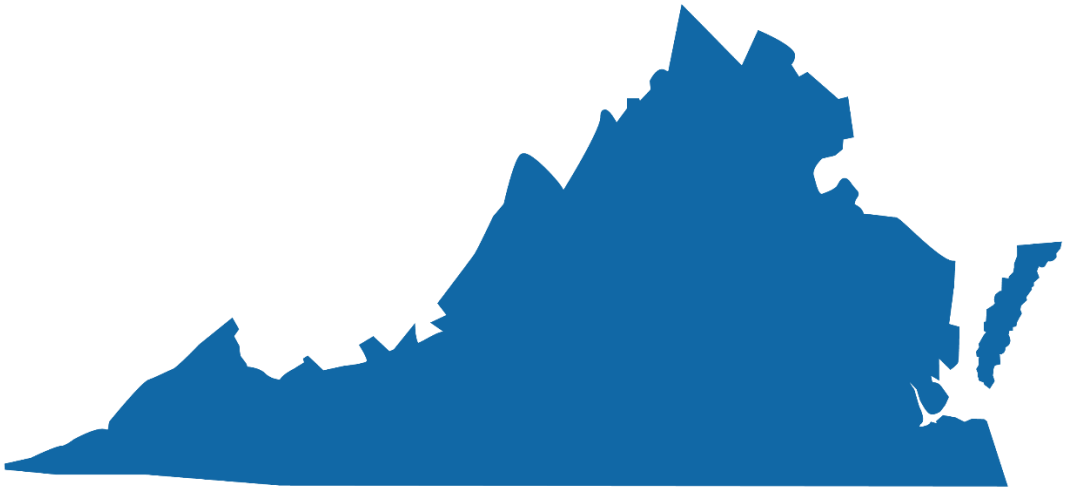
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

ANNUAL WATER RESOURCES REPORT

Status of Virginia's Water Resources & Management Activities

Commonwealth of Virginia

Department of Environmental Quality



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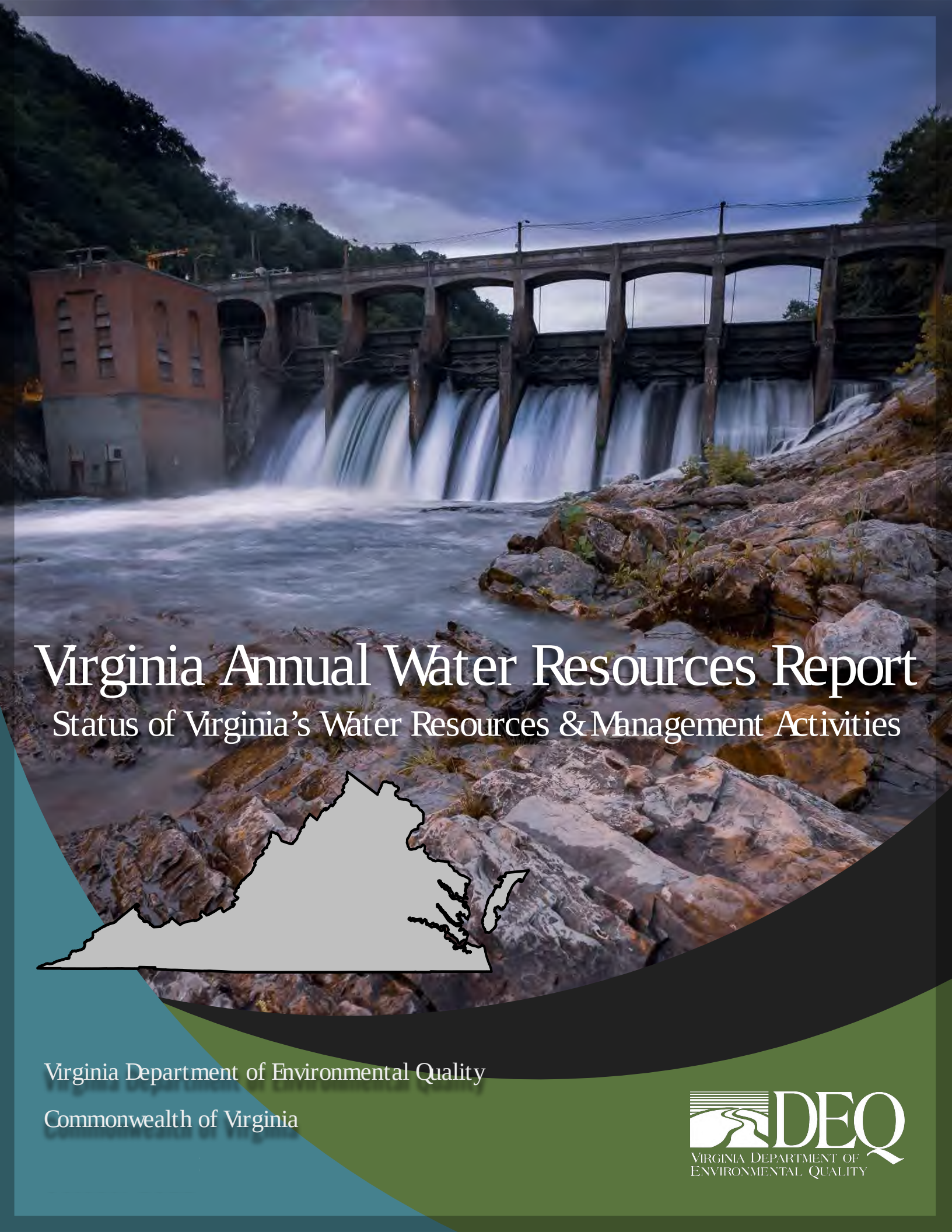

Virginia Annual Water Resources Report

Status of Virginia's Water Resources & Management Activities

Virginia Department of Environmental Quality

Commonwealth of Virginia

DEQ
Virginia Department of Environmental Quality

Annual Water Resources Report cover photo by Trevor Lawson, 2021.

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Acronyms

BGD: Billion Gallons per Day
BGY: Billion Gallons per Year
BSE: Virginia Tech Biological Systems Engineering
CIA: Cumulative Impact Analysis
DEQ: Virginia Department of Environmental Quality
DWR: Virginia Department of Wildlife Resources
ENSO: El Niño–Southern Oscillation
EPA: Environmental Protection Agency
FERC: Federal Energy Regulatory Commission
GPD: Gallons per Day
GW: Groundwater
GCMP: Groundwater Characterization and Monitoring Program
GWMA: Groundwater Management Area
HRSD: Hampton Roads Sanitation District
ICPRB: Interstate Commission on the Potomac River Basin
IFIM: Instream Flow Incremental Method
JLARC: Joint Legislative Audit and Review Commission
JPA: Joint Permit Application
MGD: Million Gallons per Day
NPDES: National Pollutant Discharge Elimination System
NWIS: USGS National Water Information System
ORM: Office of Regulatory Management
OWS: Office of Water Supply
PDC: Planning District Commission
PEEP: Permitting Evaluation and Enhancement Platform
PWS: Public Water Supply
RAP: Regulatory Advisory Panel
RPA: Regional Planning Area
SW: Surface Water
SWCB or Board: State Water Control Board
SWIFT: Sustainable Water Initiative for Tomorrow
SWIP: Surface Water Investigations Program
UIC: Underground Injection Control
USACE: United States Army Corps of Engineers
USDA: United States Department of Agriculture
USGS: United States Geological Survey
VDH: Virginia Department of Health
VGIN: Virginia Geographic Information Network
VMRC: Virginia Marine Resources Commission
VWP: Virginia Water Protection (Permit Program)
WSP: Water Supply Plan
WSPA: Water Supply Planning & Analysis
WTP: Water Treatment Plant
WUDR: USGS Water Use Data and Research Program
WWTP: Waste Water Treatment Plant

Executive Summary

The Virginia Annual Water Resources Report (Annual Report) is submitted in October of each year to the Governor and the Virginia General Assembly in accordance with § 62.1-44.40 of the Code of Virginia. The Annual Report focuses on water quantity and supply, summarizing reported water withdrawals for the 2024 calendar year, identifying water withdrawal trends, and providing an update on the Commonwealth's water resources management activities. Where applicable, the Annual Report also serves as a status report on activities associated with the State Water Resources Plan between updates. The 2020 State Water Resources Plan was released in January 2022 after completing an extensive public comment and stakeholder outreach process. The 2020 State Plan is the most current version available. DEQ recognizes that the State Plan is a valuable resource; however, in order to provide the most accurate information, development of the next State Plan will be postponed until after the submission and finalization of Regional Water Supply Plans in October 2029.

Water quality issues are addressed in the most recent biennial Water Quality Assessment Integrated Report, published by the Virginia Department of Environmental Quality (DEQ).

Chapter 1 provides an overview of water resource management activities and outcomes during 2024. This chapter discusses several DEQ programs including Water Supply Planning and Analysis, Water Withdrawal Reporting, Water Withdrawal Permitting and Compliance, Groundwater Withdrawal Permitting, Surface Water Withdrawal Permitting, Groundwater Characterization and Monitoring, Surface Water Investigations, and Drought Assessment and Response.

Chapter 2 provides a brief overview on how withdrawals are reported to DEQ, summarizes 2024 reported water withdrawals at the statewide level for all water use types, and compares 2024 reported withdrawals to average use over the past five years.

Chapter 3 provides an overview of water withdrawal reporting for the year 2024, as well as comparisons to reporting in recent years, for each of the following water withdrawal use categories: public water supply, commercial, industrial, power generation, mining, agriculture, and irrigation.

Chapter 4 identifies new, continuing, and future priorities, challenges, or other topics of specific interest for DEQ. These include updates on new legislative or regulatory actions, programmatic goals and achievements, and other items.

In addition to the main chapters, the report includes several appendices that provide: the top 20 largest reported withdrawals in 2024 (Appendix 1), withdrawals within individual localities in 2024 (Appendix 2), an overview of Virginia's water resources and climatic conditions (Appendix 3), and some additional information on water transfers (Appendix 4).

Water Withdrawal Permitting;

In calendar year 2024, DEQ issued 52 groundwater withdrawal permits and 16 surface water withdrawal permits.

DEQ manages groundwater withdrawal permits within the Eastern Virginia Groundwater Management Area and Eastern Shore Groundwater Management Area as well as surface water withdrawal permits statewide. A significant focus of this administration and the DEQ Director is improving permit processing timelines. DEQ's agency-wide Permitting Enhancement and Evaluation Platform (PEEP) is operational and has improved efficiency and transparency throughout permitting processes by identifying critical path improvements for complex individual permit issuance processes. In preparation to integrate effectively into the PEEP process, DEQ's water quantity management programs addressed a number of issues including: incorporating program data and data management into the DEQ enterprise system, working to bring on new hires to fill vacancies, and accelerating new hire training.

DEQ has greatly reduced the backlog of surface water withdrawal permit applications received prior to the initiation of PEEP, with 4 surface water applications remaining as of July 1, 2025. In calendar year 2024, DEQ issued 52 groundwater withdrawal permits and 16 surface water withdrawal permits. Review of water withdrawal applications requires extensive interagency coordination and a technical evaluation process, both of which contribute to longer permit processing timelines than is typical in other DEQ permit programs. Vacancy rates within the permit program remain a consistent challenge, and DEQ continues to work to fill these vacancies through continuous recruitment strategies.

Summary of 2024 Water Withdrawal Reporting and Trends (excluding power generation):

Surface Water: Reported withdrawals increased 1.59% compared to the five-year average.

Groundwater: Reported withdrawals increased 7.72% compared to the five-year average.

In calendar year 2024, 1,157 facilities reported water withdrawals to DEQ. Total reported withdrawals in 2024 were approximately 5.44 billion gallons per day (BGD), including the cooling water withdrawals at nuclear and fossil fuel power generation facilities, which make up 76.5% of this total. The 2024 total reported withdrawal is 3.08% less than the five-year average of 5.61 BGD, which is primarily due to a reduction in reported power generation withdrawals.

Excluding power generation, 2024 reported withdrawals totaled 1.28 BGD, a 2.28% increase compared to the five-year average. The increase in reported use over the last five years is largely driven by increased withdrawals from public water supply facilities, and a recent increase in mining withdrawals. Reported use for many categories dropped in 2020 due to economic and social impacts from the COVID-19 pandemic. Though total reported withdrawals excluding power generation dropped in 2020, total volume has remained above pre-pandemic levels since 2021.

In 2024, public water supply withdrawals from surface and groundwater sources combined increased by 4.20% to 827.3 million gallons per day (MGD). Though total reported public water supply withdrawals increased in 2024 compared to the five-year average, withdrawals have remained relatively consistent since 2022. Despite successes in reducing per capita water use, reported public water supply withdrawals have steadily increased over the last ten years as Virginia's population continues to grow in the urban and suburban areas served by public water supplies. Reported increases in withdrawals in 2024 compared to five-year average were also reported in the commercial (6.26%), mining (48.70%), and nuclear power (4.82%) categories. Increases in 2024 withdrawals compared to five-year average withdrawals were driven primarily by increases in the public water supply and nuclear power categories.

Surface Water: Total reported surface water withdrawals excluding power generation increased by 1.59% compared to the five-year average and surface water withdrawals accounted for approximately 88% of total reported withdrawals excluding power generation in 2024. Public water supply remains the largest non-power use type for surface water withdrawals with 769 MGD reported in 2024. Surface water withdrawals for public water supply increased by 4.54% compared to the five-year average. Approximately 81% (916.16 MGD) of 2024 reported surface water withdrawals were associated with unpermitted facilities. Unpermitted surface water use is primarily from facilities that are exempt from permitting requirements.

Groundwater: Total reported groundwater withdrawals excluding power generation increased by 7.72% compared to the five-year average in 2024, and accounted for approximately 12% of total withdrawals (excluding power generation) with 151 MGD reported. Industrial use was historically the largest categorical total for reported groundwater withdrawals, however public water supply has surpassed industrial use for the largest total reported groundwater withdrawals by category. In 2024, public water supply withdrawals reported 57.91 MGD, a 0.03% decrease compared to the five-year average. Industrial withdrawals were comparable and decreased slightly with 54.06 MGD reported, a 6.45% decrease compared to the five-year average. Approximately 56% of reported groundwater withdrawals by volume were associated with unpermitted groundwater wells. Reported unpermitted groundwater use is primarily from public water supply or industrial facilities located outside of current groundwater management areas (GWMAs).

Water Resources Priorities and Challenges:

The following section summarizes several of the water resource management priorities, challenges, or other topics of specific interest that are discussed in more detail in Chapter 4. These include updates on new legislative or regulatory actions, programmatic goals and achievements, and other items.

Permitting Enhancement and Evaluation Platform (PEEP) and Virginia Permit Transparency (VPT): This platform provides online public facing resources to communicate and track the critical steps to obtain permitting approvals from DEQ. Surface water withdrawal permits became viewable in PEEP on July 1, 2023, and groundwater permits became viewable on April 1, 2024.

Addressing Unreported Water Use: DEQ staff conduct compliance activities annually to identify users who meet annual withdrawal reporting thresholds and contact users who have previously reported, but are not consistently reporting their withdrawals. In addition, DEQ works to address known gaps in withdrawal reporting data through various projects. One project is the ongoing partnership between DEQ and contracted USGS staff in 2022-2023 to evaluate and improve estimates of domestic use that fall below the reporting threshold. Work continued on this effort during 2024 and a final report on self-supplied groundwater withdrawals was published in June of 2025. The full report can be found on the USGS Website.

Data Centers: Data centers continue to be a central topic of discussion within the Commonwealth. To date, Virginia leads the nation and the world in the number and density of data centers, with the majority of the facilities located in the northern part of the state. In 2024, a Joint Legislative Audit and Review Commission report was published reviewing the impacts of the data center industry in Virginia. The comprehensive report addressed economic benefits, energy demand, infrastructure, zoning issues, and water usage among other topics. DEQ continues to pursue best practices for quantifying water withdrawals from data centers, especially as part of annual water withdrawal reporting and quantification in subsequent Annual Water Resources Reports.

Eastern Virginia Groundwater Management Area: One of the long-term water resource management challenges in Virginia is the historic over-allocation of groundwater from the Coastal Plain aquifer system in the Eastern Virginia Groundwater Management Area (GWMA), particularly from the Potomac Aquifer. The Hampton Roads Sanitation District's (HRSD) Sustainable Water Initiative for Tomorrow Project (SWIFT) proposes to inject highly treated drinking-quality water into the Potomac aquifer by constructing injection wells at sites across the Hampton Roads area. As of December 2024, the 16 MGD James River facility was

nearing completion with recharging scheduled to begin in 2026 and the newly designed 34 MGD Nansemond facility targeted for completion in 2029.

Eastern Shore Groundwater Management Area: A new Eastern Shore groundwater model, building upon the 2019 USGS and DEQ study, is nearing completion. This new model will include the updated hydrogeologic information and the results of a detailed review of water use, including better characterization of surficial aquifer use. The new model will also incorporate the new framework and water use data, including domestic use estimates.

Evaluating Tidal Fresh Surface Water Withdrawals: Groundwater limitations in the Coastal Plain region continue to lead to applications for the construction of tidal fresh surface water withdrawal intakes in the James, York, and Rappahannock river basins. These same limitations have also led to applications for reuse of wastewater treatment plant return flows, which effectively increase the consumptive losses associated with existing withdrawals. A future need is the development of new modeling techniques and the application of updated water quality models for use in evaluating these potential projects.

Program Funding: The FY 2022-2024 budget provided significant funding for the continuance of the multi-year DEQ/USGS project to install new monitoring facilities within the Virginia Coastal Plain. This significant investment addresses existing monitoring gaps and will ensure DEQ is able to evaluate trends in land subsidence, aquifer recovery, groundwater levels, and to continue collecting data for making sound management decisions. DEQ's responsibilities and authorities in terms of managing water supply are complex and increasingly rely on extensive and regular data collection and the development and ongoing maintenance of evaluation models. Continued financial investment is necessary to allow for proactive and responsive management to ensure that these resources can be put to beneficial uses that foster Virginia's prosperity.

Recent and Ongoing Legistlative and Regulatory Actions: The Local and Regional Water Supply Planning Regulation (9VAC25-780) was recently amended to comply with legislative mandates enacted by the 2020 General Assembly Session (2020 Va. Acts Ch. 1105) and the 2022 General Assembly Session (2022 Va. Acts Ch. 331). These mandates required Regional Planning Areas to be designated based primarily on river basins to promote cross-jurisdictional coordinated water resources planning, required providing a mechanism for a locality to request reassignment, and required each Regional Planning Area to identify water supply risks and strategies to address such risks. The amended regulation became effective on October 9, 2024. An outreach campaign resulted in Regional Planning Units submitting the names and contact information of these individuals to DEQ within the regulatory deadline. In addition, Water Supply Planning and Analysis staff worked diligently to outline a strategy to conduct in person Regional Planning Kickoff meetings for early 2025.

Legislation enacted following the 2021 General Assembly Special Session I will improve the efficiency and effectiveness of water use by requiring all application for VWP permits for surface and ground water withdrawals to include additional plans as conditions in the permit. DEQ has completed the regulatory amendments necessary to implement this legislation.

Senate Joint Resolution Number 25 requests the DEQ to study the groundwater supply in the Commonwealth east of Interstate 95 and provide a report on findings for the 2026 General Assembly session. DEQ is working on completing this report, which is expected to be available later this fall.

1 2024 Water Resources Management Updates

Citizens of the Commonwealth of Virginia enjoy access to over 100,000 miles of non-tidal streams and rivers, 249 publicly-owned lakes, 236,000 acres of tidal and coastal wetlands, 808,000 acres of freshwater wetlands, 120 miles of Atlantic Ocean coastline, and more than 2,300 square miles of estuaries. In addition to the publicly-owned lakes, there are numerous small, privately-owned lakes and ponds distributed throughout the state. Rainfall averages across the Commonwealth are close to 43 inches per year, and the total combined flow of all freshwater streams is estimated at about 22.5 billion gallons per day (BGD).

Even with these abundant water resources, an increasing population and a growing economy can present challenges for managing water resources despite the relative bounty Virginia enjoys. Virginia benefits from a robust economy and an increasing population drawn by the many opportunities available. The state's water resources are shared across a variety of beneficial uses, including in-stream uses such as recreation, navigation, habitat for wildlife, and the aesthetic value of rivers and streams, as well as off-stream uses such as supplying drinking water, agricultural, commercial, or industrial facilities. Increasing demands coupled with limited resource availability and competition for water highlight the importance of active management of Virginia's water resources. This means placing a greater emphasis on collaboration with state and local governments, planning partners, and permittees to find cost-effective solutions that conserve the Commonwealth's water resources and ensure their ability to support all beneficial uses into the future, particularly during periods of drought.

DEQ's mission is "to protect and enhance the environment of Virginia in order to promote the health and well-being of the Commonwealth's citizens, residents, and visitors." State law determines how this mission is to be fulfilled with respect to water resources. More information on the statutes and regulations related to water resources management can be found on the DEQ website. The following sections briefly discuss the various DEQ programs involved in water resources planning and management (Water Supply Planning and Analysis, Water Withdrawal Reporting, Water Withdrawal Permitting and Compliance, Groundwater Withdrawal Permitting, Surface Water Withdrawal Permitting, Groundwater Characterization and Monitoring, Surface Water Investigations, and Drought Assessment and Response) as well as updates on the work done by each program in 2024.

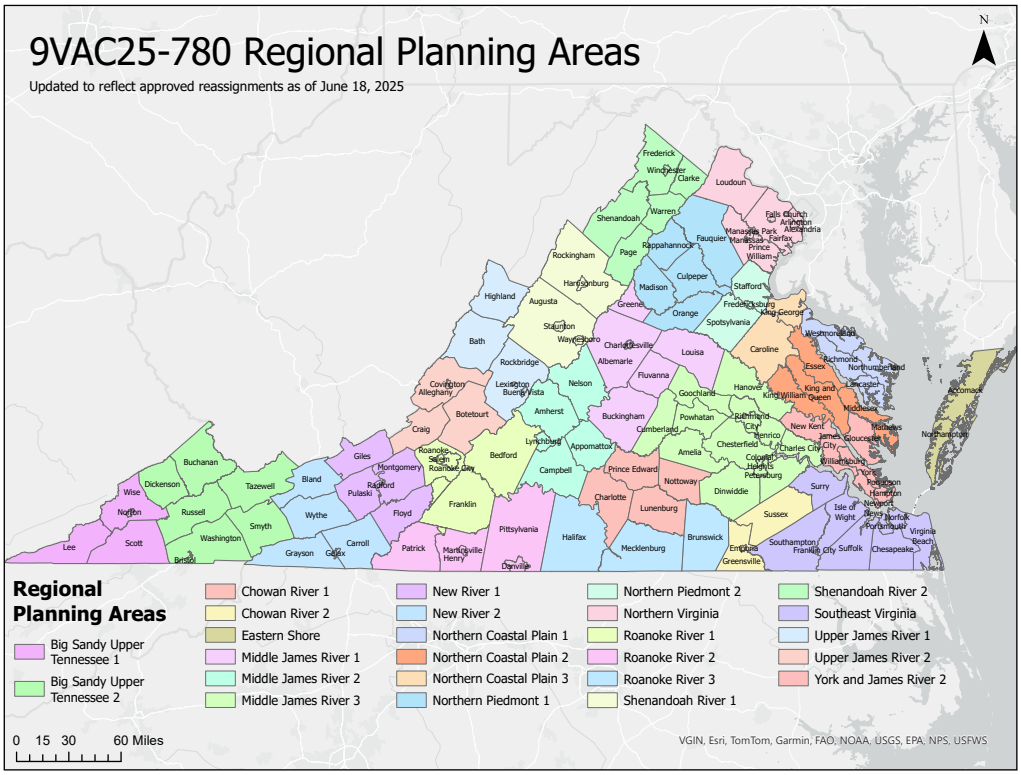
1.1 Water Supply Planning and Analysis

The 2001-2002 drought brought record low streamflows and caused some water utilities and localities to be unable to meet water demands. In response to this drought, the Virginia General Assembly enacted a statute (Chapter 3.2 of the Code of Virginia) that required the development of a comprehensive water supply planning program. These programs require the periodic development of local, regional, and state water supply plans. Water supply plans include information on environmental resources, existing and anticipated water sources, existing and projected water use and demand, the potential for water supply deficits, and proposals for new sources of water to address deficits if necessary. In accordance with section 62.1-44.38:1.A of the Code of Virginia, the Local and Regional Water Supply Planning Regulation (9VAC25-780) was adopted in 2005. Localities and regional partnerships were required to submit their initial water supply plans to DEQ no later than November 2011.

Following submission, staff reviewed a total of 48 water supply plans, of which 10 were local plans and 38 were regional plans. DEQ submitted final compliance determinations to all planning partners in late 2013. In 2018, all 323 localities in Virginia reviewed their water supply plans and addressed compliance conditions, in accordance with the required five-year review and submissions deadline.

In 2016, the Joint Legislative Audit and Review Commission (JLARC) released a report which analyzed the effectiveness of Virginia's water resource planning and management. One of the recommendations in this report was that regional water supply plans should be developed that align with water location and use. Legislation enacted following the 2020 General Assembly Session (2020 Va. Acts Ch. 1105) required the State Water Control Board (SWCB) to adopt regulations designating Regional Planning Areas (RPAs)

Figure 1: New Water Supply Planning Regions



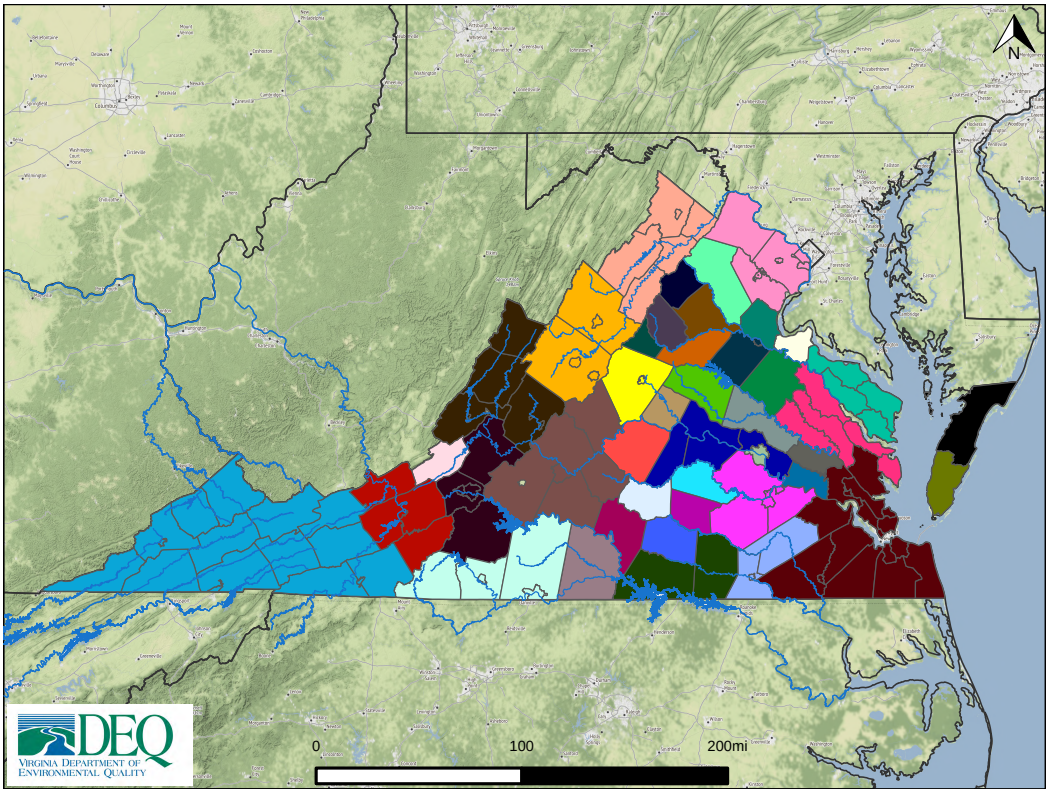
based primarily on river basins, to encourage the development of cross-jurisdictional water supply projects, and to estimate the risk that each locality and region in the Commonwealth could experience due to water supply shortfalls. This law also directed localities to participate in cross-jurisdictional, coordinated water resource planning, and to develop a single water supply plan for each RPA. A Regulatory Advisory Panel (RAP) made up of a variety of stakeholders advised DEQ in the development of proposed amendments for SWCB consideration through the collaborative approach of regulatory negotiation and consensus during a series of meetings in 2021 and 2022. Proposed RPAs were developed, as shown in Figure 1, which is a change from the local and RPAs documented in 2011 water supply plan submissions (Figure 2). In the spring of 2023, the draft regulation was approved, and a public comment period was initiated in May of 2023. The public comment period ended on July 21, 2023, following which DEQ reviewed and incorporated comments into the draft of the final regulation in the Fall of 2023. Final amendments were approved by the SWCB on November 30, 2023, and the final regulation was made effective October 9, 2024.

The amended Local and Regional Water Supply Planning Regulation will substantially impact the process and requirements for the current plan submission cycle. Kickoff meetings to launch the planning process occurred between February and April of 2025. Several locality reassignments have also taken place, which is reflected in Figure 1. Updates on the water supply planning process, including the most up-to-date RPA assignments, and can be found on the DEQ Water Supply Planning website.

1.1.1 Virginia State Water Resources Plan

Water supply plans submitted between 2008 - 2011 and other water use reporting and source data collected by DEQ form the basis of the Virginia State Water Resources Plan (State Plan). The first iteration of the State Plan was published in October 2015. It includes the results of a cumulative impact analysis (CIA)

Figure 2: Previous Water Supply Planning Programs according to 2011 Water Supply Plans



- Accomack County + Towns Regional WSP
- Albemarle County, City of Charlottesville, Town of Scottsville Regional Water Supply Plan
- Amelia County Water Supply Plan (LOCAL PLAN)
- Appomattox River Water Authority (ARWA) + Hopewell Regional WSP
- Buckingham County & Town of Dillwyn Regional Plan
- Caroline County & the Town of Bowling Green Regional WSP
- Charles City County (LOCAL PLAN)
- Charlotte County Regional WSP
- Craig County−Town of New Castle Regional WSP
- Culpeper County + Town Regional WSP
- Cumberland, Goochland, Henrico, and Powhatan Counties Water Supply Plans
- Fauquier County Regional Water Supply Plan
- Fluvanna County + Town of Columbia Regional WSP
- Greene County + Stanardsville Regional WSP
- Greensville, Sussex, Emporia Regional Water Supply Plan
- Halifax County and Towns
- Hampton Roads Planning District Commission (HRPDC) Regional WSP
- Hanover County & Town of Ashland Regional
- King George County WSP (LOCAL PLAN)
- Lake Country Regional WSP
- Louisa County and Towns
- Lunenburg County + Towns Regional WSP
- Madison County + Town Regional WSP
- Middle Peninsula Regional Water Supply Plan
- New Kent County WSP (LOCAL)
- New River Valley WSP
- Northampton County + Towns Regional WSP
- Northern Neck Regional WSP
- Northern Shenandoah Regional WSP
- Northern Virginia Regional Water Supply Plan
- Nottoway County and Towns
- Orange County Regional Water Supply Plan
- Prince Edward County and Town of Farmville Water Supply Plan
- Rappahannock County + Town of Washington WSP
- Region 2000 Regional Water Supply Plan
- Richmond, City of (LOCAL PLAN)
- Roanoke Valley Alleghany Regional Commission Regional WSP
- Southwest VA Regional Water Supply Plan
- Spotsylvania County and City of Fredericksburg Regional Water Supply Plan
- Stafford County Water Supply Plan (LOCAL PLAN)
- Upper James River Basin WSP
- Upper Shenandoah Regional WSP
- West Piedmont Planning District Commission Regional Water Supply Plan

conducted using data from local and regional water supply plans and water withdrawal data submitted by individual users under the Water Withdrawal Reporting Regulation.[1] In general, the goal and intent of the State Plan is to use the locally sourced data to conduct analysis that localities can use to inform future planning efforts and permit applications for future water withdrawal projects.

Using updated information submitted in the 2018 water supply plan five year review cycle, DEQ developed the 2020 State Plan. The 2020 State Plan includes updated demand and source information, improved discharge data, and enhanced CIA modeling, including new metrics and scenarios, such as the first ever climate change CIA scenarios. Analysis was also conducted at a more localized scale with detailed summaries for each of the 20 minor basins on existing sources, demand projections, water use trends, and modeling results.[2]

1.1.2 VAHydro to myDEQ Transition

Prior to April 2024, data used in the State Plan such as locality provided demand and source data, annual withdrawal reporting, and withdrawal permit reporting was collected via VAHydro, a web-based, interactive platform that provided the basis for efficient data collection and analysis. VAHydro was designed to link modules pertaining to water withdrawal permitting, water supply planning, water withdrawal reporting, groundwater well registration, and drought monitoring/modeling of both surface water and groundwater. Due to the software VAHydro was built on going out of support, as of April 1, 2024, DEQ has transitioned from VAHydro into the Comprehensive Environmental Data System (CEDS). Like VAHydro, CEDS provides links between withdrawal reporting, permitting, and well registrations, and also provides links to other permitting programs such as the Virginia Pollutant Discharge Elimination System (VPDES) program. The myDEQ Portal replaced the interactive VAHydro website, allowing users to submit their annual water withdrawals, quarterly groundwater reports, or well registrations.

January 2025 marked the first full year of water withdrawal reporting via the new myDEQ Portal. The myDEQ Portal is designed for users to report to many DEQ permit programs. DEQ staff completed a significant effort to help users set up accounts, navigate the myDEQ Portal, and successfully submit their withdrawals. Training videos were posted on the DEQ Water Withdrawal Reporting website and and Water Supply Planning staff provided direct user support throughout the reporting period. Also as part of this effort, DEQ staff reached out to existing contacts for months after the January deadline to assist anyone who did not realize the system changed or otherwise was unable to submit withdrawal data. In addition to the outreach efforts for withdrawal reporters, DEQ staff presented at the 2023 and 2024 Virginia Water Well Conference, walking well drillers through the myDEQ system and how to submit well completion and abandonment reports. Despite this outreach effort, the number of withdrawal reporters in 2024 did decrease compared to 2023.

Work is still underway to replace some of the functionality offered by VAHydro. The water supply planning module currently lacks a user interface, making it harder for both stakeholders and DEQ staff to access water supply plans. DEQ is maintaining copies of these plans and associated data outside of CEDS until this project is completed, and this information is available upon request. Additionally, ongoing development with another software platform called Tableau will allow myDEQ Portal users to view historic reporting data submitted to VAHydro and/or CEDS. Surface water withdrawals from the past 15 years are available on the myDEQ portal.

[1] 9VAC25-200.

[2] The nine major river basins within Virginia are further divided into 20 minor basins to provide a higher resolution, more localized scope for analysis. Minor basins are generally delineated around significant tributaries to the major river (for instance, Shenandoah Minor Basin is a tributary to the Potomac-Shenandoah Major Basin), or by physical characteristics of the area geography. For instance, the James River Basin is subdivided by the Upper James, Middle James, and Lower James minor basins, which are located in the Ridge and Valley, Piedmont, and Coastal Plain geographical regions of Virginia respectively.

1.1.3 Modeling and Analysis

DEQ staff in the Water Supply Planning and Analysis program perform a number of highly technical functions to serve other DEQ programs. This includes maintaining and utilizing an operational surface water model to conduct CIA for individual surface water withdrawal permit projects as well as basin-wide analyses and water supply planning simulations such as those presented in the State Plan. DEQ modelers routinely update the operational surface water model (VAHydro Operational Model) both internally and in collaboration with partners ranging from the United States Geological Survey (USGS), Virginia Tech Department of Biological Systems Engineering (BSE), and the Chesapeake Bay Program. Through a variety of grant and program funded projects, partner organizations publish the results of work that serve to advance the state of the science, informing water resources management in professional peer-reviewed journal papers to ensure methodological documentation and scientific integrity.

Through collaboration with Virginia Tech's BSE Department in 2023, DEQ modeling and planning staff developed a method of assessment for available water that considers minimum simulated drought storage and cumulative consumptive use. Extensive quality assurance work was performed throughout 2024 to ensure these water availability assessments reflect current planning information. All water supply models from the previous State Plan were updated to use the current operational model architecture and reflect any changes to water planning efforts since the previous state plan. Additional facilities were added based on changes submitted to water plans by regions or localities. DEQ water modelers have since used these water availability estimates to streamline requests for information from partner agencies. Coupling maps of water availability during droughts with a narrative about governing permit rules and reservoirs in the area, DEQ modeling staff can now mostly automate the desktop analyses used to inform development or planning efforts prior to the CIA required in the Virginia Water Protection (VWP) permit process. This methodology for assessing available water will support the next iteration of the State Water Resources and Supply Plan and will be available for every state watershed. Program plans for 2025 include development of water availability narratives for all large watersheds in the Commonwealth to further enhance responses for information from partner agencies.

Collaborative research with Virginia Tech's BSE Department continued in 2024 through the Hydrologic Alteration Research Program (HARP). DEQ modeling staff worked closely with a team of three Virginia Tech undergraduate students to evaluate the precipitation inputs used to drive the Chesapeake Bay Watershed model and the DEQ's operational water supply model (VAHydro Operational Model). Model results in the past 5-10 years have shown pervasive under predictions in low flows. The team investigated relationships between rainfall and runoff, analyzing trends at over 150 gages across Virginia using precipitation data from the National Aeronautics and Space Administration's (NASA) North American Land Data Assimilation System-2 (NLDAS2, which has historically served as the model's input dataset), Oak Ridge Lab's daymet, and Oregon State University's Parameter-elevation Regressions on Independent Slopes Model (PRISM) raster datasets. These analyses were refined into a series of automated programming scripts that evaluated the performance of each rainfall dataset against runoff in weekly or monthly intervals at each gaged watershed. The best fitting dataset could be identified for each time period and watershed using the maximum rating, allowing DEQ modelers to knit a precipitation raster for each day between 1984 and 2023 using the best available rainfall data to feed into the model.

Preliminary modeling using these best-fit precipitation rasters have corrected the underprediction seen in models using only NLDAS2 over the past 10 years. The improvement to model accuracy, in some areas, can be quite significant. The program plans to continue analyzing these model results in 2025 to further refine meteorologic model inputs. This serves as a critical first step into understanding areas of poor and strong model performance to hopefully extend the DEQ operational water supply model's capabilities during extended drought periods. It is likely that the drought of record will be more accurately modeled using these new precipitation data sources due to the significant under prediction over the past 10 years using the previous data inputs. This work was shared with the Chesapeake Bay (CB) Watershed Modeling team, which was interested in exploring new precipitation data sources. DEQ modeling staff provided the CB Watershed team a series of model inputs based solely on the PRISM dataset for further exploration. The improvements in model flow simulation were broad enough that the CB Watershed team plans on using

DEQ's PRISM processing methodology in the next phase of the Watershed Model. This was presented by DEQ in April, 2025, on a Quarterly meeting with the CB Watershed Modeling team.

Useful drought model simulation or forecasting requires a comprehensive understanding of long-term baseflow in the area. With increased model precipitation accuracy, the program has worked towards improving baseflow simulation by providing more consistent and accurate model rainfall. In 2025, the program plans to expand on this work by focusing on how historic drought modeling has improved and reevaluate the mechanisms driving regional baseflow. To support this work, the program submitted an application for a grant from the National Oceanic and Atmospheric Administration (NOAA) NIDIS project to pursue improvements in watershed baseflow modeling and drought forecasting in 2024. While the project was ultimately not selected by NOAA for the grant, the application served as an excellent road map in planning collaborative research projects with HARP. In 2025 - 2026, the program plans to work with Virginia Tech's BSE Department to refine baseflow evaluation and modeling techniques. Through improved understanding of baseflow dynamics, the program hopes to produce more accurate drought forecasts on a watershed level over the next several years. In 2025, the program will focus on the North Fork of the Shenandoah River as a case study to examine model baseflow performance using the precipitation datasets developed in 2024.

DEQ continues to develop the next generation operational model platform in Hydrologic Simulation Program-Python (HSP2) through a collaboration with the open source team led by RESPEC, a professional consulting and services company. DEQ modelers added a number of special action modules into HSP2 that will allow the model to integrate seamlessly into DEQ's VAHydro model. A number of these were included in the first official release of HSP2 on the Python package index (PyPI) in 2024. The transition from Hydrologic Simulation Program–FORTAN (HSPF) to HSP2 provides increased model speed and the ability to efficiently handle sub-daily timesteps, improved turnaround time for permit model technical evaluations, improved debugging and quality assurance abilities, and facilitates dynamic updates and future model maintenance through an active, supportive community of Python users. HSP2 will continue to be integrated into DEQ's modeling workflows in 2025, particularly as a result of collaboration with Virginia Tech's BSE Department. As the HARP group begins pursuing improved baseflow simulation in the North Fork of the Shenandoah River, DEQ modelers will run HSP2 models to provide fast and efficient groundwater modeling estimates over the various land segments in the area.

The HSP2 model implementation was not fully completed in 2024 as planned due to the substantial efforts required to overhaul DEQ's modeling workflows after the deprecation of Drupal, an open source content management system. New automated routines were written to run and update models from Linux command line. This effort required several months of labor, and has resulted in new model workflows that are significantly better documented, more consistent, and easier to update. Model summaries and descriptions are now dynamically generated with results, further reducing CIA processing time and improving coordination with the VWP permitting program. The DEQ VAHydro operational model is once again fully operational. The program plans to continue investing time into improving the functionality of new model workflows, integrating HSP2 simulations into the automated routines and developing additional model templates to expedite CIA. The program is additionally in the early stages of developing an online interface between the new model routines and other water supply data to create a comprehensive dashboard that will greatly improve the accessibility of model results and provide DEQ staff holistic analyses of water supply. This dashboard will further integrate water supply planning and modeling efforts into existing DEQ analysis tools to provide other programs with additional access and insight into water supply planning and permitting.

1.2 Water Withdrawal Reporting

The Water Withdrawal Reporting Regulation requires the annual reporting of monthly water withdrawals (surface water and groundwater) of volumes greater than an average of 10,000 gallons per day (GPD) during any month, or one million gallons per month for crop irrigation. The regulation allows the submission of metered and estimated water withdrawal information. DEQ offers electronic reporting that allows reporters to enter withdrawal data on a monthly basis; mail in reporting is also accepted. DEQ maintains withdrawal data as far back as 1982 and categorizes water withdrawals by water use types: agriculture, commercial,

irrigation, manufacturing and industrial, mining, fossil fuel power, hydropower, nuclear power, and public water supply. The database also categorizes withdrawals by water source (groundwater, surface water, or transfer) and source sub-type (reservoir, spring, stream, or well). Analyses of the reported 2024 data are provided in Chapters 2 and 3, and in Appendix 1 and Appendix 2.

Annual water withdrawal reporting is one of the most important data sources for DEQ. Reporting of water withdrawals allows for informed modeling and planning decisions related to the Commonwealth's future water demands and availability. Reported water withdrawals are linked into the surface water model, which enables staff to prepare up-to-date and accurate water budgets and conduct CIA in support of permit decisions and water supply planning efforts. Withdrawal data is also used by other programs within DEQ, other agencies, and the public. The effectiveness of the Commonwealth's water resource management depends on the comprehensiveness and accuracy of this self-reported withdrawal information.

Each year DEQ works to increase the number and quality of withdrawal reports. This includes reaching out to facilities to ensure continued reporting, especially as points of contact change.

1.3 Water Withdrawal Permitting and Compliance

This program administers the permitting and related compliance and reporting activities required by statutes aimed at the management and protection of groundwater and surface water resources. Under the Ground Water Management Act of 1992,[3] Virginia manages groundwater through a permit program regulating the withdrawal of groundwater in certain areas designated as Groundwater Management Areas (GWMAs). Currently, there are two GWMAs in the state. The Eastern Virginia GWMA generally comprises areas east of Interstate 95 and west of the Chesapeake Bay and Atlantic Ocean coast. The Eastern Shore GWMA includes Accomack and Northampton counties. Any person or entity located within a declared GWMA must obtain a groundwater withdrawal permit to withdraw 300,000 gallons or more of groundwater in any one month. Projects involving surface water withdrawals from state waters and related permanent structures are permitted under the Virginia Water Protection (VWP) Permit Program Regulation as provided by Article 2.2 of the State Water Control Law.[4]

A significant focus of this administration and the DEQ Director is improving permit processing timelines. DEQ's agency-wide Permitting Enhancement and Evaluation Platform (PEEP) is and has improved efficiency and transparency throughout permitting processes and has been particularly beneficial in identifying critical path improvements for complex individual permit issuance processes. In preparation to integrate effectively into the PEEP process, DEQ's water quantity management programs addressed a number of issues including: incorporating program data and data management into the DEQ enterprise system, working to bring on new hires to fill vacancies, and accelerating new hire training.

DEQ has greatly reduced the backlog of surface water withdrawal permit applications received prior to the initiation of PEEP, with four surface water applications remaining as of July 1, 2025. Review of water withdrawal applications requires extensive interagency coordination and a technical evaluation process, both of which contribute to longer permit processing timelines than is typical in other DEQ permit programs. Vacancy rates within the permit program remain a consistent challenge and DEQ continues to work to fill these vacancies through continuous recruitment strategies.

1.4 Groundwater Withdrawal Permitting

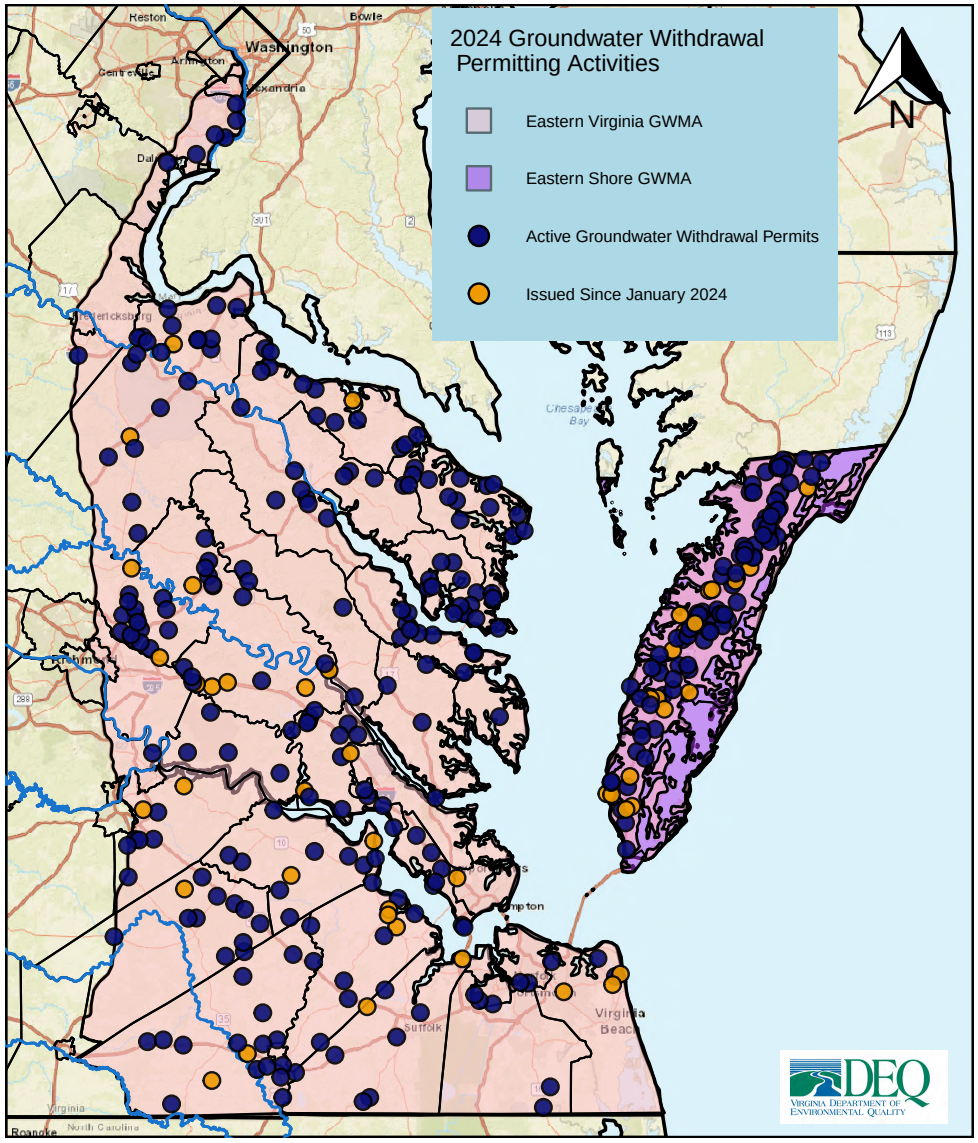
Groundwater withdrawal permit applications for new or expanded withdrawals in a GWMA are evaluated to determine impacts of the proposed permit on the groundwater resource. The evaluation determines the area of impact, the potential for a proposed withdrawal to cause salt water intrusion, and assesses the impact of the combined drawdown from all existing lawful withdrawals. Existing lawful withdrawals include those permits issued under historic use conditions and current new or expanded use permits, as well as users that

[3] § 62.1-254 et seq. of the Code of Virginia.
[4] §§ 62.1-44.15:20 through 62.1-44.15:23.1 of the Code of Virginia.

withdraw less than 300,000 gallons per month or are not required to obtain a permit pursuant to section 62.1-259 of the Code of Virginia.

As of July 1, 2025, DEQ administers a total of 377 groundwater withdrawal permits. In calendar year 2024, DEQ issued 52 groundwater withdrawal permits. Currently permits are authorized to withdraw a combined total of approximately 43.0 BGY, which equates to an annual average withdrawal rate of 118 MGD. Figure 3 provides a spatial overview of groundwater withdrawal permitting activities in Virginia. A complete list of all active groundwater permits is available upon request.

Figure 3: 2024 Groundwater Withdrawal Permitting Activities



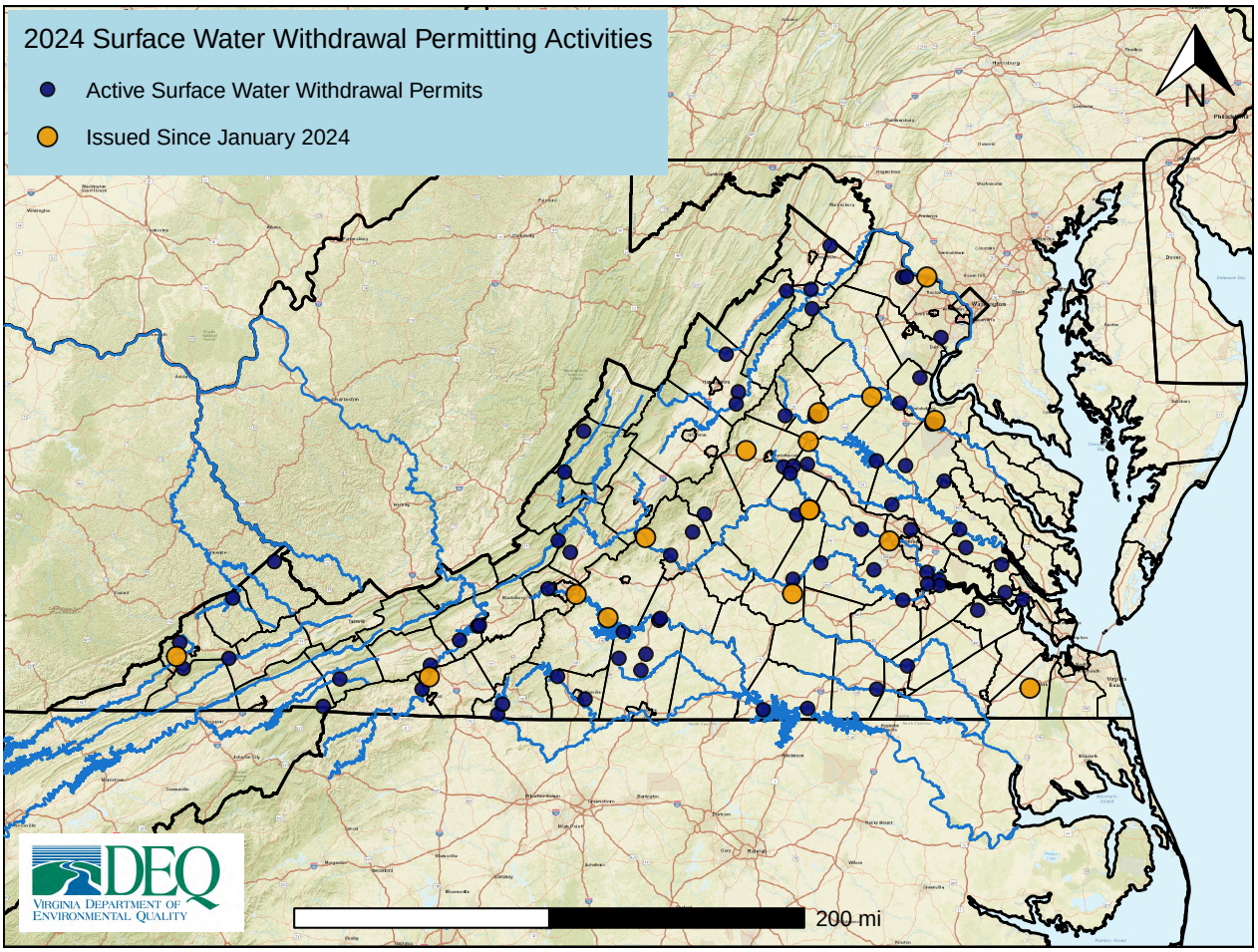
1.5 Surface Water Withdrawal Permitting

DEQ's evaluation of surface water withdrawal permit applications includes analysis of the applicant's requested water withdrawal to determine potential impacts on existing instream and offstream beneficial uses. Instream beneficial uses include the protection of fish and wildlife resources and habitat, maintenance of waste assimilation capacity, and cultural and aesthetic values. Offstream beneficial uses include domestic uses such as public water supply, agriculture, electric power generation, commercial uses, and industrial use. To conduct these analyses, DEQ uses an operational hydrologic model to evaluate the cumulative impacts to aquatic life, water quality, recreation, and downstream water availability for existing intakes.

Each permit application is reviewed in coordination with partner agencies and modeled to evaluate any potential impacts to beneficial uses. Staff uses this analysis to inform the permit process and to develop appropriate limits on withdrawal volumes, minimum in-stream flow, or other conditions to protect beneficial uses. Figure 4 illustrates VWP surface water withdrawal permitting activities, including permits issued since January 2024. As of July 1, 2025, DEQ administers a total of 100 surface water withdrawal permits. In calendar year 2024, DEQ issued 16 surface water withdrawal permits. Currently permits are authorized to withdraw a combined total of approximately 172 BGY, which equates to an annual average withdrawal rate of 470 MGD, which equates to an annual average withdrawal rate of 14 MGD.

An ongoing effort for the Water Withdrawal Permitting program is processing VWP permit applications for many hydroelectric power facilities that are or will be applying for Federal Energy Regulatory Commission (FERC) relicensure. Any applicant for a federal license or permit to conduct an activity that may result in a discharge to navigable waters must apply for a section 401 Certification. A section 401 Certification is a statement from the state that there is reasonable assurance that the facility will comply with the Clean Water Act and any state established water quality standards. The DEQ VWP permit program serves as the Commonwealth's section 401 Certification for FERC licenses as established by the VWP Regulation. The VWP permitting process for these facilities will incorporate current scientific framework and regulatory requirements, which are more robust than those in place during the original section 401 Certification issuance processes. Previous certifications generally required only a minimum release from the facility downstream. Once issued, current VWP permits provide enhanced data collection, instream flow management during droughts or low flow events, and better protections for instream beneficial uses, especially in regions where multiple hydroelectric facilities are located on the same river.

Figure 4: 2024 Surface Water Withdrawal Permitting Activities



1.6 Groundwater Characterization and Monitoring

The Groundwater Characterization and Monitoring Program (GCMP) is organized into two main teams, plus two staff at large. The Groundwater Characterization Team consists of two geologists who focus on groundwater conditions in the hard-rock provinces of Virginia and three geologists who work primarily in the Coastal Plain's Groundwater Management Areas (Eastern Virginia and Eastern Shore). The Groundwater Monitoring Team consists of five groundwater geologists whose main tasks are operating and maintaining the State Observation Well network and collecting and managing groundwater-level data. The two at-large geologists focus on groundwater-quality monitoring, program-wide data coordination and management, and special projects. All staff operate under the general supervision of a Program Manager, who also directs the program's interactions with other DEQ programs and cooperating external partners.

Starting in 2022, the GCMP received significant funding for a multi-year effort to include three phased projects. The first project was to construct an extensometer in the vicinity of the West Point Paper Mill. Extensometers are instruments that precisely measure changes in aquifer thickness. These changes can occur in response to the varying aquifer pressures associated with groundwater withdrawals, natural or artificial recharge of the aquifer system, or surface loading from tidal influences. A decrease in aquifer thickness (compaction) can contribute to land subsidence. In 2024, with DEQ funding and oversight, the USGS completed the West Point extensometer. The instrument began collecting and transmitting high-resolution aquifer-thickness data on December 11, 2024 (Monitoring Location Page). This new installation completes

an expanded network of four extensometer stations monitoring vertical land motion in Eastern Virginia. More information is available on the USGS website.

The second project is to install approximately 20 climate response network (CRN) wells in the hard-rock provinces of Virginia. These wells are intended to measure hydrostatic pressures within the shallow portions of fractured-rock aquifer systems, for the purpose of evaluating the relation between long-term climatic trends and groundwater levels. In 2024, DEQ geologists oversaw the installation of eight CRN wells in Halifax, Rappahannock, Rockbridge, Shenandoah, Stafford, and Warren counties and the Cities of Harrisonburg and Winchester. In total, 14 of the planned CRN wells have been installed to date, and the remaining six are scheduled for 2025. The third and final project will be to install up to approximately 19 chloride monitoring wells in the Coastal Plain; DEQ continues to secure the necessary access for these well sites.

The GCMP provided technical support to groundwater withdrawal permittees and new applicants in multiple localities of the Coastal Plain, including Caroline, Charles City, Hanover, James City, King George, King William, Lancaster, Middlesex, Prince George, Southampton, Spotsylvania, and Westmoreland counties and the City of Suffolk. DEQ geologists collected hydrogeological data and provided on-site support and quality control for permittees' contractors. Through detailed evaluation of borehole geophysical logs and drill cuttings, DEQ geologists determined the aquifer depths and characteristics at each permitted well location. These determinations helped to ensure that production wells were constructed in accordance with groundwater withdrawal permit conditions, with their screens and pumps correctly placed within the permitted aquifers. The GCMP also provided technical support to HRSD's Sustainable Water Initiative for Tomorrow (SWIFT) project team during design, drilling, and construction of managed aquifer recharge (MAR) injection wells and monitoring wells at both the James River Treatment Plant in Newport News and the Nansemond Treatment Plant in Suffolk (onsite project phase).

Staff also conducted groundwater resource investigations in the Blue Ridge, Piedmont, and Valley and Ridge physiographic provinces to better understand the complexities associated with the flow and storage of groundwater in fractured-rock aquifers. During the 2024 calendar year, borehole geophysical investigations took place in Buckingham, Nelson, Page, Pittsylvania, Powhatan, Rockbridge, and Warren counties, and the Cities of Harrisonburg and Winchester. Typically, data from borehole logging are used to describe local hydrogeologic conditions in the vicinity of the wellbore. Borehole log data from multiple wells can also be used to describe aquifer systems at a more regional scale. In 2024, staff continued an effort to archive historic borehole geophysical log data collected by DEQ. These logs are stored in the U.S. Geological Survey's borehole geophysical log database.

Also in 2024, staff continued a regional inventory and analysis of Virginia springs. This effort builds on an existing statewide spring database, the most comprehensive of its kind, which includes physical characteristics, field measurements, and chemistry data on over 1,600 springs throughout the state. In 2023, DEQ released a peer-reviewed report, "Springs of Virginia," that analyzes relationships between spring characteristics and geological factors such as lithology, proximity to major geologic structures, and position relative to a major watershed. The report is available on the program's website. The accompanying dataset is available through DEQ's Environmental Data Hub.

The GCMP continued quarterly groundwater-level monitoring across the network of approximately 298 State Observation Wells, including routine operation and maintenance of the wells and their dedicated monitoring instrumentation. Water-level data from the network are available through the National Water Information System and through a web tool developed by USGS with DEQ support. DEQ geologists also continued to evaluate the integrity of the State Observation Wells to ensure that measured groundwater levels remained representative of hydraulic conditions in the aquifer. This is a critical need, as more than half of the wells in the network exceed 30 years of age and will require eventual repair, maintenance, or abandonment and replacement. Over time, monitoring wells can lose connection to the aquifer through sediment infill, mineral encrustation, or growth of bacterial mats. Staff maintained and updated a priority list of wells to help guide the evaluation and maintenance efforts, as resources allowed. As a result of this evaluation, four compromised wells were permanently abandoned in 2024, and additional wells were slated for abandonment in 2025.

The GCMP's Ambient Groundwater Quality Monitoring Program is designed to characterize the long-term, background quality of Virginia's groundwater resources. In 2024, the program focused primarily on collecting groundwater samples from locations designated as "trend wells." These wells were selected for regular sampling to monitor for saltwater "upconing," the transient upwelling of saline groundwater that can occur in response to the local removal of fresh groundwater by supply wells, and for the more regional phenomenon of lateral saltwater intrusion in the Coastal Plain aquifer system. In 2024, 18 such trend well samples were collected. In addition, DEQ geologists collected discrete or "spot" samples at various wells of interest, including four of the recently installed CRN wells mentioned above. The groundwater samples were submitted to the state laboratory (Division of Consolidated Laboratory Services) for analysis of various physical parameters and chemical constituents, including major ions, nutrients, volatile organic compounds, selected other organics, trace metals, and radiological analytes. The resulting groundwater-quality data are available through the national Water Quality Portal.

1.7 Surface Water Investigations

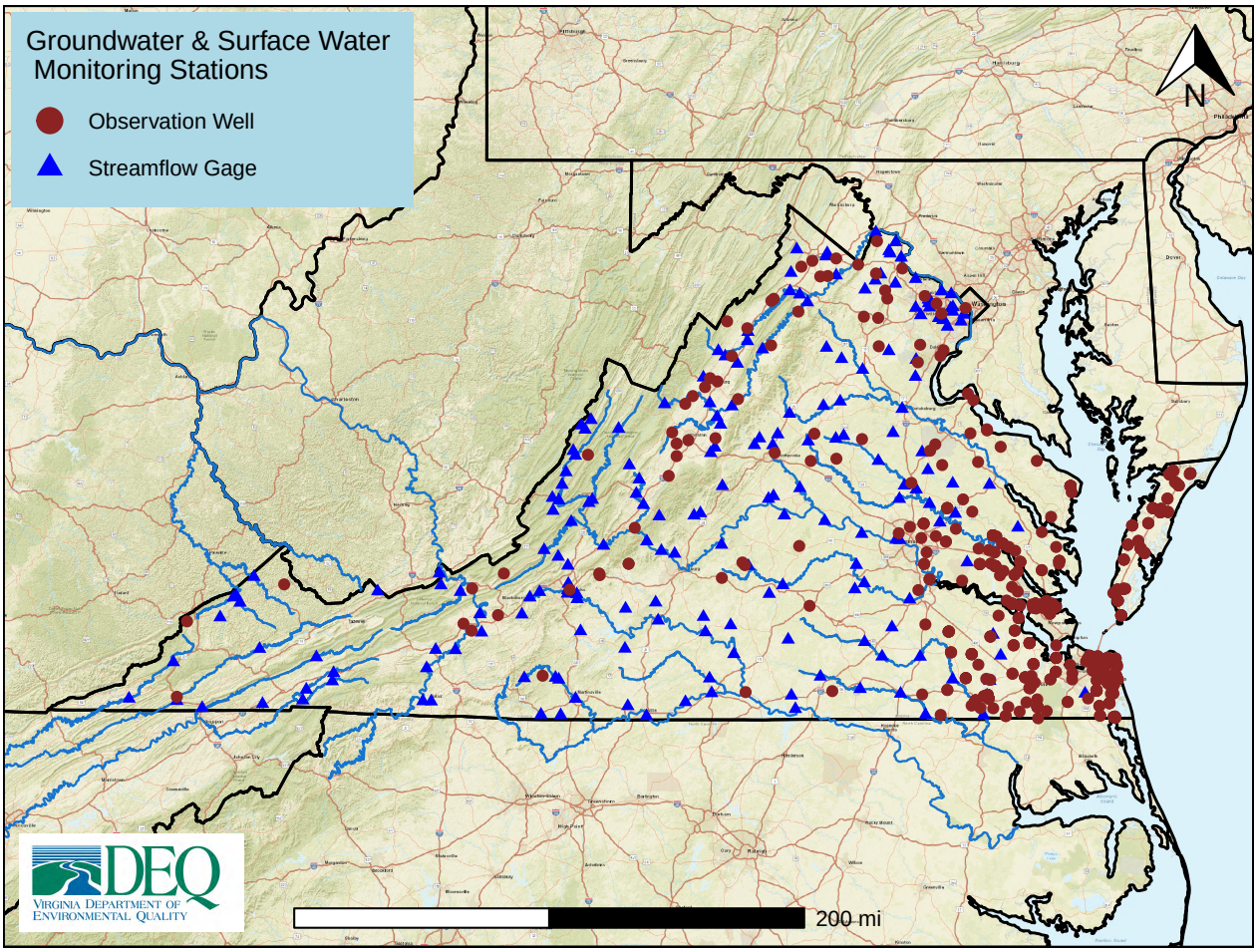
DEQ's Surface Water Investigations Program (SWIP) and the USGS National Streamflow Information Program are the primary entities responsible for collecting surface hydrologic data in Virginia. Their collaboration provides a comprehensive picture of real-time and historical hydrologic conditions in the Commonwealth. The SWIP mission is the systematic collection of reliable hydrologic data concerning the quantity of surface water in the Commonwealth, using the same standards and procedures as the USGS. Virginia is currently the only state partnering with the USGS on the collection of real-time streamflow data where state-collected data are incorporated directly into the USGS database. Data accuracy, attained through use of state-of-the-art equipment and personnel training in USGS methods, is the key to maintaining this unique partnership.

SWIP field personnel collected and processed data from the network of over 80 surface water discharge monitoring stations on a six to eight week schedule, or more frequently in times of drought or flood. Monitoring often occurs in extreme conditions such as low and high water, and involves the servicing of sensitive equipment, maintaining permanent gauging stations, and measuring streamflow ("discharge"). The data obtained from each surface water discharge monitoring station is continually measured and uploaded into the USGS National Water Information System (NWIS) database where it is accessible by citizens, localities, and state and federal agencies for water supply planning, emergency management response planning, water withdrawal permitting, and natural resource management purposes. Development of and access to these data are essential for the successful planning and management of the Commonwealth's water resources.

In 2024, SWIP field personnel worked with DEQ's Southwest Regional Office staff to collect stage and discharge measurements from seven sites in the southwest corner of the Commonwealth. These measurements supported a study to document water quality within a set of streams potentially impacted by coal mining. During the year, the SWIP team also worked closely with partners at Lake Anna to monitor harmful algae blooms (HABs) by obtaining stream flow measurements at sites upstream of the lake. During this two-year study, the team worked cooperatively with USGS in operating two inflow surface water gauges and installed a new gauge to improve resolution within the project network. SWIP personal are also in the process of installing seven new surface water gauges in Floyd County to help track surface water resources for future growth, and to improve flood monitoring within the county.

Figure 5 provides a spatial overview of active surface water and groundwater monitoring stations in Virginia.

Figure 5: Groundwater and Surface Water Monitoring Stations



1.8 Drought Assessment and Response

Since the adoption of the Virginia Drought Assessment and Response Plan in 2003, drought watch declarations have been issued for various regions nearly every year with drought warning declarations occurring less frequently. A Drought Emergency declaration has not been issued since the 2002 drought.

In late 2023, Lake Moomaw's conservation storage dropped to critically low levels, prompting DEQ, DWR, and USACE to coordinate a reduced minimum release from Gathright Dam. A 100 cfs release was implemented in December, 2023 to help preserve reservoir levels while maintaining adequate water supply to downstream users like Westrock and the Town of Covington. This reduced release continued until March, 2024, when water levels in Lake Moomaw had recovered. Conservation storage in Lake Moomaw dropped again by the end of 2024, and in December, 2024 a 100 cfs release was once again implemented and remained in place until March, 2025.

Drought evaluation regions (DERs) are shown in Figure 6. Drought watch status advisories were issued for the Eastern Shore, Northern Virginia, and York-James DERs, as well as a warning issued for the Shenandoah DER in the Spring and Summer of 2023. In November and December of 2023, drought watch advisory statuses were also issued for the Big Sandy, Middle James, Northern Piedmont, Roanoke, and Upper James DERs. These advisory statuses were maintained into 2024. In February of 2024, pluvial conditions resulted in the

drought watch advisory status returning to normal for the entire Commonwealth. The Drought Monitoring Task Force did not convene again until June, 2024.

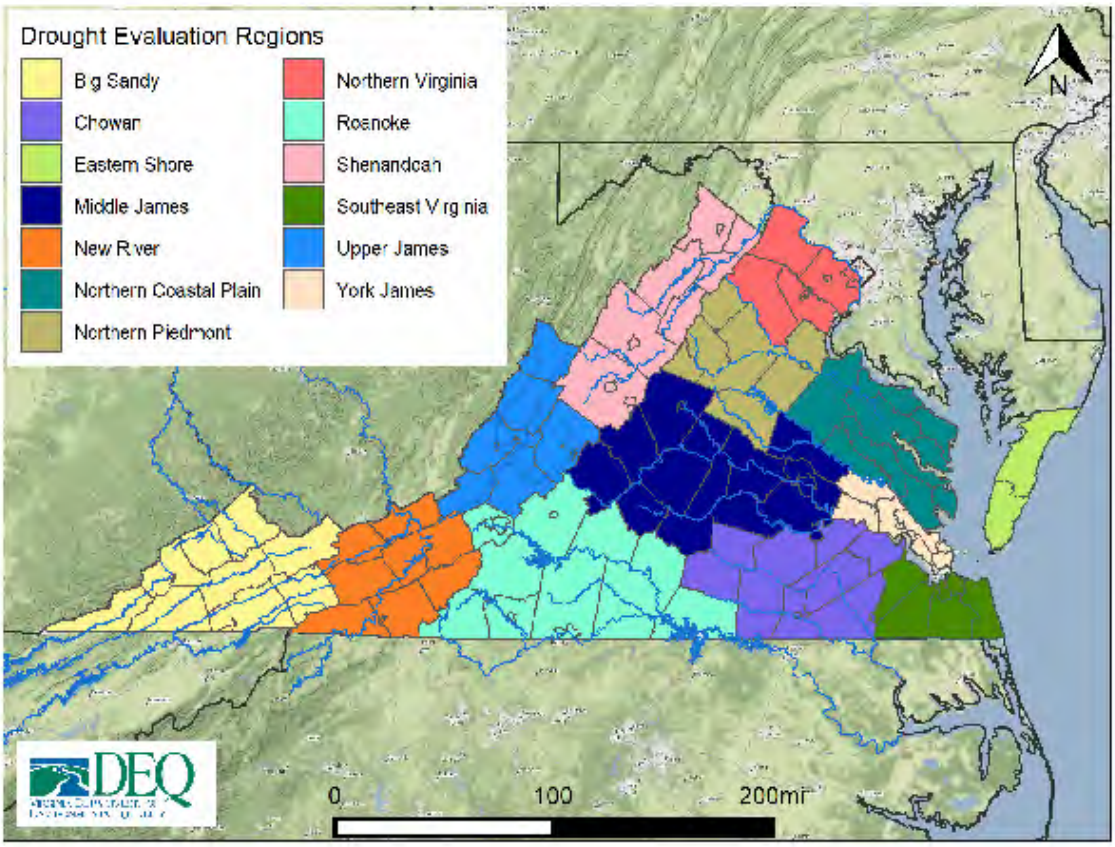
By June 2024, below normal precipitation, in combination with increasing temperatures, led to rapid intensification of drought throughout the Commonwealth, and subsequently, drought watch or warning advisories were issued for all 13 DERs. The Northern Virginia and Shenandoah DERs were placed in drought warning advisory status, with significant groundwater and surface water deficits in both DERs, as well as reported impacts on agriculture. In July 2024, drought warning advisory statuses were expanded to the Big Sandy, New River, Northern Piedmont, Roanoke, Upper James, and portions of the Middle James DERs due to below normal precipitation and continued decline of surface and groundwater indicators. The drought watch advisory statuses for the Chowan and Southeast Virginia DERs were lifted in July 2024 as a result of above-average precipitation and improved surface and groundwater indicators in these regions. Precipitation in August 2024 improved hydrological conditions in the Commonwealth, lifting most of the drought advisory statuses. The continued decline in groundwater level indicators and agricultural impacts resulted in the Shenandoah DER remaining in a drought warning advisory status. By the end of August 2024, the decrease in ground and surface water levels in the New River and Northern Virginia led to the addition of drought watch advisory statuses to those DER. Tropical Storm Helene brought heavy rain to the Commonwealth in late September and early October 2024. The drought watch advisories for the Big Sandy and New River DERs were lifted as a result of improved hydrological conditions.

In November 2024, low and still declining groundwater levels, limited precipitation, and soil moisture deficits resulted in drought watch advisory statuses in the Eastern Shore, Northern Coastal Plain, Southeast Virginia, and York James DERs. These four regions joined the Shenandoah and Northern Virginia DERs already in drought watch advisory status. Below normal precipitation persisted through the end of the year, along with below normal and declining groundwater levels and drier soil conditions than normal. These conditions resulted in the aforementioned DERs carrying their drought watch advisory status through the end of 2024.

Dry conditions continued into January and early February 2025. Storms in mid-February brought much needed precipitation and improved surface and ground water levels in portions of the Commonwealth. Drought watch advisory statuses were lifted in the Southeast Virginia, York James, portions of the Northern Coastal Plain, and portions of the Shenandoah DERs in February. In April, widespread below-normal precipitation and declining hydrologic indicators resulted in drought watch advisory statuses being issued in the remainder of the Northern Coastal Plains and Shenandoah DERs, as well as the Northern Piedmont and Roanoke River DERs. May brought more above-normal rainfall to the Commonwealth and drought watch advisories were lifted for the Eastern Shore, Northern Coastal Plain, Northern Piedmont, and Roanoke DERs. Significant groundwater deficits and impacts to agricutlutre were still reported in the Northern Virginia and Shenandoah DERs, and they subsequently remained in drought watch advisory status. Pluvial conditions continued into June, and though a few groundwater indicator wells remained below-normal, other hydrologic indicators had made improvements leading to the drought watch advisory statuses being lifted in the Northern Virginia and Shenandoah DERs.

DEQ provides a drought indicator map that is updated daily and can be viewed online at Current Drought Conditions in Virginia.

Figure 6: Drought Evaluation Regions



2 Summary of 2024 Water Withdrawal Reporting

Chapter 2 provides a brief overview on how withdrawals are reported to DEQ, summarizes 2024 reported water withdrawals at the statewide level for all water use types, and compares 2024 reported withdrawals to the average use over the past five years. Please note that the five-year average listed is the mean of withdrawal values from 2019-2023. The 2024 withdrawal volume is then compared to this mean. This represents a change in how five-year averages are captured compared to previous Annual Water Resource Reports, as the current year is no longer included in the five-year average calculation. By excluding 2024 withdrawals from the five-year average, the updated method provides a more accurate basis for comparison, allowing a clearer assessment of how 2024 withdrawals differ from recent historical trends. Also covered in this chapter are withdrawals categorized by source type (groundwater and surface water), as well as how withdrawals vary across the state.

2.1 Background on Water Withdrawal Reporting in Virginia

Most facilities report withdrawals to DEQ through the Annual Water Withdrawal Reporting program, and withdrawals can be reported online or by mail. Facilities that report water withdrawals in compliance with surface water and groundwater withdrawal permits are also included in this report.

A total of 1,157 facilities reported water withdrawals to DEQ for the calendar year 2024, which is similar to the number of facilities reporting in recent years. Some annual variation in the number of facilities reporting is expected as facilities cease or start operation. Facilities that fail to report to the Annual Water Withdrawal Reporting program also contribute to this variation. DEQ staff prioritize compliance contacts to such facilities on an annual basis using criteria such as the relative size of withdrawal to the source and the potential for in-stream or off-stream beneficial uses of the source or sources to be impacted by withdrawals in the area. Compliance for facilities with withdrawal permits is managed by the Withdrawal Permitting and Compliance program; permitted facilities that fail to report are addressed through compliance and enforcement processes in accordance with current guidance.

Water withdrawals reported to DEQ are categorized as coming from either a surface water source such as a stream (including rivers), reservoir, or spring, or a groundwater source such as a well or dug pond that intersects the groundwater table. Water withdrawn in the Commonwealth may be used by the withdrawing entity or locality, or it may be "transferred" to another entity or locality. While some water transfers are reported to DEQ, they are not included in the withdrawal data presented in this chapter since the water is accounted for when it is initially withdrawn from the source. More information on water transfers reported to DEQ can be found in Appendix 4.

Water withdrawals are further categorized into use types according to how the water is used. Use type categories include: Agriculture, Commercial, Fossil Power, Irrigation, Industrial, Mining, Nuclear Power, and Public Water Supply. Specifics of what each of the use type categories includes can be found in Chapter 3, Sections 3.3 - 3.9.

DEQ staff continuously strive to improve the accuracy of reported withdrawal amounts and classification of data through a proactive data quality assurance/quality control process. Improvements in previously published data sets occur due to identification and correction of errors. As such, minor changes may be noted when comparing current data to prior publications of this report.

2.2 Consumptive Use

Although some portion of a withdrawal is generally returned to the source, facilities are required to report "gross" withdrawals to DEQ. In other words, the withdrawal totals in this report do not account for water returned back to a source through discharges or other means. The proportion of a withdrawal that is not returned to a source, for example water that infiltrates into the ground via irrigation or discharge into septic systems, or is lost to treatment processes or leaks, is considered "consumptive use."

DEQ accounts for the consumptive use of a facility when evaluating a permit application. However, because consumptive use can vary significantly across use-types and even across facilities within the same use type, it is not practical to account for consumptive use in this report. Figure 7 provides ranges of consumptive use across use-types, and shows how these varying consumptive use rates would affect how a surface water withdrawal impacts flow in a stream.[5] Agriculture and irrigation have very high consumptive use as the water applied to those uses does not generally return to a stream in a manner that can be readily measured. Consumptive use for public water supply varies seasonally with higher consumptive use during the summer when irrigation increases and minimal consumptive use during the winter. Consumptive use for industrial facilities varies based on the specific water use, but most industrial facilities have low consumptive use. Power generation facilities that use water for once-through cooling systems return almost all water to the source.

Consumptive use also varies by source; while groundwater withdrawals from confined aquifers may be returned to surface water streams via discharges, they are not returned to the source aquifer so they are considered entirely consumptive in terms of their impact on the aquifer.

For more information on this subject, see the 2022 publication produced by DEQ and Virginia Tech which provides a review of consumptive use values across use types and discusses methodologies for estimating consumptive use.[6]

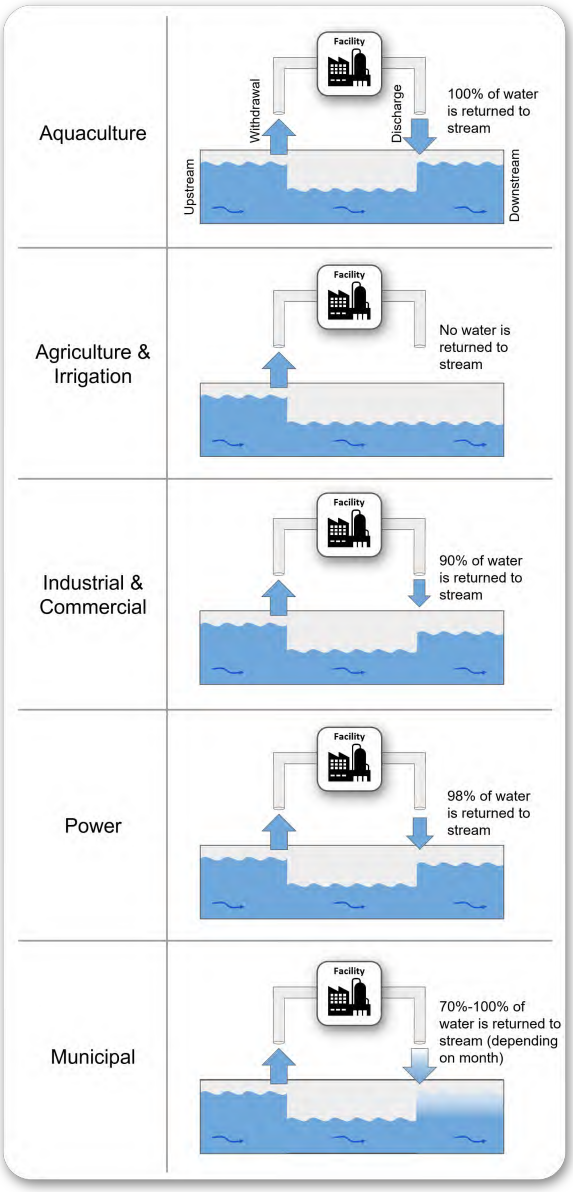


Figure 7: Impact of Consumptive Use Across Use-Types on a Source Stream

[5] 2020 Virginia State Water Resources Plan (Section 4.2.6.1 Estimating Consumptive Use Factors).

[6] McCarthy, M., Brogan, C., Shortridge, J., Burgholzer, R., Kleiner, J., and Scott, D., 2022, *Estimating Facility-Level Monthly Water Consumption of Commercial, Industrial, Municipal, and Thermoelectric Users in Virginia*: Journal of the American Water Resources Association, https://doi.org/10.1111/1752-1688.13037.

2.3 2024 Reported Withdrawals

A summary of water withdrawals reported to DEQ from 2019-2024 is represented in Table 1. Total reported withdrawals in 2024 were approximately 5.44 billion gallons per day (BGD), including the cooling water withdrawals at nuclear and fossil fuel power generation facilities, which make up 76.5% of this total. The total reported withdrawal is a 3.08% decrease from the five-year average of 5.61 BGD. The decrease is primarily due to a reduction in surface water withdrawals reported for power generation. Because withdrawals associated with power generation are around 3.5 times greater than all other reported withdrawals, and are also largely non-consumptive, this report generally discusses withdrawals with power generation excluded. This lessens the likelihood that trends in reported use for other use categories are being obscured.

Excluding power generation, reported withdrawals totaled 1.28 BGD, which represents a 2.28% increase compared to the five-year average (2019-2023). The 2024 total excluding power generation is comparable to 2023, although slightly higher. The increase in reported use over the last five years is largely driven by increased withdrawals from public water supply facilities, and a recent increase in mining withdrawals. Despite successes in reducing per capita water use, reported public water supply withdrawals have steadily increased over the last fifteen years as Virginia's population continues to grow in the urban and suburban areas served by water utilities. Reported use for many categories dropped in 2020 due to economic and social impacts from the COVID-19 pandemic. Though total reported withdrawals excluding power generation dropped in 2020, total volume has remained above pre-pandemic levels since 2021. A detailed discussion of reported withdrawals for each of the use types in Table 1 is provided in Chapter 3.

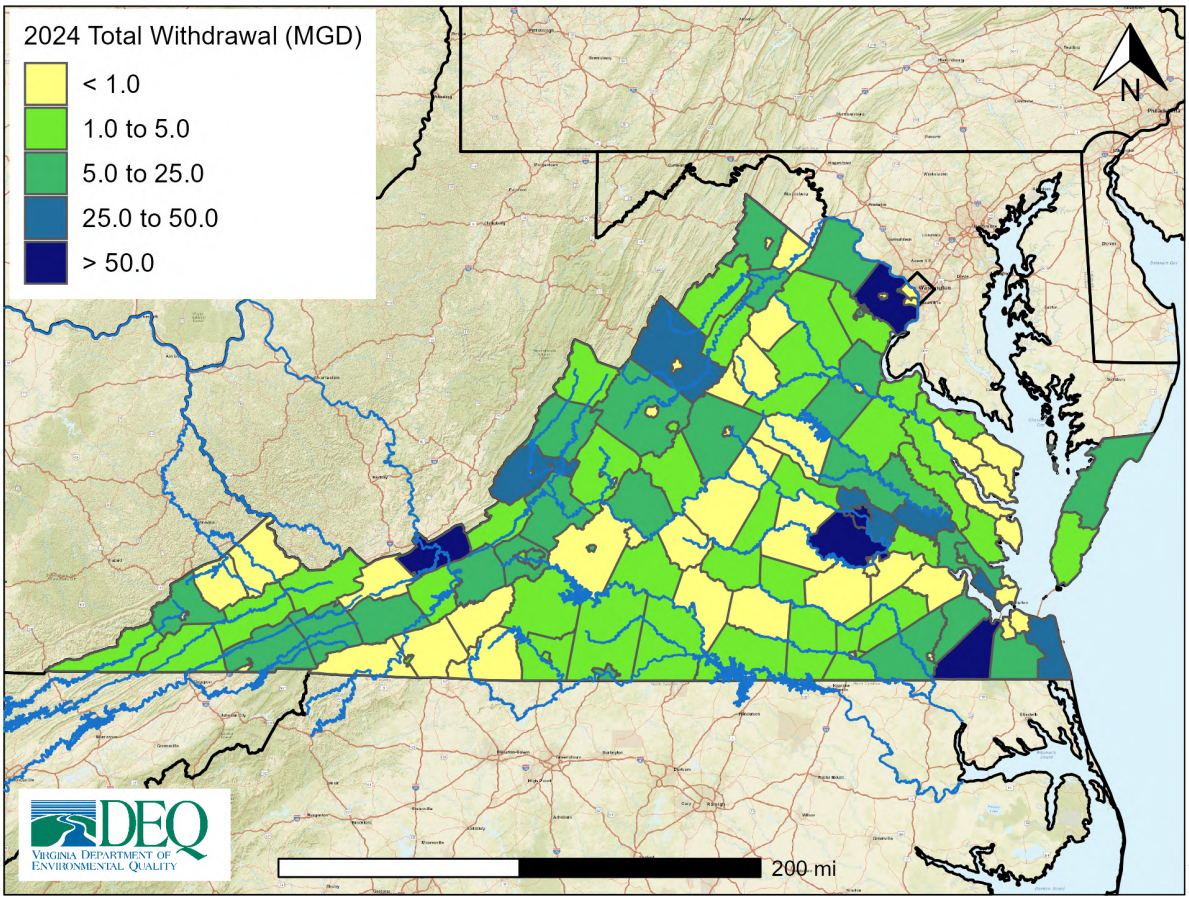
Table 1: Summary of Virginia Water Withdrawals by Use Category and Source Type 2019 - 2024 (MGD)

Category	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater								
Agriculture	1.26	1.33	1.33	1.46	1.32	1.12	1.34	-16.42
Commercial	4.51	3.84	4.23	4.10	4.28	4.11	4.19	-1.91
Industrial	57.73	58.01	59.65	57.44	56.11	54.06	57.79	-6.45
Irrigation	2.01	1.93	1.89	1.75	1.71	1.70	1.86	-8.60
Mining	17.57	19.69	20.72	19.34	10.04	32.52	17.47	86.15
Public Water Supply	55.14	55.83	59.75	59.15	59.80	57.91	57.93	-0.03
Fossil Power	0.07	0.07	0.06	0.07	0.08	0.05	0.07	-28.57
Nuclear Power	0.37	0.36	0.37	0.29	0.38	0.36	0.35	2.86
Surface Water								
Agriculture	31.19	29.98	28.80	27.19	25.53	25.11	28.54	-12.02
Commercial	9.73	6.17	8.56	7.91	9.77	9.31	8.43	10.44
Industrial	293.49	301.92	309.55	303.17	298.19	289.38	301.26	-3.94
Irrigation	20.79	16.38	21.91	19.28	21.20	18.86	19.91	-5.27
Mining	13.66	15.53	12.79	10.98	11.32	12.58	12.86	-2.18
Public Water Supply	727.44	671.65	744.76	768.87	767.16	769.38	735.98	4.54
Fossil Power	752.18	635.84	732.32	751.66	449.84	284.99	664.37	-57.10
Nuclear Power	3739.35	3863.89	3656.36	3678.73	3552.99	3876.53	3698.26	4.82
Total (GW + SW)								
Agriculture	32.45	31.31	30.13	28.65	26.85	26.23	29.88	-12.22
Commercial	14.25	10.01	12.80	12.01	14.05	13.41	12.62	6.26
Industrial	351.22	359.93	369.20	360.61	354.30	343.44	359.05	-4.35
Irrigation	22.80	18.31	23.81	21.03	22.91	20.56	21.77	-5.56
Mining	31.23	35.22	33.51	30.33	21.36	45.10	30.33	48.70
Public Water Supply	782.57	727.48	804.52	828.02	826.95	827.29	793.91	4.20
Fossil Power	752.25	635.91	732.38	751.73	449.92	285.03	664.44	-57.10
Nuclear Power	3739.73	3864.26	3656.73	3679.03	3553.37	3876.89	3698.62	4.82
Total - without power								
Total Groundwater	138.22	140.62	147.57	143.24	133.26	151.43	140.58	7.72
Total Surface Water	1096.29	1041.63	1126.38	1137.40	1133.16	1124.62	1106.97	1.59
Total (Gw + Sw)	**1234.52**	**1182.25**	**1273.96**	**1280.64**	**1266.42**	**1276.05**	**1247.56**	**2.28**
Total - power only								
Total Groundwater	0.44	0.43	0.44	0.36	0.45	0.40	0.42	-4.76
Total Surface Water	4491.53	4499.73	4388.68	4430.39	4002.83	4161.51	4362.63	-4.61
Total (Gw + Sw)	**4491.97**	**4500.17**	**4389.12**	**4430.75**	**4003.28**	**4161.92**	**4363.06**	**-4.61**
Total All Categories								
Total (Gw + Sw)	**5726.58**	**5682.52**	**5663.20**	**5711.41**	**5269.71**	**5437.97**	**5610.68**	**-3.08**

2.4 2024 Reported Water Withdrawals by Locality

Demand for water varies considerably across Virginia. Figure 8 shows the total 2024 reported withdrawals excluding power generation within each locality. The largest withdrawals were reported across major population centers, including Northern Virginia, the greater Richmond area, and the Tidewater area. Localities with significant industrial and mining facilities such as Giles County can influence overall demands.

Figure 8: 2024 Total Reported Water Withdrawals By Locality Excluding Power Generation



Excluding power generation, the City of Hopewell has the highest total 2024 reported water withdrawal resulting primarily from an industrial facility that withdraws from the tidal James River. The City of Suffolk, which contains two public water supply reservoirs operated by the City of Norfolk, as well as the counties of Chesterfield, Fairfax, and Giles make up the remainder of the top 5 localities. The City of Suffolk and Fairfax County's withdrawals are primarily for providing public water supply to the large urban/suburban regions. Chesterfield has significant users in industrial as well as public water supply. Giles County's withdrawals are primarily driven by industrial and mining uses.

2024 reported withdrawals for each locality can be found in Table 21 located in Appendix 2.

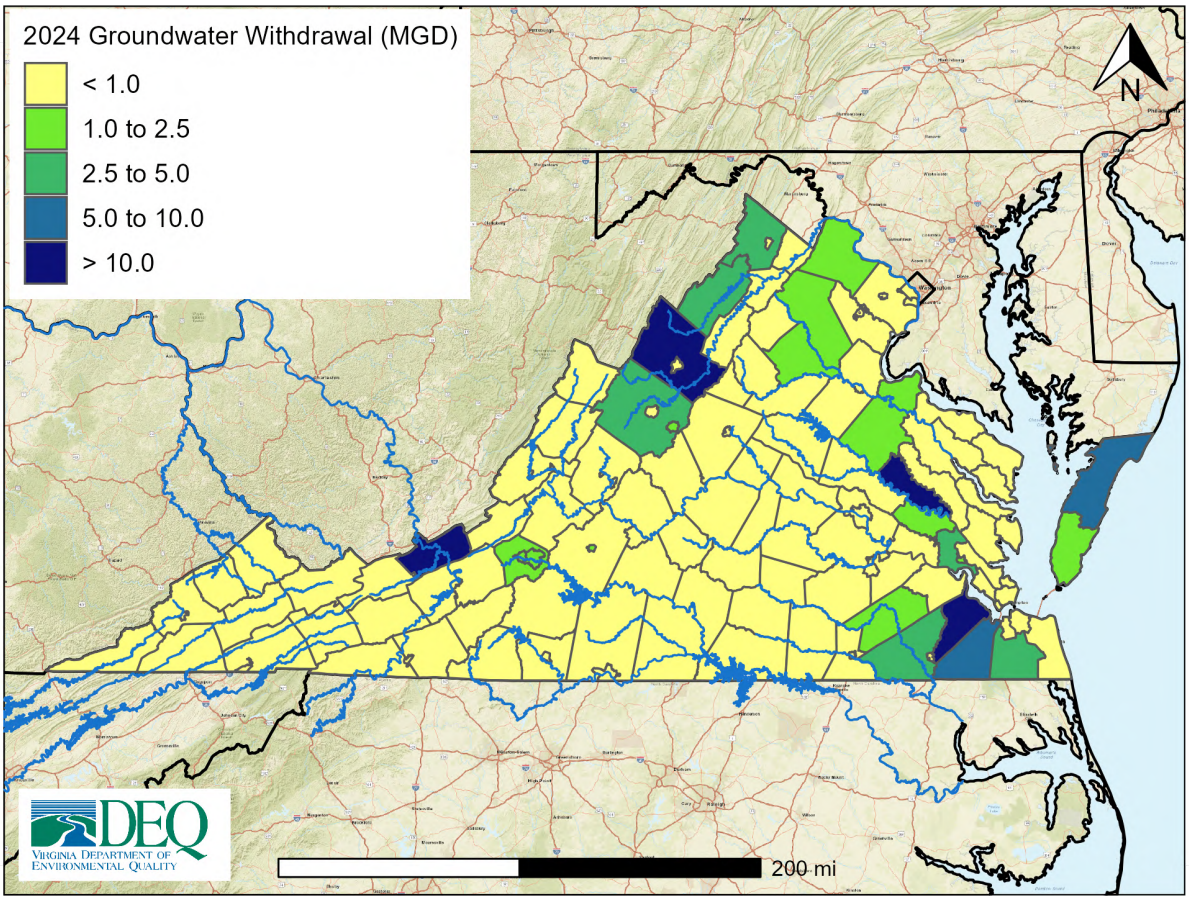
2.5 2024 Reported Water Withdrawals by Source Type

When comparing reported withdrawals based on the type of source (surface water or groundwater), there are several historic trends that continued in 2024. Surface water sources (streams, reservoirs, and springs) continued to supply the vast majority of water needs in Virginia, including for nuclear power facilities, large industrial facilities, and large public water suppliers that serve the major population centers of Virginia. In 2024, surface water sources comprised 88% of total reported withdrawals when excluding power generation, which is consistent with the average proportion over the last five years. Groundwater use is most prevalent in the Coastal Plain areas east of Interstate 95 and on the Eastern Shore where confined aquifers provide reliable and high quality water to areas with limited access to fresh surface water. Groundwater also supplies most rural public water supplies and small self-supplied facilities across use-types for which the relative affordability and accessibility of groundwater is crucial. The following section covers 2024 reported withdrawals categorized by groundwater and surface water in more detail.

Groundwater: As indicated in Table 1, 2024 reported withdrawals from groundwater sources excluding power generation totaled 151.43 MGD, which is an increase of 7.72% when compared to the five-year average. There was a slight drop in use of groundwater in all categories except for mining and nuclear power categories. Mining had the largest impact on this overall increase, increasing by 86.15% in 2024 compared to the five-year average. Groundwater withdrawals for public water supply in 2024 decreased slightly compared to 2023 withdrawals, but was only a 0.03% decrease from the five-year average.

Cumulative reported groundwater withdrawals within each locality are shown in Figure 9. For most localities in Virginia, reported groundwater use remains below 1 MGD. The largest reported groundwater withdrawals in 2024 occured in Giles County. Remaining large groundwater withdrawals continued from industrial facilities located in Isle of Wight and King William counties. Due to increases in mining use, Giles County surpassed Rockingham County in groundwater withdrawals. Significant groundwater withdrawals are also evident in the Tidewater region where many public water suppliers, including the cities of Suffolk, Norfolk, as well as James City County, use groundwater as their primary source or as a supplement to surface water. Groundwater use in areas such as the Eastern Shore and the Shenandoah Valley is relatively higher than other parts of the state due to several factors, including the limited availability of surface water, a higher relative concentration of reporting agricultural facilities, and the presence of one or more industrial facilities that rely on groundwater as their primary source.

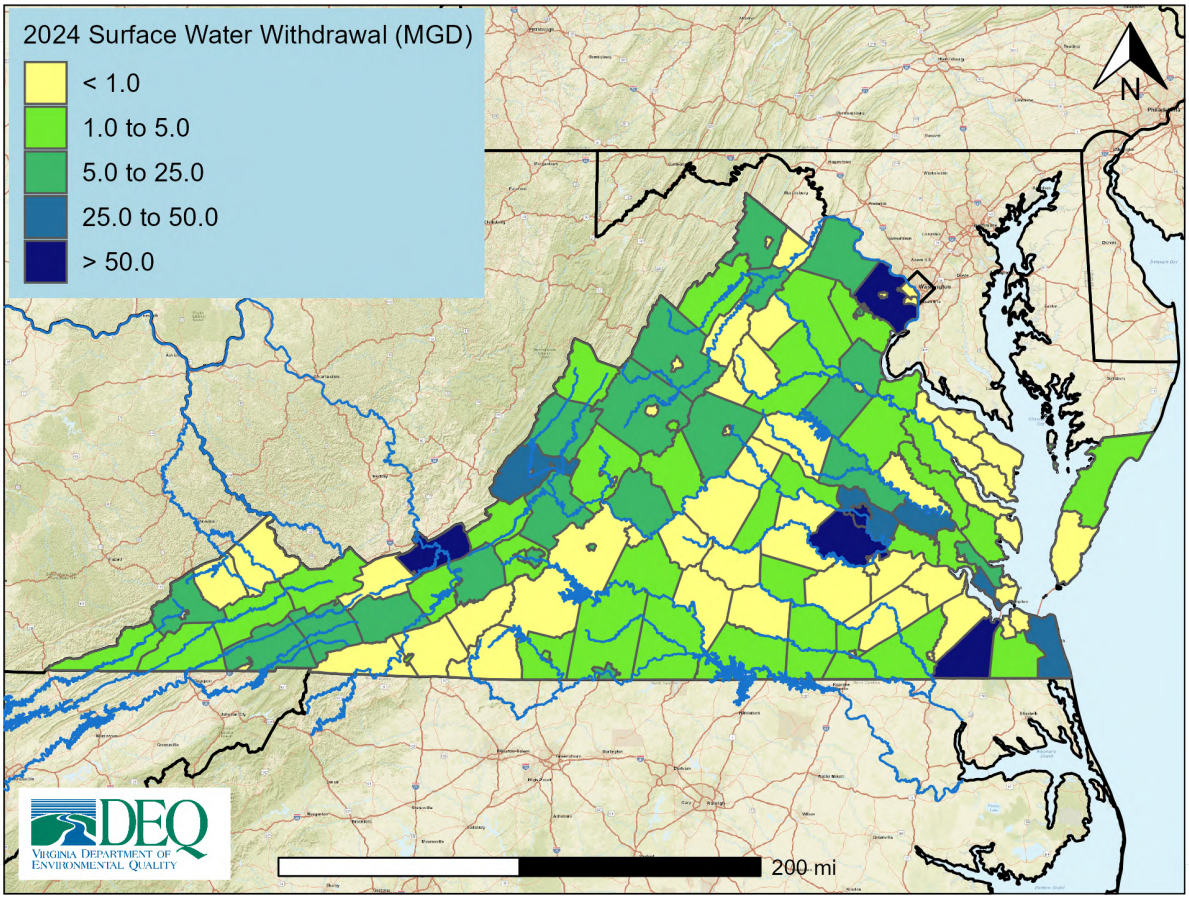
Figure 9: 2024 Groundwater Withdrawals by Locality



Surface Water: Total reported surface water withdrawals in 2024 decreased by 3.35% compared to the five-year average, which is largely a result of a 57.10% reduction in surface water withdrawals for fossil power. However, when excluding power generation, reported surface water withdrawals for 2024 totaled 1124.62 MGD, an increase of 1.59% compared to the five-year average. Public water supply withdrawals for surface water continue to increase consistently due to population growth in the metropolitan areas primarily served by surface water. Reported surface water withdrawals for agriculture and irrigation decreased by 12.02% and 5.27% respectively compared to the five-year average, while surface water withdrawals for commercial increased by 10.44%. Also of note is the large reduction in fossil power surface water withdrawals, due primarily to the closure of the Yorktown Fossil Power Plant, and the reduction in withdrawals from the James River at the Chesterfield Power Station.

Cumulative reported surface water withdrawals (excluding power generation) within each locality are shown in Figure 10. Surface water withdrawals were distributed widely across the state and were greatest around cities and counties with dense population centers and significant industrial water uses. The largest reported surface water withdrawals (excluding power generation) occurred in the Cities of Fairfax, Hopewell, and Richmond, as well as Chesterfield and Giles counties. These top withdrawals were driven by public water supply facilities in City of Richmond, City of Fairfax, and Fairfax County, as well as industrial facilities in the City of Hopewell and Giles County. In addition, agriculture and irrigation use of surface water is spread throughout Virginia, although focused in more rural counties.

Figure 10: 2024 Surface Water Withdrawals by Locality



2.6 2024 Permitted and Unpermitted (Excluded) Withdrawals

Unpermitted withdrawals make up a large portion of the total reported withdrawals within Virginia. Table 2 compares reported withdrawals from users that hold a VWP surface water withdrawal or groundwater withdrawal permit and reported withdrawals from unpermitted facilities.[7] Unpermitted surface water withdrawals include withdrawals that are excluded from VWP permitting requirements pursuant to §62.1-44.15:22 of the Code of Virginia or 9VAC25-210-310, based on exclusions related to the size, age, and purpose of the withdrawal. Unpermitted groundwater withdrawals are those not required to obtain a groundwater withdrawal permit under the Ground Water Management Act of 1992. These include withdrawals located outside of a groundwater management area, those that withdraw less than 300,000 gallons in any month, and those that are otherwise excluded pursuant to 9VAC25-610-50.

In 2024, unpermitted withdrawals represented approximately 78% of the total reported withdrawals in Virginia when excluding power generation. The majority of unpermitted withdrawals come from surface water sources, with 81% of reported surface water withdrawals associated with unpermitted facilities. Nearly half of reported groundwater withdrawals (44%) are from users operating under a Groundwater Withdrawal Permit. Of the top 20 largest reported withdrawals in 2024, 14 are from facilities that are unpermitted (see Table 20).

Table 2: 2024 Permitted and Unpermitted (Excluded) By Use Type Withdrawals (MGD)

	Annual Withdrawal Amount		**% of Total**	
Use Type	**Unpermitted**	**Permitted**	**Unpermitted**	**Permitted**
Groundwater				
Agriculture	0.05	1.06	0.04	0.70
Commercial	1.98	2.13	1.31	1.40
Industrial	18.48	35.59	12.20	23.50
Irrigation	0.46	1.24	0.31	0.82
Mining	32.52	0.00	21.48	0.00
Public Water Supply	31.88	26.03	21.05	17.19
Total Groundwater	**85.37**	**66.05**	**56.38**	**43.62**
Surface Water				
Agriculture	24.72	0.39	2.20	0.03
Commercial	8.12	1.19	0.72	0.11
Industrial	280.96	8.42	24.98	0.75
Irrigation	18.81	0.05	1.67	0.00
Mining	12.44	0.15	1.11	0.01
Public Water Supply	571.11	198.27	50.78	17.63
Total Surface Water	**916.16**	**208.46**	**81.46**	**18.54**

The largest unpermitted groundwater withdrawals are for industrial facilities, mining facilities, and public water supply facilities located outside of the groundwater management areas. Withdrawals for public water supply were the largest contributor to total groundwater withdrawals. In 2024, 21.05% of the total reported groundwater withdrawals excluding power generation (151.43 MGD) were associated with unpermitted public water supply facilities located outside groundwater management areas. Note that groundwater withdrawals for domestic and private well use are not included in the reported use totals, as such use falls below the reporting threshold and is not required to be reported to DEQ. Additionally, 21.48% of total reported groundwater withdrawals excluding power generation (151.43 MGD) were associated with unpermitted mining withdrawals located outside groundwater management areas.

[7] Currently unpermitted facilities that have applied for withdrawal permits, and whose applications are currently under review, are counted as permitted withdrawals for the purpose of this table.

As with groundwater, unpermitted surface water withdrawals in 2024 were dominated by withdrawals associated with public water supply and industrial facilities. Surface water withdrawals from unpermitted public water supply facilities made up 74.23% of the total reported public water supply surface water withdrawal volume (769.38 MGD), while surface water withdrawals from unpermitted industrial facilities made up 97.09% of the total reported industrial surface water withdrawal volume (289.38 MGD). Unpermitted withdrawals, whether groundwater or surface water, continue to present a significant challenge for management of the resource. More information on measures DEQ is taking to better evaluate the impacts from unpermitted users is provided in Chapter 4 of this report.

Unreported unpermitted withdrawals are not represented in Table 2, however unreported withdrawals are of interest to DEQ. These withdrawals consist primarily of those that do not exceed the reporting thresholds for their use type as stated in 9VAC25-200-30. Trends in increased private groundwater well completion reports received by DEQ and VDH point to an increase in private groundwater well construction. Since 2016, 15,556 wells have been registered with DEQ through electronic submission; 1,073 wells were registered electronically with DEQ in 2024 alone. DEQ also receives well abandonment reports, either for wells that had been registered with DEQ or those constructed prior to 2016. DEQ has received 2,321 abandonment reports, accounting for 14.9% of registered wells. This means that, at most, 13,235 of these registered wells are currently active.

Though water withdrawal data is not collected with groundwater well completion reports, the increase in private well construction can be viewed as a metric for evaluating increasing unreported and unpermitted groundwater withdrawals. Unreported and unpermitted withdrawals also include users who may be withdrawing above the thresholds requiring reporting but are not in compliance with the regulation. Identification of such users is an ongoing effort for DEQ. More details on how DEQ continues to address this challenge can be found in Chapter 4.

3 Water Withdrawals By Use Category

Chapter 3 provides an overview of water withdrawal reporting for the year 2024, as well as comparisons to recent years reporting, for each water withdrawal use type. Water withdrawals reported annually to DEQ are grouped into the following categories:

- 3.3 Public Water Supply - includes water withdrawn and treated to produce water to supply municipal and non-municipal water systems that primarily provide residential use. Such systems may also supply commercial and industrial facilities located within their service area. Public water supply does not include private and domestic well withdrawals under 300,000 gallons per month, which are not required to be reported.
- 3.4 Agriculture - includes water withdrawn for raising livestock, fish farming/hatcheries, and general farm use, but does not include water used for crop irrigation.
- 3.5 Irrigation - includes water withdrawn to promote crop growth, including but not limited to tobacco, corn, soybeans, turf grass, and nursery products.
- 3.6 Commercial - includes water withdrawn for use by golf courses, local and federal installations, hotels, resorts, and correctional centers, among others.
- 3.7 Mining - includes water withdrawn for pit dewatering, excavation, processing, and removal of bulk products such as coal, rock, sand, and gravel.
- 3.8 Industrial - includes water withdrawn for use by industrial facilities that generally produce goods such as paper mills, food processors, pharmaceutical companies, furniture manufacturing, and concrete plants, among others.
- 3.9 Power Generation - includes water withdrawn for fossil fuel power and nuclear power. Withdrawals or diversions of water for hydroelectric power (hydropower) generation are nearly all non-consumptive and are exempt from the annual water withdrawal reporting requirements.

3.1 Water Use by Use Category At A Glance

Figure 11 compares the average water withdrawals from 2019 to 2023 to the 2024 total withdrawals for each use-type category, excluding power generation (nuclear power and fossil fuel power). Figures 12 and 13 further split this comparison by source type. In summary, total withdrawals from the public water supply and mining categories increased, while the industrial and agriculture categories decreased compared to the 5-year average. Total withdrawals from the commercial and irrigation categories stayed mostly consistent compared to the 5-year average. This led to an increase in the portion of public water supply and mining and a decrease in industrial, with only slight changes in the other three categories. The public water supply and industrial use-types continue to be the largest withdrawals in the state, when excluding power generation.

Figure 11: Groundwater + Surface Water Withdrawals, 2019-2023 Average and 2024 Total

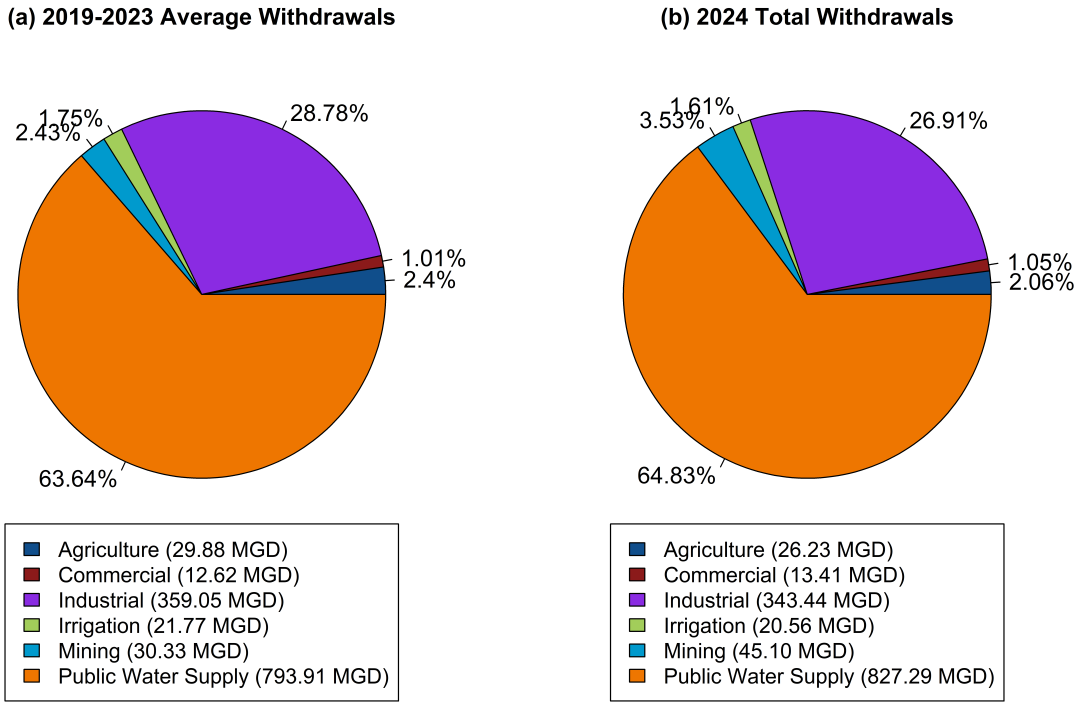


Figure 12: Groundwater Withdrawals, 2019-2023 Average and 2024 Total

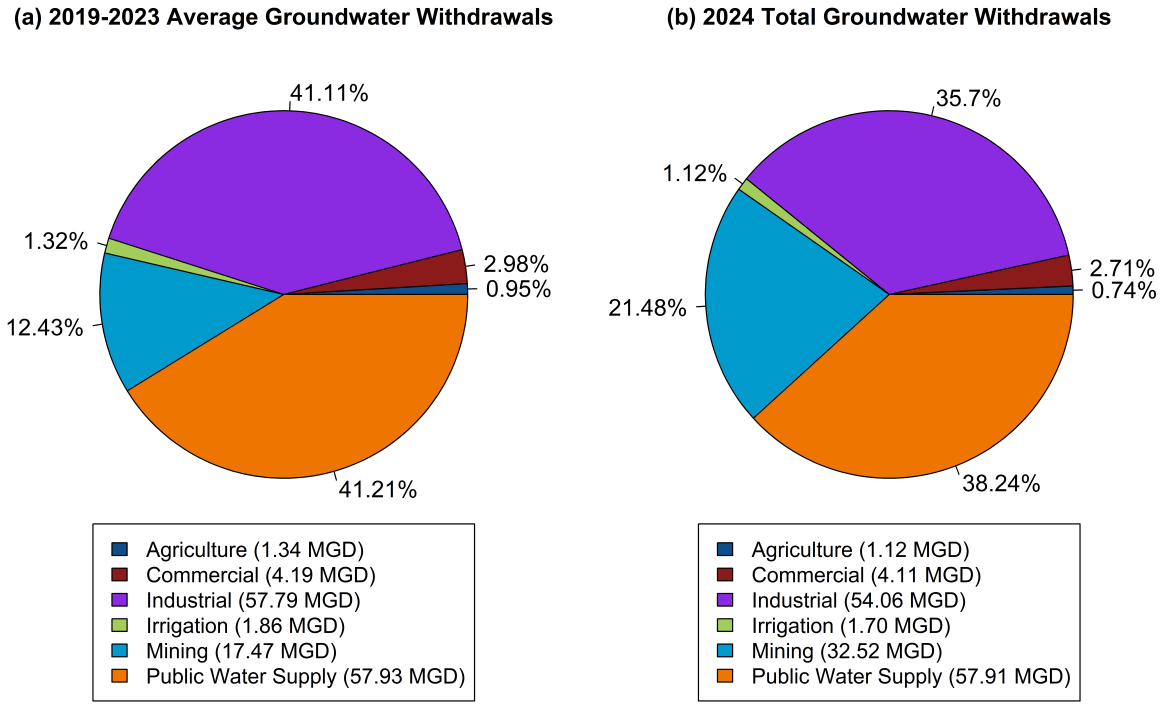
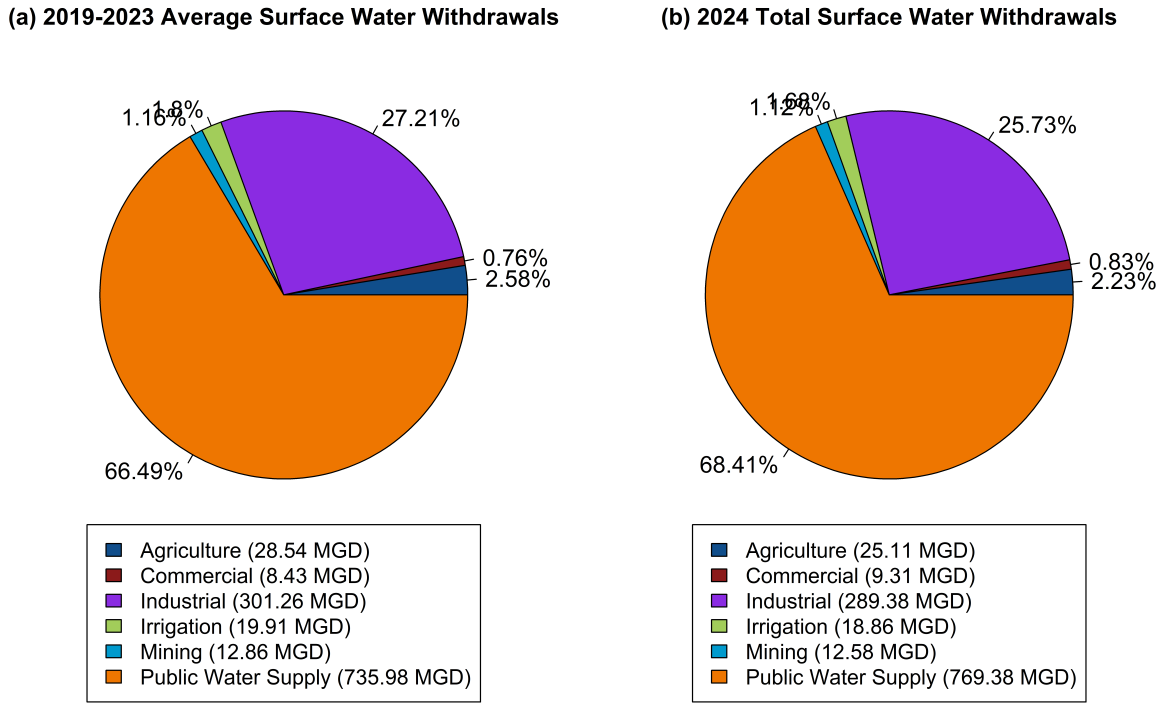


Figure 13: Surface Water Withdrawals, 2019-2023 Average and 2024 Total



3.2 Water Use Category Specific Section Overview

Each of the following sections includes the following for the relevant use-type category:

- A map depicting withdrawal point locations for each category, scaled by the magnitude of the 2024 reported annual withdrawal rate of individual measuring points (wells and surface water intakes)
- A table that lists the reported quantity withdrawn for each source type (groundwater or surface water) between 2019 and 2024, as well as the withdrawal amounts relative to the five-year average
- A bar graph illustrating the reported quantity withdrawn for each source type (groundwater or surface water) between 2019 and 2024, as well as the withdrawal amounts relative to the five-year average
- A table listing facilities reporting the largest withdrawals for 2024, facility location, reported 2024 annual withdrawal rate, and the average annual withdrawal rate for the five-year period from 2019 to 2023

3.3 Public Water Supply

Water withdrawals for public water supply are primarily delivered to domestic users by both municipal and non-municipal community water systems; however, significant volumes are also delivered to commercial and industrial customers by water suppliers. Deliveries to specific users are generally not reported to DEQ; therefore, the reported withdrawals for public water supply do not differentiate between the categories of end users.

While most reporting public water systems are small systems that use groundwater (over 80%), the majority of the population in Virginia is served by large surface water systems with extensive service areas. The largest public water supply withdrawals are located within or near population centers such as the Washington D.C., Richmond, Hampton Roads, and Roanoke metropolitan areas. The largest public water supply purchases are located in the same areas, where water purveyors with large reservoirs or river withdrawals are able to supply both the population within their localities as well as, in some cases, neighboring localities. Smaller public water supply systems are spread throughout the state serving small towns or communities. Figure 14 shows spatial locations and size of water use of public water supply systems across the Commonwealth.

Figure 14: All 2024 Public Water Supply Water Withdrawals by Withdrawal Point Location

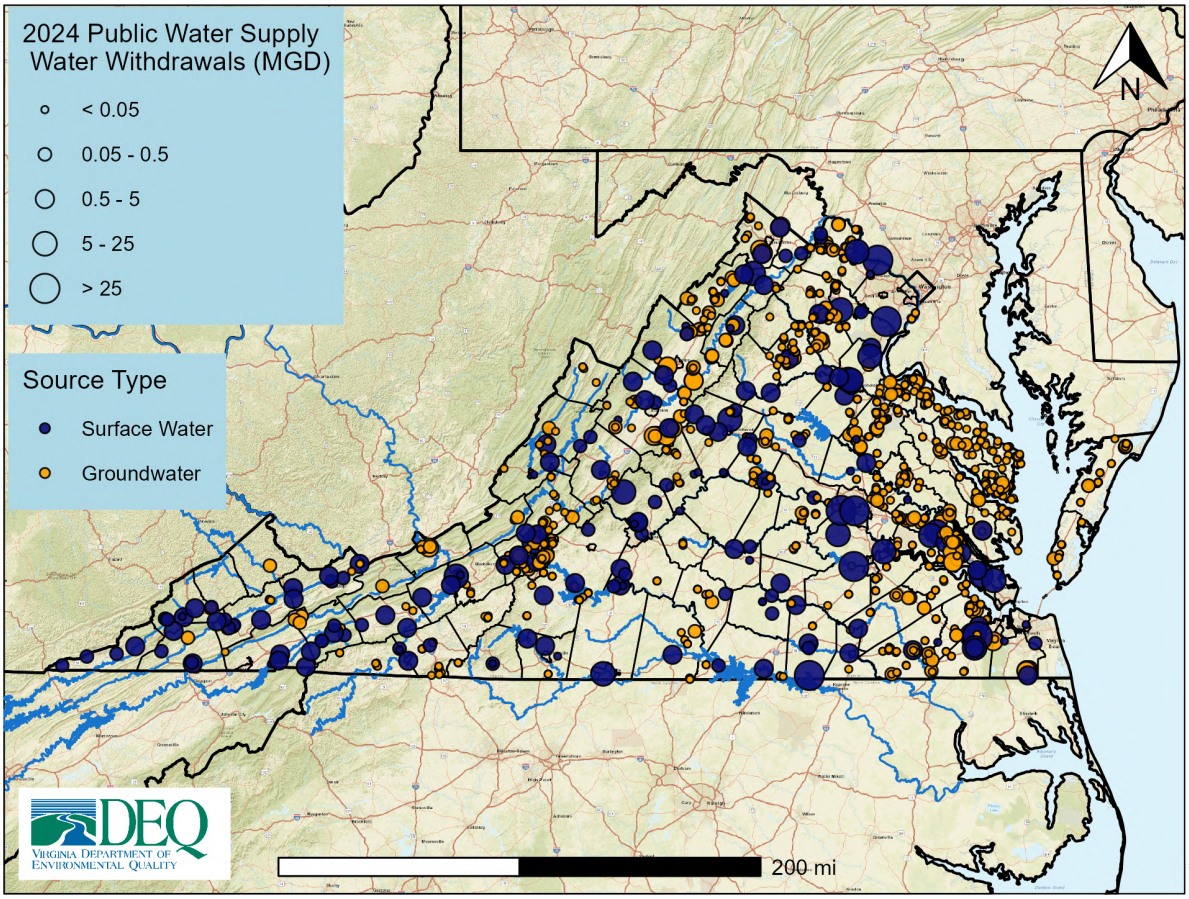


Table 3: 2019 - 2024 Public Water Supply Water Withdrawals by Source Type (MGD)

Source Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater	55.14	55.83	59.75	59.15	59.80	57.91	57.93	-0.03
Surface Water	727.44	671.65	744.76	768.87	767.16	769.38	735.98	4.54
Total (GW + SW)	**782.57**	**727.48**	**804.52**	**828.02**	**826.95**	**827.29**	**793.91**	**4.20**

Water withdrawals for public water supply made up 64.83% of all non-power generation withdrawals in Virginia for 2024, so changes in this category can impact overall reported water use significantly. Reported 2024 water withdrawals for public water supply increased by 4.20% when compared to the five-year average (see Table 3). A 4.54% increase in reported surface water withdrawals for public water supply is the major driver of overall increases in this category, as surface water supplied 93% of the total reported withdrawals for public water supply in 2024 (see Table 3). Reported groundwater withdrawals for public water supply were consistent with the five-year average.

There is an increasing trend in public water supply withdrawals reported over the last ten years (see Figure 16). Despite successes in reducing per capita water use, reported public water supply withdrawals have steadily increased over the last ten years as Virginia's population continues to grow in the urban and suburban areas served by public water supplies. Though total reported public water supply withdrawals increased in 2024 compared to five-year average, withdrawals have remained relatively consistent since 2022. The decrease in 2020 public water supply use is an outlier largely attributed to temporary closures and other mitigation strategies due to the COVID-19 pandemic.

Tables 4 and 5 list the five public water supply facilities that reported the largest groundwater and surface water withdrawals in 2024 respectively. Table 6 displays information supplied by VDH regarding the number of public water supply systems by type and the total population served by all such systems.

Table 4: Highest Reported Public Water Supply Groundwater Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Northwest River/Western Branch Systems	Chesapeake	GW	3.7	4.0
Western Tidewater Water Authority	Suffolk	GW	3.6	3.9
James City Service Authority Central System	James City	GW	5.2	3.3
Three Springs Service Area	Rockingham	GW	3.1	3.3
Frederick County Sanitation Authority	Frederick	GW	2.5	2.8

Table 5: Highest Reported Public Water Supply Surface Water Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Fairfax Water: Corbalis WTP	Fairfax County	SW	86.6	94.6
City of Richmond WTP	Richmond City	SW	68.2	69.6
Fairfax Water: Griffith WTP	Fairfax	SW	67.2	69.4
City of Norfolk: Western Branch Reservoir	Suffolk	SW	58.8	57.2
Appomattox River Water Authority	Chesterfield	SW	37.9	40.5

Table 6: Number of Public Water Supply Systems and Population Served in 2024

Category	Community Water Systems	Nontransient Noncommunity Water Systems	Transient Noncommunity Water Systems	Total
Number of Systems	1,063	502	1,274	2,839
Population Served	7,434,330	279,186	198,798	7,912,314

Nontransient noncommunity water systems are not a community water system, and regularly serves at least 25 of the same persons over six months out of the year.
Transient noncommunity water systems are not community water systems, but operate at least 60 days of the year and is for transient use such as restaurants, campgrounds, or rest areas.

Figure 15: 2019-2024 Public Water Supply Water Withdrawals by Source Type

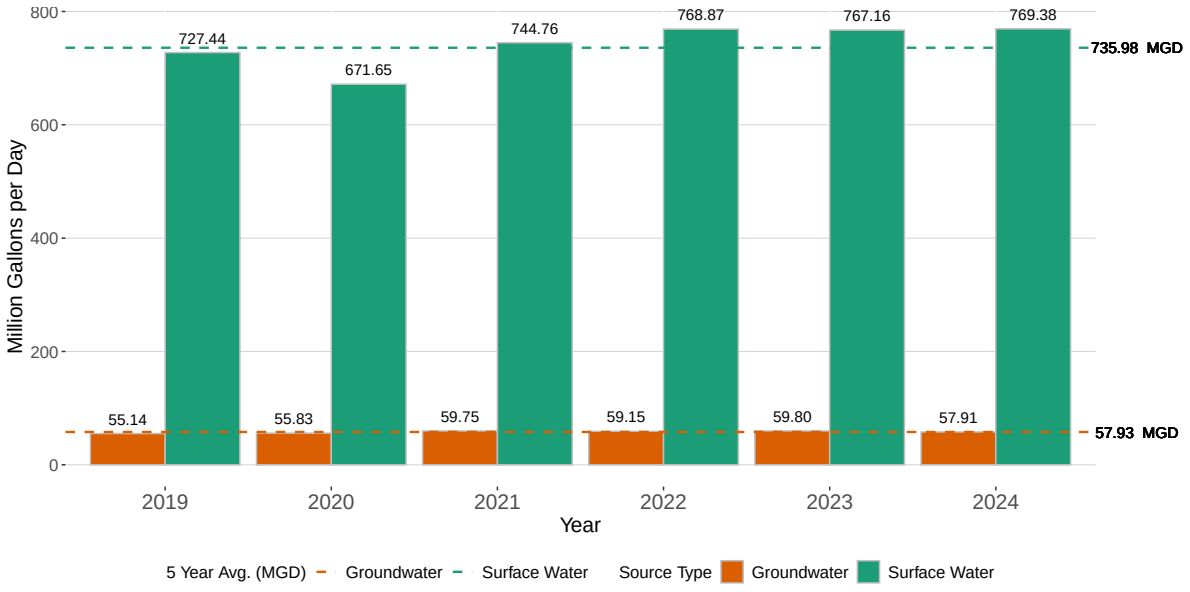
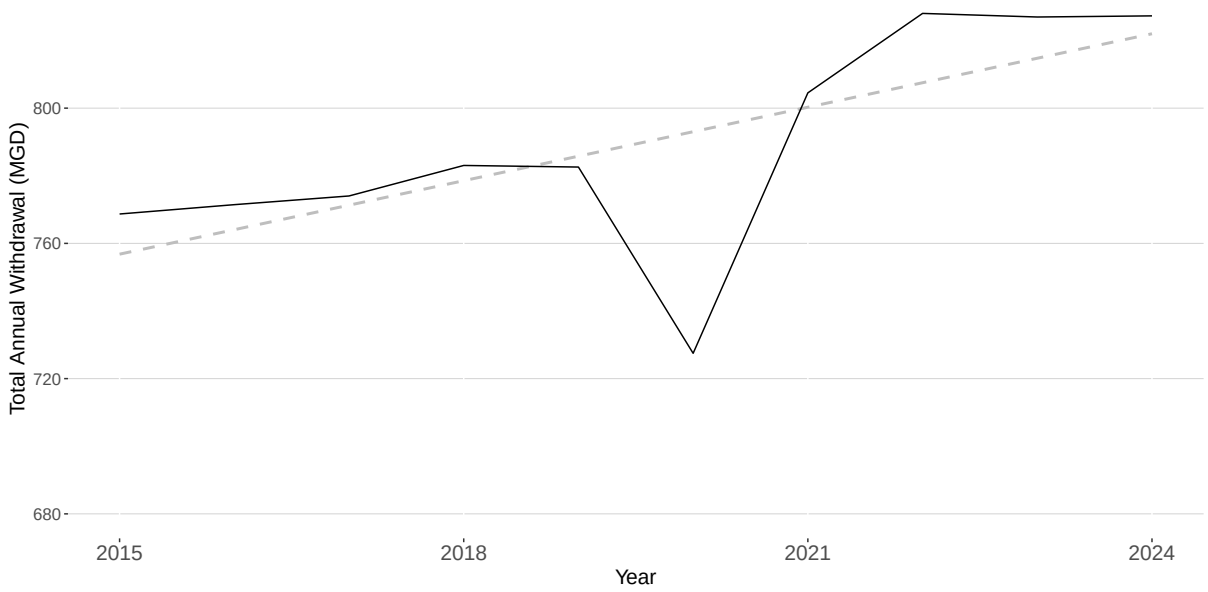


Figure 16: 2015-2024 Public Water Supply Water Withdrawal Trend



3.4 Agriculture (Non-Irrigation)

Withdrawals for agriculture include non-irrigation withdrawals from livestock, poultry, and fish farms. Information concerning agricultural irrigation withdrawals is provided in the "Irrigation (Agricultural) Water Withdrawals section" 3.5 below. In total, withdrawals for non-irrigation agriculture made up 2.06% of all reported 2024 non-power generation withdrawals in Virginia. Figure 17 shows the spatial distribution of reported 2024 groundwater and surface water withdrawals for agricultural purposes statewide, with the highest number of withdrawals located on the Eastern Shore, within the Shenandoah Valley, and within the Virginia Coastal Plain. Table 7 provides the reported agriculture non-irrigation withdrawals in total as well as by source for 2024 and the preceding five years. Overall, reported use in this category dropped by 12.22% compared to the five-year average, driven by reductions in surface water withdrawals. The majority of water withdrawn for agricultural use is obtained from surface water (see Figure 18), primarily via springs located in western Virginia that support fish farms and hatcheries, including those operated by the DWR. Reported 2024 surface water withdrawals for agriculture uses decreased by 12.02% compared to the five-year average. This continues the downward trend in reported surface water withdrawals for agricultural use.

Figure 17: All 2024 Agriculture (Non-Irrigation) Water Withdrawals by Withdrawal Point Location

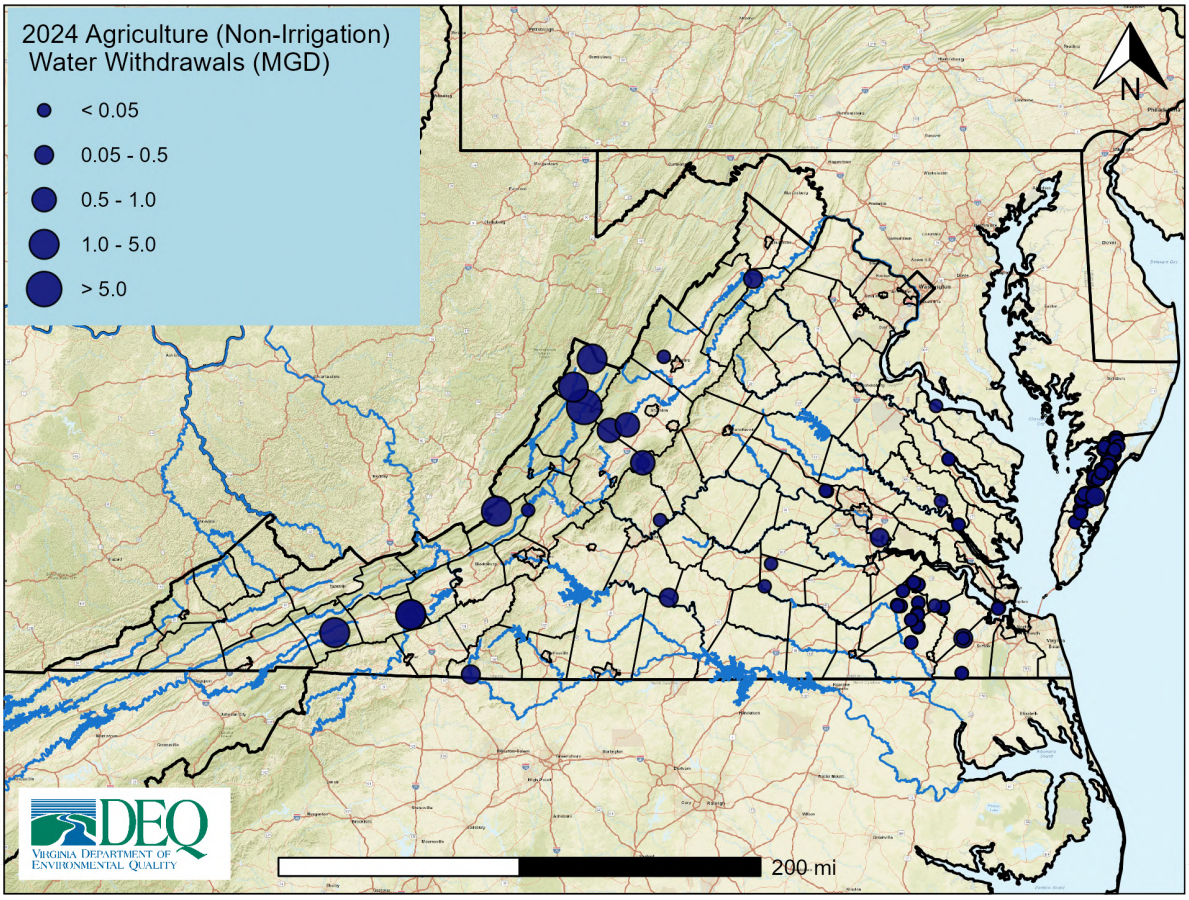


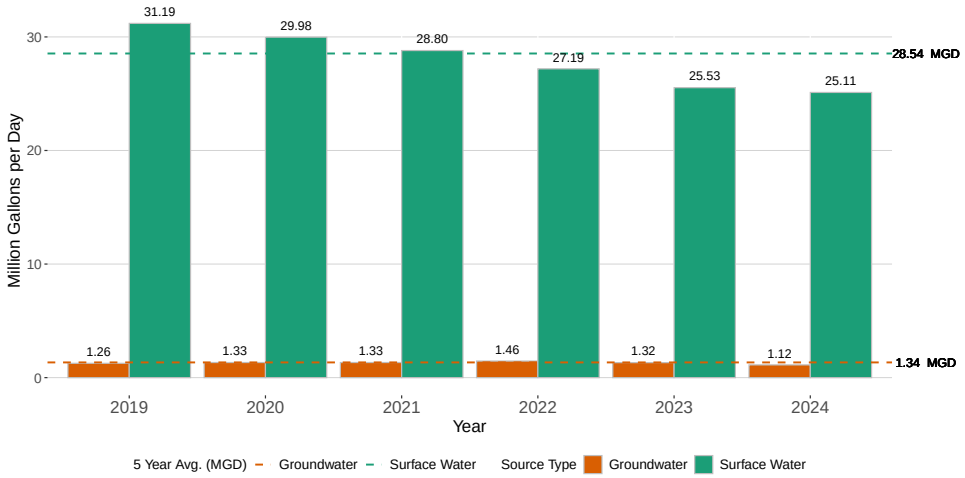
Table 7: 2019 - 2024 Agriculture Water Withdrawals by Source Type (MGD)

Source Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater	1.26	1.33	1.33	1.46	1.32	1.12	1.34	-16.42
Surface Water	31.19	29.98	28.80	27.19	25.53	25.11	28.54	-12.02
Total (GW + SW)	**32.45**	**31.31**	**30.13**	**28.65**	**26.85**	**26.23**	**29.88**	**-12.22**

Table 8: Highest Reported Agriculture Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Coursey Springs Fish Cultural Station	Bath	SW	10.1	8.7
Paint Bank Fish Cultural Station	Craig	SW	3.1	3.1
Wytheville Fish Cultural Station	Wythe	SW/GW	3.1	3.0
Marion State Fish Hatchery	Smyth	SW	2.9	2.7
Laurel Hill Trout Farm-South Monterey	Highland	SW	2.6	2.5

Figure 18: 2019-2024 Agriculture Water Withdrawals by Source Type



Although surface water is the primary source by volume, the majority of farms reporting agriculture withdrawals make use of groundwater sources as well. Groundwater is generally used as a supplement for surface water during droughts or during high-flows where turbidity or water quality issues can create operational limitations for the use of surface water. Reported groundwater withdrawals for agriculture decreased by 16.42% when compared to the five-year average, a decrease of approximately 220,000 gallons per day. Prior to 2023, reported groundwater withdrawals for agriculture were increasing compared to the five-year average. This increase was attributed to poultry facilities along the Eastern Shore between 2019 and 2020, and to a series of hog farms in Sussex and Surry counties in 2022. However, since 2023 there has been a downward trend in reported groundwater withdrawals for agricultural use.

Table 8 lists the five facilities reporting the largest withdrawals for non-irrigation agriculture use in 2024, all of which are fish hatcheries. Note that most fish hatcheries typically have little to no consumptive use.

3.5 Irrigation (Agricultural)

Agricultural irrigation withdrawals are associated with farms irrigating crops such as corn, soybeans, sod, as well as nursery products. Water withdrawals from agricultural irrigation made up 1.61% of all non-power generation withdrawals in Virginia for 2024, totaling 20.56 MGD in reported withdrawals. Figure 19 illustrates the distribution of reported 2024 groundwater and surface water withdrawals for irrigation purposes statewide. As with previous years, most large-scale irrigation facilities are located in the Coastal Plain, the Eastern Shore, and Shenandoah Valley. Reported water withdrawals for irrigation in 2024 were 5.56% lower than the five-year average, driven by a reduction in surface water withdrawals of 2.34 MGD from 2023 to 2024 (Table 9). Surface water continues to be the major water source type for irrigation, representing approximately 91.73% of 2024 total irrigation withdrawals (Figure 20).

The five facilities reporting the highest withdrawals for irrigation in 2024 are listed in Table 10. 2024 withdrawal volumes for the top five facilities are mostly consistent with the five-year average, aside from the Arbuckle Farms facility whose 2024 withdrawal represents a 44.83% decrease from the five-year average.

Figure 19: All 2024 Irrigation (Agricultural) Water Withdrawals by Withdrawal Point Location

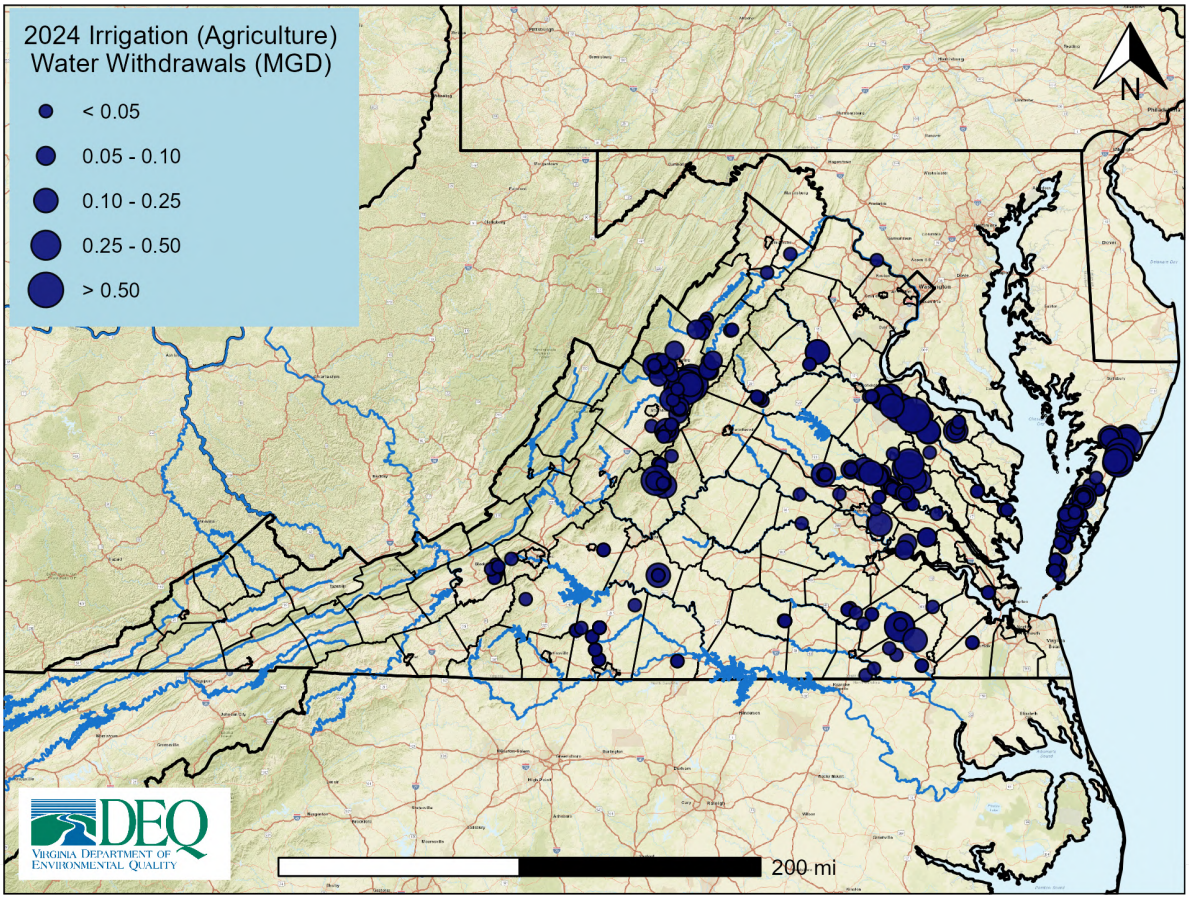


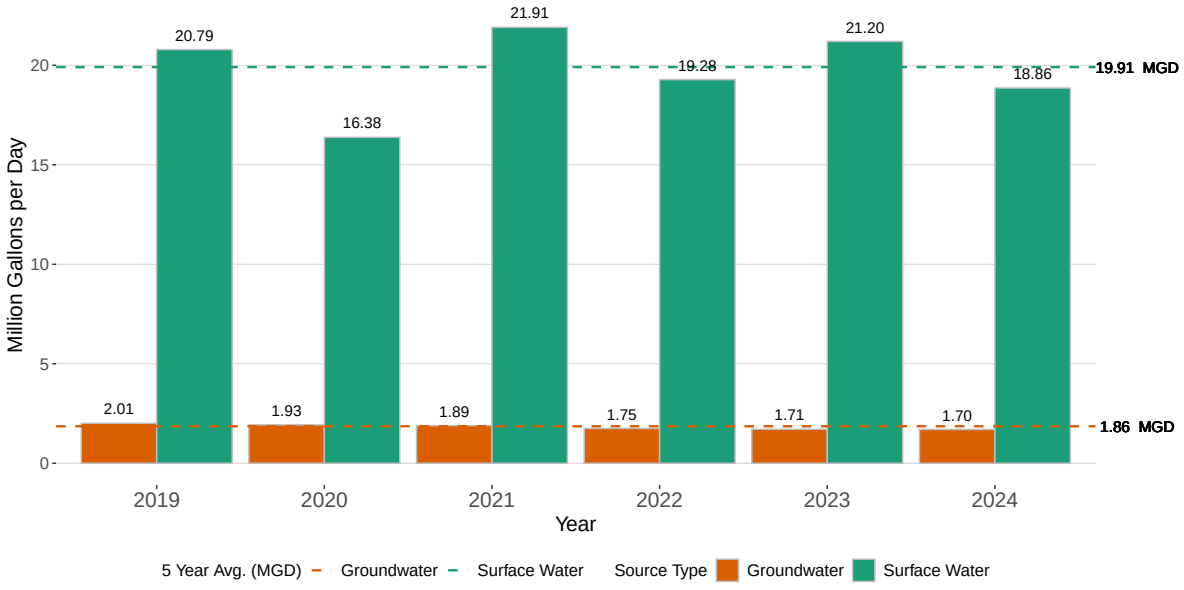
Table 9: 2019 - 2024 Irrigation Water Withdrawals by Source Type (MGD)

Source Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater	2.01	1.93	1.89	1.75	1.71	1.70	1.86	-8.60
Surface Water	20.79	16.38	21.91	19.28	21.20	18.86	19.91	-5.27
Total (GW + SW)	**22.80**	**18.31**	**23.81**	**21.03**	**22.91**	**20.56**	**21.77**	**-5.56**

Table 10: Highest Reported Irrigation Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Dublin Farms	Accomack	SW	2.2	1.9
Arbuckle Farms	Accomack	SW	2.9	1.6
Glenwood	King and Queen	SW	1.3	1.4
Cloverfield Farm	Essex	SW	1.0	1.1
Cub Run Dairy	Rockingham	SW	0.6	0.9

Figure 20: 2019-2024 Irrigation Water Withdrawals by Source Type



3.6 Commercial

Commercial operations include golf courses, universities, hotels, resorts, and other similar entities. Water withdrawals from commercial activities made up 1.05% of all reported non-power generation withdrawals in Virginia for 2024. Figure 21 illustrates the distribution of reported 2024 groundwater and surface water withdrawals for commercial purposes, which are located predominantly near population centers. Reported commercial water withdrawals increased by 6.26% compared to the five-year average (Table 11), and continued to rely primarily on surface water sources (Figure 22). Withdrawals had fallen by almost 30% from 2019 to 2020, likely as a result of the COVID-19 pandemic. Reported commercial withdrawals have since increased but are still below the pre-pandemic volume of 14.25 MGD in 2019. The five facilities reporting the largest 2024 water withdrawals for commercial operations are listed in Table 12. 2024 withdrawal volumes for the top five facilities are mostly consistent with the five-year average, aside from the Port Tobacco At Weanack facility whose 2024 withdrawal represents a 114.29% increase from the five-year average.

Figure 21: All 2024 Commercial Water Withdrawals by Withdrawal Point Location

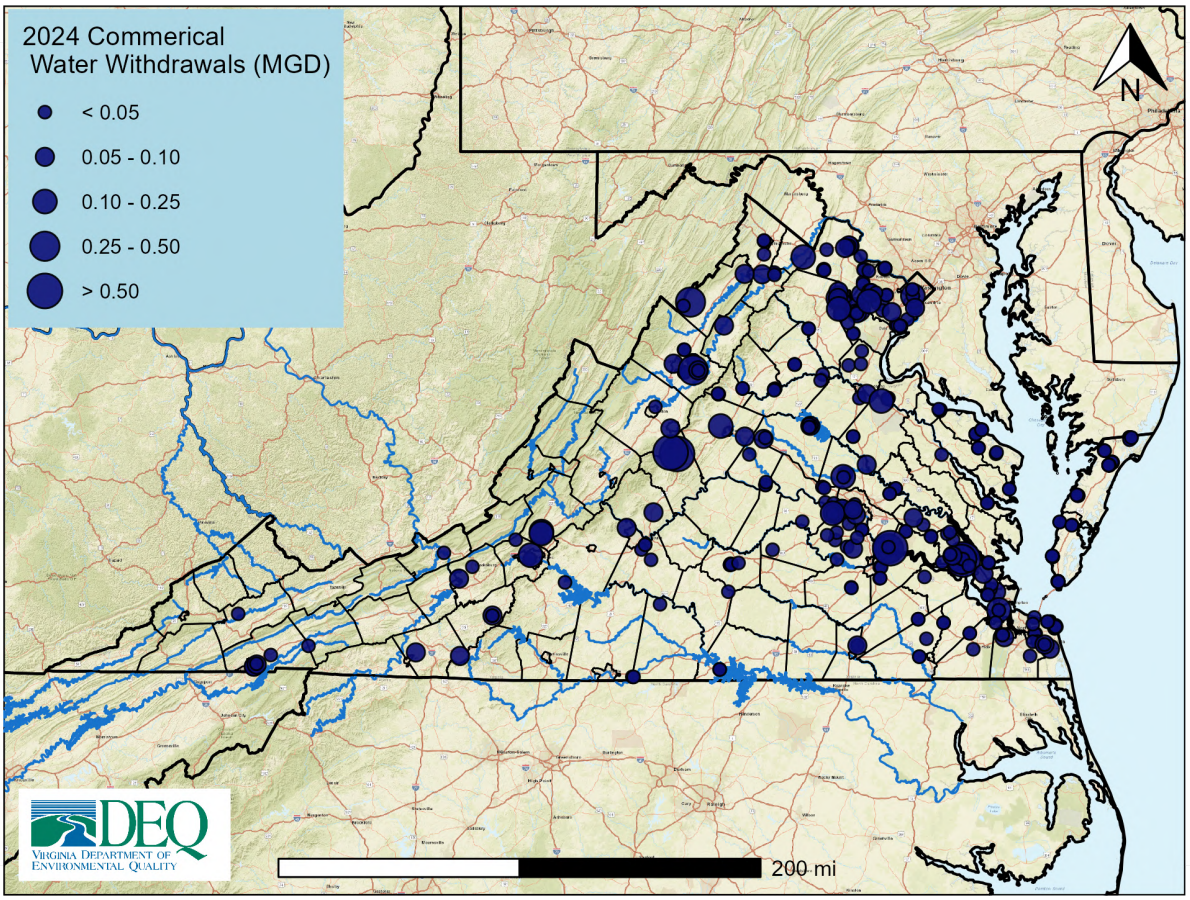


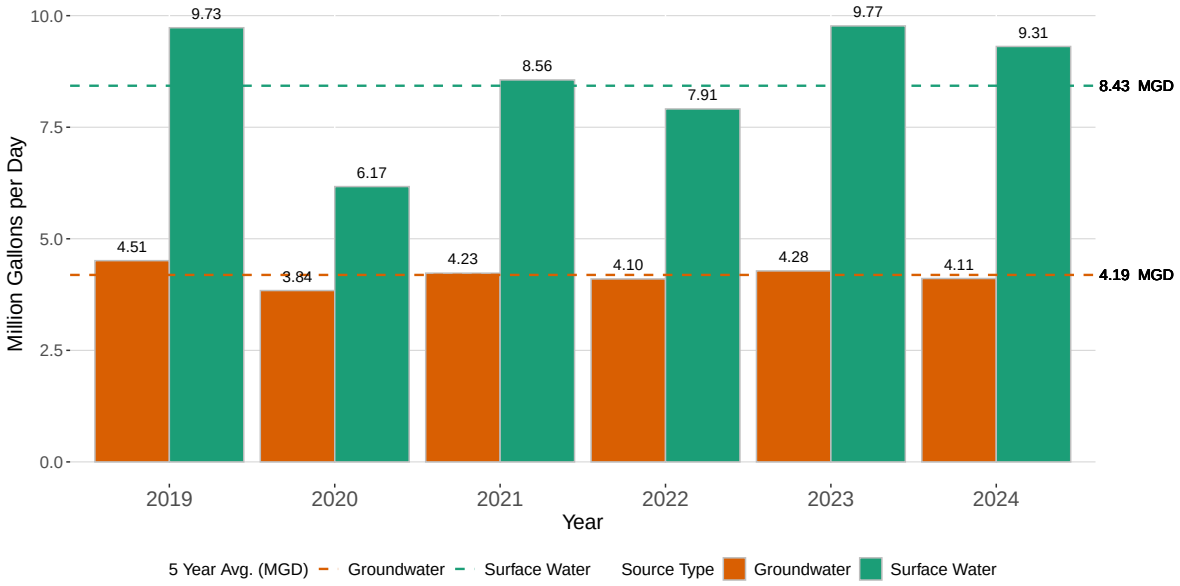
Table 11: 2019 - 2024 Commercial Water Withdrawals by Source Type (MGD)

Source Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater	4.51	3.84	4.23	4.10	4.28	4.11	4.19	-1.91
Surface Water	9.73	6.17	8.56	7.91	9.77	9.31	8.43	10.44
Total (GW + SW)	**14.25**	**10.01**	**12.80**	**12.01**	**14.05**	**13.41**	**12.62**	**6.26**

Table 12: Highest Reported Commercial Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Port Tobacco at Weanack	Charles City	SW	0.7	1.5
Lake Monacan-Stoney Creek (Wintergreen)	Nelson	SW	0.9	1.1
Colonial Williamsburg	Williamsburg	GW	1.0	1.0
Massanutten Resort	Rockingham	SW	0.3	0.5
Ashley Plantation Country Club	Botetourt	SW	0.4	0.4

Figure 22: 2019-2024 Commercial Water Withdrawals by Source Type



3.7 Mining

The mining use category includes withdrawals for operations such as sand and gravel, stone, and coal mining. Reported water withdrawals from mining operations were approximately 3.53% of all non-power generation withdrawals in Virginia for 2024. Figure 23 illustrates the distribution of reported 2024 groundwater and surface water withdrawals for mining purposes statewide. The majority of stone and sand mining facilities are located along the Interstate 95 corridor. Additional stone and coal mining withdrawals are located in southwestern Virginia. Total reported water withdrawals for mining purposes in 2024 increased by 48.70% compared to the five-year average, driven by an increase in groundwater withdrawals (Table 13). This increase can be mainly attributed to a change in dewatering-related withdrawals from the Lhoist North America Kimballton Plant 1 facility. Although withdrawals from this facility had steadily decreased in recent years, the withdrawal reported in 2024 represents a 90.34% increase from the five-year average. In 2024, the majority of reported withdrawals for mining continued to be from groundwater sources (Figure 24). This is largely due to the dewatering of the water table through wells that must be completed for many types of mining to prevent flooding. Such withdrawals are reported as groundwater withdrawals. The five facilities reporting the largest 2024 mining withdrawals are listed in Table 14.

Figure 23: All 2024 Mining Water Withdrawals by Withdrawal Point Location

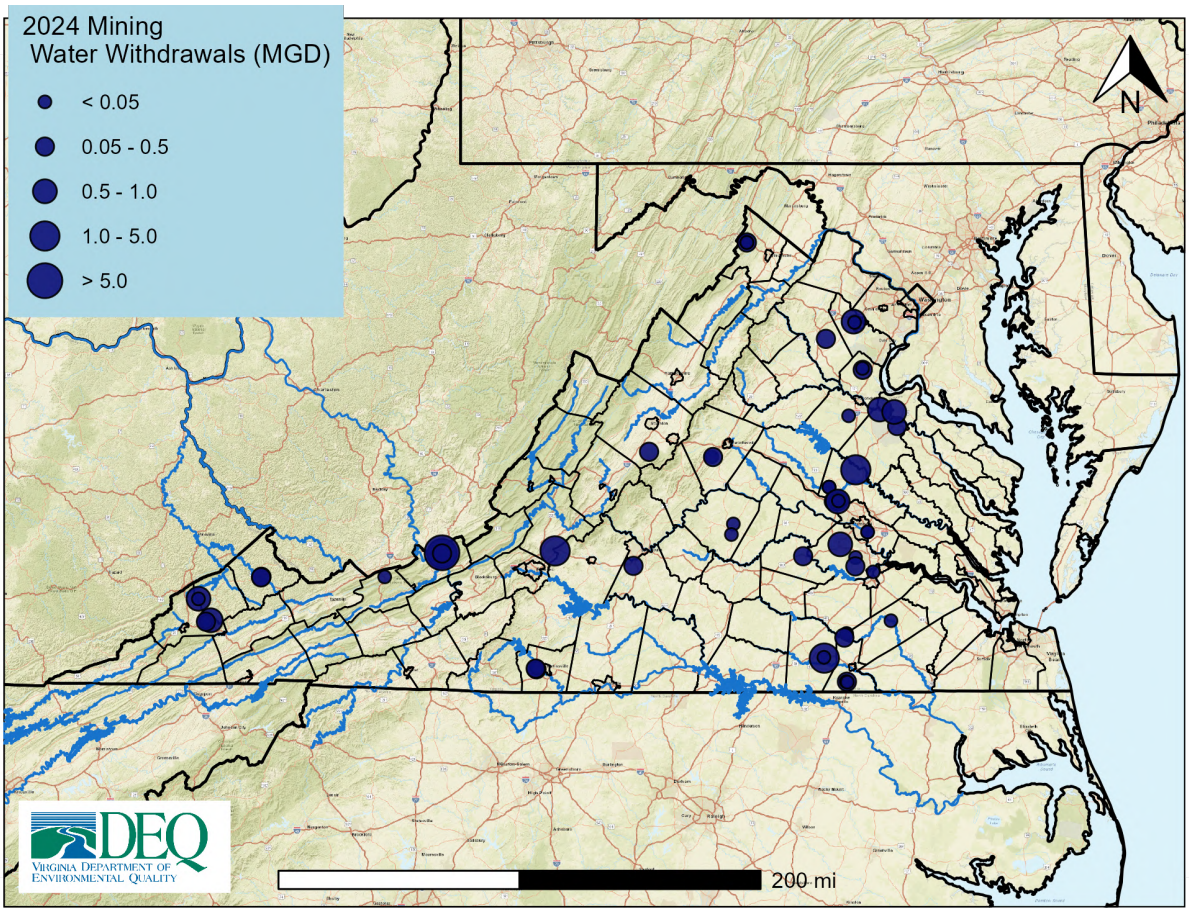


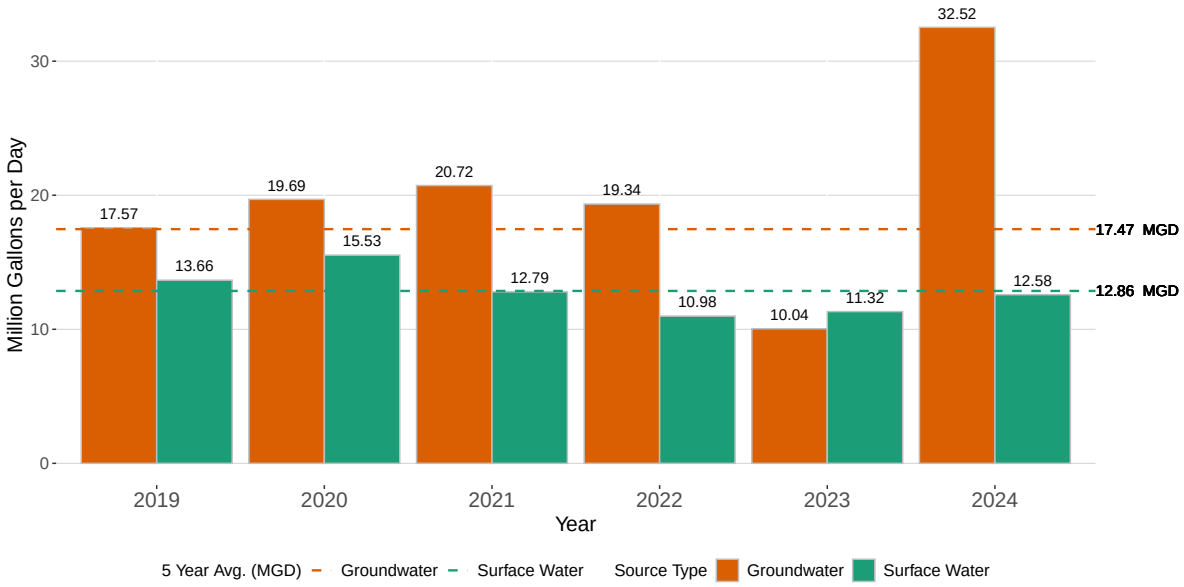
Table 13: 2019 - 2024 Mining Water Withdrawals by Source Type (MGD)

Source Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater	17.57	19.69	20.72	19.34	10.04	32.52	17.47	86.15
Surface Water	13.66	15.53	12.79	10.98	11.32	12.58	12.86	-2.18
Total (GW + SW)	**31.23**	**35.22**	**33.51**	**30.33**	**21.36**	**45.10**	**30.33**	**48.70**

Table 14: Highest Reported Mining Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Lhoist North America Kimballton Plant 1	Giles	GW	14.5	27.6
Lhoist North America Kimballton Plant 2	Giles	SW/GW	4.6	3.6
Doswell Quarry	Hanover	SW/GW	1.1	1.5
Boxley Materials Company Blue Ridge Plant	Bedford	GW	1.5	1.3
Vulcan Materials Lawrenceville Quarry	Brunswick	SW/GW	1.2	1.2

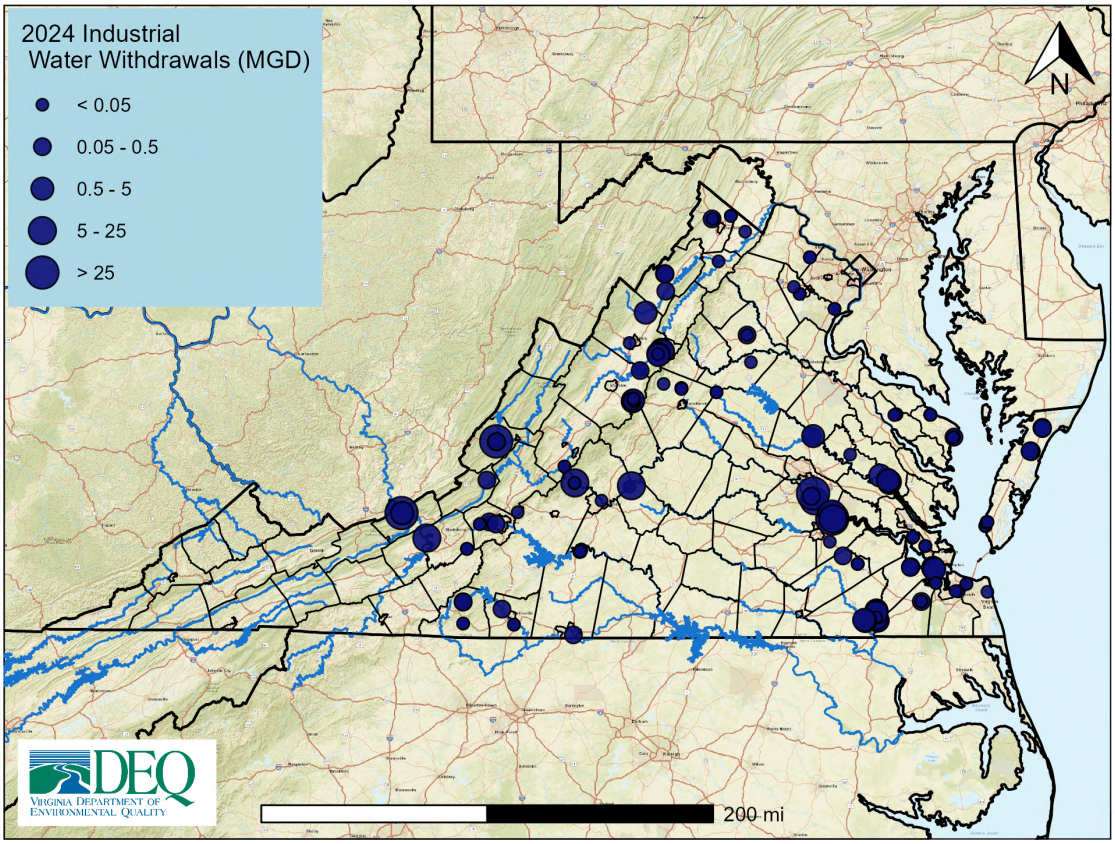
Figure 24: 2019-2024 Mining Water Withdrawals by Source Type



3.8 Industrial

The industrial use category includes industrial operations such as chemical and plastics manufacturing, paper mills, food processors, and other industrial related withdrawals. Water withdrawals from industrial users accounted for 26.91% of all reported non-power generation withdrawals in Virginia in 2024. Industrial water withdrawals are spread throughout much of Virginia (Figure 25) with facilities found in both rural and urban areas. The major determining factor for siting industrial facilities is access to sufficient quantity and quality of water, whether it be groundwater or surface water. Clusters of large-scale industrial withdrawals occur in the Middle James River Basin around the City of Richmond, as well as in the New River and Upper James River Basins. Facilities located in the Coastal Plain generally rely on groundwater with wells constructed in the productive Potomac Aquifer or along productive fractures in the Western region of the State. All of the locations with large surface water withdrawals are situated on or near major rivers to facilitate water supply.

Figure 25: All 2024 Industrial Water Withdrawals by Withdrawal Point Location



Reported 2024 industrial withdrawals decreased by 4.35% compared to the five-year average, as shown in Table 15. Surface water is the predominate water source type for the industrial use category, accounting for approximately 84.26% of reported withdrawals in 2024 (See Figure 26).

Table 16 lists the five facilities reporting the largest groundwater withdrawals associated with this category in 2024, and Table 17 lists the five facilities reporting the largest surface water withdrawals associated with this category in 2024.

Table 15: 2019 - 2024 Industrial Water Withdrawals by Source Type (MGD)

Source Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater	57.73	58.01	59.65	57.44	56.11	54.06	57.79	-6.45
Surface Water	293.49	301.92	309.55	303.17	298.19	289.38	301.26	-3.94
Total (GW + SW)	**351.22**	**359.93**	**369.20**	**360.61**	**354.30**	**343.44**	**359.05**	**-4.35**

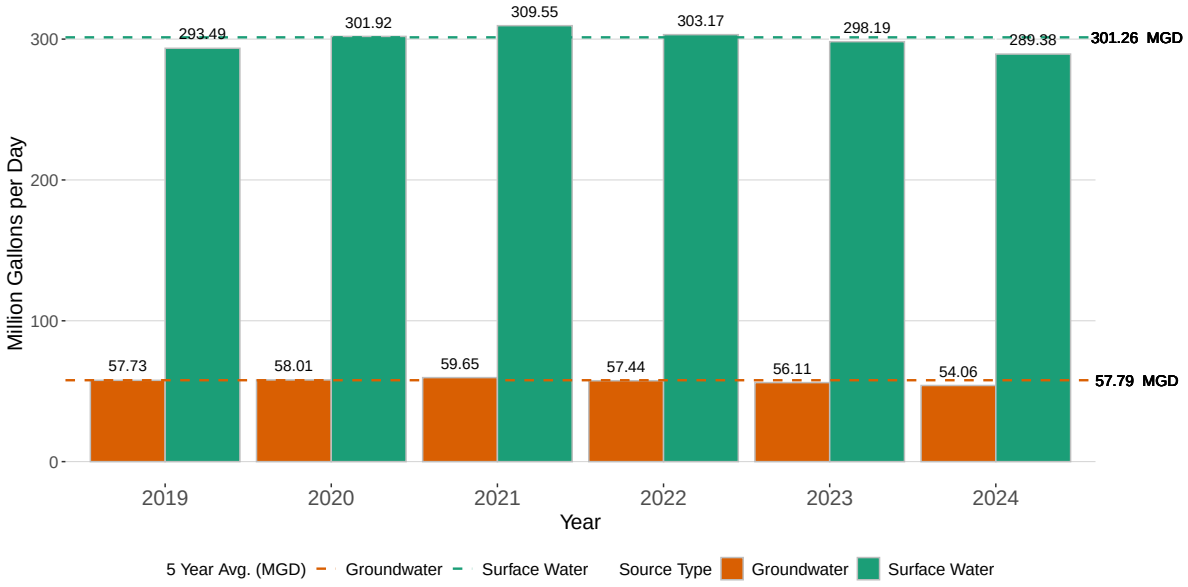
Table 16: Highest Reported Industrial Groundwater Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
International Paper Franklin Mill	Isle of Wight	GW	14.2	15.3
WestRock Virginia Corporation: West Point Plant	King William	GW	16.0	13.6
Merck & Co: Elkton Plant	Rockingham	GW	5.9	6.0
Narrows Celco Plant	Giles	GW	5.4	5.4
Solenis LLC	Southampton	GW	2.4	2.2

Table 17: Highest Reported Industrial Surface Water Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
Advansix Resins and Chemicals: Hopewell Plant	Hopewell	SW	100.4	96.4
Narrows Celco Plant	Giles	SW	54.5	57.0
WestRock Virginia Corporation: Covington Plant	Alleghany	SW	37.8	38.1
DuPont E I De Nemours & Co: Spruance Plant	Chesterfield	SW	25.6	28.0
Advansix Resins and Chemicals: Chesterfield Plant	Chesterfield	SW	14.2	15.1

Figure 26: 2019-2024 Industrial Water Withdrawals by Source Type



3.9 Power Generation

The power generation use category includes water withdrawn for fossil fuel power and nuclear power. Withdrawals or diversions of water for hydroelectric power (hydropower) generation are nearly all non-consumptive and are exempt from the annual water withdrawal reporting requirements. As a result, a detailed description for hydropower is not included; however, a brief discussion of consumptive use of water is provided in Chapter 2.2.

The largest power generation facilities are located in central and eastern Virginia (see Figure 27). These include two nuclear power generating plants located in Louisa and Surry counties, which account for approximately 71.29% of total reported withdrawals in 2024, although most of the water withdrawn for these facilities is returned to the source after use for cooling. Total power generation withdrawals in 2024 decreased by 4.61% as compared to the five-year average (Table 18). Reported surface water withdrawals for power generation increased by 3.96% (158.68 MGD) from 2023 to 2024, driven by a 323.54 MGD increase in nuclear power surface water withdrawals and a 164.85 MGD decrease in fossil power surface water withdrawals. The decrease in fossil power surface water withdrawals can be partially attributed to the closure of the Yorktown Fossil Power Plant facility, which was one of the top five facilities in this category in 2023. Groundwater withdrawals reported by power generation facilities in 2024 remain insignificant compared to surface water withdrawals, which is consistent with historical trends (Figure 28). The five power generation facilities with the highest reported withdrawals are listed in Table 19. Three of the five facilities reported a decrease in water usage as compared to the five-year average.

Figure 27: All 2024 Power Generation Water Withdrawals by Withdrawal Point Location

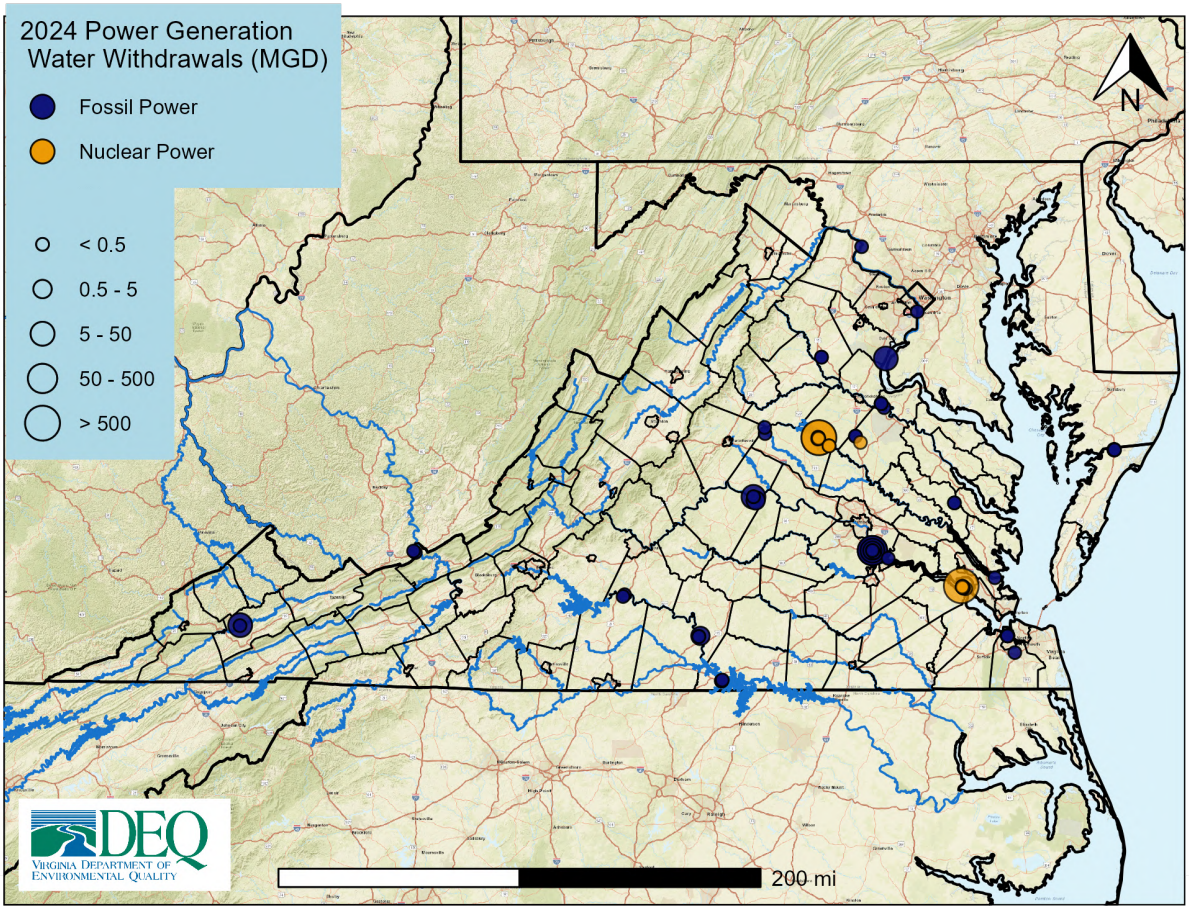


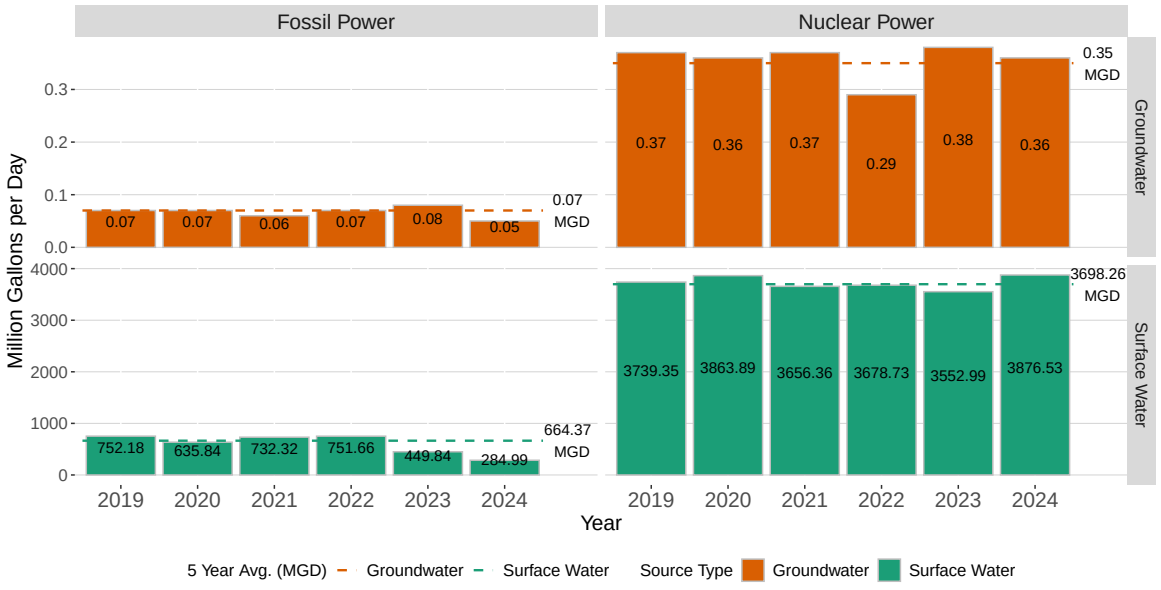
Table 18: 2019 - 2024 Power Generation Water Withdrawals by Source Type (MGD)

Power Type	2019	2020	2021	2022	2023	2024	5 Year Avg. (2019-2023)	% Change 2024 to Avg.
Groundwater								
Fossil Power	0.07	0.07	0.06	0.07	0.08	0.05	0.07	-28.57
Nuclear Power	0.37	0.36	0.37	0.29	0.38	0.36	0.35	2.86
Total Groundwater	0.44	0.43	0.44	0.36	0.45	0.40	0.42	-4.76
Surface Water								
Fossil Power	752.18	635.84	732.32	751.66	449.84	284.99	664.37	-57.10
Nuclear Power	3739.35	3863.89	3656.36	3678.73	3552.99	3876.53	3698.26	4.82
Total Surface Water	4491.53	4499.73	4388.68	4430.39	4002.83	4161.51	4362.63	-4.61
Total (Gw + Sw)	**4491.97**	**4500.17**	**4389.12**	**4430.75**	**4003.28**	**4161.92**	**4363.06**	**-4.61**

Table 19: Highest Reported Power Withdrawals in 2024 (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal
North Anna Nuclear Power Plant	Louisa	SW/GW	1970.1	2387.9
Surry Power Station	Surry	SW/GW	1758.0	1489.0
Chesterfield Power Station	Chesterfield	SW	424.6	262.1
Possum Point Power Station	Prince William	SW	37.0	7.0
Clinch River Plant	Russell	SW/GW	5.7	6.0

Figure 28: 2019-2024 Power Generation Water Withdrawals by Source Type



4 Water Resource Priorities and Challenges

The following section identifies new, continuing, and future priorities, challenges, or other topics of specific interest in terms of water resources management at DEQ. These include updates on new legislative or regulatory actions, programmatic goals and achievements, and other items.

4.1 Permitting Enhancement and Evaluation Platform (PEEP) and Virginia Permit Transparency (VPT)

In late 2022, DEQ implemented a novel program called the Permitting Enhancement and Evaluations Platform (PEEP). The program includes public-facing online resources that convey and track the critical steps to obtain approvals from DEQ, including to the maximum extent practicable the steps needed from the applicant and other agencies. PEEP is a Critical Path Management (CPM) tool that assists permit writers, project managers, applicants and their agents, as well as the public, to understand the permit processes and steps needed to ensure timely decisions. PEEP increases transparency for external users and offers new ways for permit writers and managers to organize and monitor progress on applications. In January 2024, the Commonwealth unveiled the Virginia Permit Transparency (VPT) Website with PEEP serving as its model. As of April 2024, both VWP surface water withdrawal permits and groundwater withdrawal permitting activities were being tracked in PEEP and are now shown in the VPT.

4.2 Addressing Unreported Water Use

Another ongoing priority is evaluating and addressing unreported use below the regulatory threshold requiring withdrawal reporting (domestic or private well use for instance) and use above the regulatory threshold that is not currently being reported. DEQ staff conduct compliance activities annually to identify users who meet the threshold for annual withdrawal reporting as well as to contact users who have previously reported, but have failed to do so consistently. The extent of these contacts is highly dependent on available staff resources each year and must be balanced against other program responsibilities. In addition, DEQ works to address known gaps in this data.

As part of the ongoing partnership in characterizing the unreported groundwater usage within the Virginia Coastal plain, DEQ contracted with the USGS in 2022-2023 to evaluate and improve estimates of domestic use that fall below the reporting threshold. Work continued on this effort during 2024 and a final report on self-supplied groundwater withdrawals was published in June of 2025. The full report can be found on the USGS Website. As Virginia's population continues to grow, it will be important to apply these estimates to better quantify water availability in the Virginia Coastal Plain aquifers.

4.3 Data Centers

Data centers continue to be a central topic of discussion within the Commonwealth. To date, Virginia leads the nation and the world in the number and density of data centers, with the majority of the facilities located in the northern part of the state. Water withdrawals for data centers are regulated the same as any other industrial water withdrawal user. In 2024, a Joint Legislative Audit and Review Commission report was published reviewing the impacts of the data center industry in Virginia. The comprehensive report addressed economic benefits, energy demand, infrastructure, zoning issues, and water usage among other topics. The report found that most individual buildings at a data center use approximately the same amount of water (or less) as an average large office building (6.7 million gallons per year), although a few require substantially more, and some less than a typical household. New and emerging technologies for cooling, including water reuse practices, are increasingly being used by the industry to reduce dependence on local water supplies and to promote sustainability. Where data centers are using water, they are typically part of the distribution system of a larger public utility. As a result, their actual usage is aggregated into annual water withdrawal reporting as they fall within the capacity of a community water system (CWS). Where a data center seeks authorization to withdrawal water outside of a CWS, a permit is typically required. Where

surface withdrawals are greater than or equal to 300,000 gallons per month throughout any location in the state, or groundwater withdrawals are greater than or equal to 300,000 gallons per month in the groundwater management areas east of the fall line, a permit would be required for any proposed data center facility. The permit would account for the withdrawal and through a series of technical evaluations, would be issued only if the findings indicated there would be no significant environmental impact. DEQ continues to pursue best practices for quantifying water withdrawals from data centers, especially as part of annual water withdrawal reporting and quantification in subsequent Annual Water Resources Reports. Furthermore, the groundwater use report mandated by Senate Joint Resolution Number 25 will better inform potential impacts to the groundwater supply in the state's management areas resulting from any future groundwater withdrawals from newer industries such as data centers.

4.4 Eastern Virginia Groundwater Management Area

HRSD's SWIFT pilot program is designed to recharge the confined Potomac aquifer system by routing highly treated wastewater through additional, advanced treatment and injecting this drinking-quality water into the aquifer. The SWIFT Research Center, located at HRSD's Nansemond Treatment Plant in Suffolk, is conducting pilot-scale injection of up to 1 million gallons per day (MGD) to investigate the effects on pressure in the Potomac and overlying aquifers.[8] The center currently collects data from observation wells and a extensometer network operated by USGS which measures changes in land elevation in response to the injection. These data are critical to evaluating groundwater flow model results and calibrating the model with respect to the simulation of the proposed injections.

The first full-scale SWIFT injection facility is currently under construction at HRSD's James River Treatment Plant in Newport News. The U.S. Environmental Protection Agency issued an Underground Injection Control (UIC) permit (VAS5B170028617), effective September 22, 2023, for a term of 10 years. The UIC permit authorizes HRSD to construct and operate 10 Class V aquifer recharge wells for the purpose of injecting wastewater treated at the James River Plant into the Potomac aquifer system, in accordance with the provisions of the permit. Construction of this facility continued in 2024 and once finished, the project will be capable of injecting up to 16 MGD to augment the Potomac aquifer. HRSD is projecting completion of the James River SWIFT facilities by 2026, with full-scale operations by 2030.

In 2022, DEQ geologists assisted in the selection of the location of an additional extensometer site at the HRSD West Point Operation Center. Installation, instrumentation, as well as data verification and validation were conducted by DEQ in 2023 through late autumn of 2024. The West Point extensometer became fully operational and began transmitting data in December 2024. The completion of the West Point facility completes a network of four extensometers in Eastern Virginia, the largest such network in the Eastern United States.

In 2024, DEQ and the USGS continued a cooperative effort to synthesize hydrogeologic information from recent subregional studies, groundwater withdrawal data, and water-level data from the statewide network of observation wells. In addition, DEQ and USGS began a preliminary characterization of the portion of Virginia's Coastal Plain located north of Fredericksburg. The study area includes portions of Stafford County, Prince William County, and Fairfax County located east of I-95, which are part of the Eastern Virginia Groundwater Management Area. The aim of these cooperative projects is to develop a comprehensive revision of the hydrogeologic framework, to support future updates to the analysis and modeling of groundwater flow in Virginia's Coastal Plain.

The Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) was reestablished effective July 1, 2020 pursuant to legislation enacted following the 2020 Virginia General Assembly session. The purpose of the EVGMAC is to serve "as an advisory committee to assist the State Water Commission and the Department [of Environmental Quality (DEQ)] in the management of groundwater in the Eastern Virginia Groundwater Management Area."[9] The Eastern Virginia Groundwater Management Area includes

[8] https://www.hrsd.com/swift/about
[9] Code of Virginia § 62.1-256.2.

all of the Commonwealth east of Interstate 95, except for the Eastern Shore, which is a separate groundwater management area.

On March 18, 2025, the Governor approved Chapter 32 of the 2025 Virginia Acts of Assembly which amended and reenacted § 672.1-256.2 of the Code of Virginia, extending the sunset date for the Eastern Virginia Groundwater Management Advisory Committee from 2025 to 2030. The EVGMAC meets quarterly and its meetings are summarized in an annual report to the Governor.

4.5 Eastern Shore Groundwater Management Area

In 2019, USGS published an update to the Hydrogeologic Framework of the Virginia Eastern Shore, a joint effort with DEQ.[10] This study was a substantial update to the prior hydrogeologic framework, which was published in 1994, and included significant improvements in the understanding of the saltwater-fresh water interface, and the location and effect of paleochannels (buried ancient river channels) on aquifer flow patterns and well yields. This work was made possible by data collected through the groundwater withdrawal permit program and the work of DEQ geologists. A new Eastern Shore groundwater model, nearing completion, will include the updated hydrogeologic information and the results of a detailed review of water use, including better characterization of surficial aquifer use. The new model also will incorporate the new framework and water use data to include domestic use estimates.

4.6 Evaluating Tidal Fresh Surface Water Withdrawals

Groundwater limitations in the Coastal Plain region continue to lead to applications for the construction of tidal fresh surface water withdrawal intakes in the James, York, and Rappahannock river basins. These same limitations have also led to applications for reuse of wastewater treatment plant return flows, which effectively increase the consumptive losses associated with existing withdrawals. The water quality in a tidal system is dynamic and the amount of available freshwater can improve or reduce local water quality during critical periods. Reducing freshwater inflows into a tidal system can shift the location further upstream where low salinity and high salinity water combine. Reducing freshwater inflows can also increase residence time in the estuary, which can increase the likelihood of negative water quality consequences like algal blooms, such as those seen in parts of the tidal James River. The Virginia Institute of Marine Science (VIMS) has recently been constructing high resolution particle tracking models in order to assess the impacts of newly proposed water withdrawals on aquatic life in estuarine systems. While this modeling approach provides an excellent assessment of increases to fish mortality due to increased estuarine withdrawals at a single location, VIMS has identified a need to continue to pursue a comprehensive assessment of cumulative effects from estuarine surface water intakes. [11]

4.7 Program Funding

DEQ's responsibilities and authorities in terms of managing water supply are complex and increasingly rely on extensive and regular data collection, as well as the development and ongoing maintenance of evaluation models. Continued financial investment is necessary to allow for proactive and responsive management to ensure that these resources can be put to beneficial uses that foster Virginia's prosperity. Investment in the science and personnel that underpin data driven management decisions is necessary to maintain currency with the changing world. The FY 2022-2024 budget provided significant funding for the continuance of the multi-year DEQ/USGS project to install new monitoring facilities within the Virginia Coastal Plain. These facilities include a borehole extensometer to measure land subsidence, climate response network wells for drought monitoring in areas west of Interstate 95, and chloride monitoring wells within the groundwater management areas to monitor the migration of saltwater that could put water supplies at risk. This significant investment addresses existing monitoring gaps and will ensure DEQ is able to evaluate

[10] McFarland, E.R., and Beach, T.A., 2019, Hydrogeologic framework of the Virginia Eastern Shore: U.S. Geological Survey Scientific Investigations Report 2019–5093, 26 p., 13 pl., https://doi.org/10.3133/sir20195093.

[11] Qin, Q., Shen, J., Tuckey, T.D., Cai, X., and Xiong, J., 2022, Using forward and backward particle tracking approaches to analyze impacts of a water intake on ichthyoplankton mortality in the Appomattox River: Journal of Marine Science and Engineering, v. 10, no. 9, p. 1299, https://doi.org/10.3390/jmse10091299.

trends in land subsidence, aquifer recovery, groundwater levels, and to continue collecting data for making sound management decisions. Additional funding was provided by the General Assembly in FY 2024 to facilitate the completion of Senate Joint Resolution 25, a mandated report on the groundwater supply in the Commonwealth east of Interstate 95. The General Assembly dedicated $100,000 to the study and also added a new full-time hydrogeologist position within the Groundwater Monitoring and Characterization Program to aid in report development. This funding has enabled a restructuring of the Groundwater Monitoring and Characterization Program, optimizing talent and resources to enhance efficiency.

4.8 Recent and Ongoing Legislative and Regulatory Actions

Over the past year, DEQ coordinated several regulatory actions related to water resources management in response to legislation passed by the General Assembly. A summary of each action and the current status is provided below:

- Legislation enacted following the 2020 General Assembly Session (2020 Va. Acts Ch. 1105) required the SWCB to adopt regulations designating Regional Planning Areas (RPAs) based primarily on river basins, to encourage the development of cross-jurisdictional water supply projects, and to estimate the risk that each locality and region in the Commonwealth will experience water supply shortfalls. This law also directed localities to participate in cross-jurisdictional, coordinated water resource planning, and to develop a single water supply plan for each RPA. A Regulatory Advisory Panel (RAP) was formed and met six times during 2021-2022. Additional amendments were made following the 2022 General Assembly Session (2022 Va. Acts Ch. 331) to provide a mechanism for a locality to request, subject to approval by DEQ, a change of its designated RPA to an adjoining planning area. Proposed regulatory amendments were developed and presented to the SWCB on June 22, 2022. Amendments were approved by the SWCB and a public comment period concluded on July 21, 2023. Final amendments were developed and approved by the SWCB on November 30, 2023. The Governor's Office approved the amendments on October 9, 2024. Each local government and water authority was required to designate a representative and one or more alternates to represent its interests in the Regional Planning Unit by December 8, 2024. A brief and aggressive outreach campaign resulted in Regional Planning Units submitting the names and contact information of these individuals to DEQ within the regulatory deadline. In addition, Water Supply Planning and Analysis staff worked diligently to outline a strategy to conduct in person Regional Planning Kickoff meetings in early 2025.

- Legislation enacted following the 2021 General Assembly Special Session I (2021 Special Session I Va. Acts Ch. 100) will improve the efficiency and effectiveness of water use by requiring all applications for VWP permits for surface water withdrawals and Ground Water Withdrawal permits to include: 1) a water auditing plan, and 2) a leak detection and repair plan that satisfy the requirements in regulations to be adopted by the SWCB. These plans would also, once approved, be incorporated by reference as conditions in the permit. A RAP was formed and met four times. The proposed amendments were published in 2024 and a public comment period was held from May 20, 2024 to July 19, 2024. Final amendments were adopted by the SWCB and became effective August 13, 2025.

- On March 5, 2024, The General Assembly passed Senate Joint Resolution Number 25 requesting that DEQ study the groundwater supply in the Commonwealth east of Interstate 95 and provide a report on the findings. The study is directed to provide historical and current data, trends, and future projections related to groundwater levels and quality. Additionally, the study is to include an evaluation of potential future impacts to the groundwater supply resulting from increasing groundwater withdrawals from newer industries such as data centers. Finally, the General Assembly has requested an assessment of the current regulatory effectiveness of the Ground Water Management Act of 1992 and to consider and recommend any amendments to the Act. The report will be due to the General Assembly no later than the first day of the 2026 regular session. Funding in FY 2025 was provided to assist in the completion of the study as well as for one full-time position within the Groundwater Monitoring and Characterization Program to aid in report development. Initial steps taken in 2024 included outlining project strategies,

contracting with the USGS to conduct a Zone Budget Analysis (groundwater budget) on 15 distinct subregions within the Virginia Coastal Plain, and the commencement of a detailed review of existing groundwater data for compilation and analysis. Progress on this report will continue in 2025.

Appendix 1: Top 20 Reported Water Withdrawals in 2024 (Excluding Power Generation)

SW: Surface Water, GW: Groundwater, *Permitted Withdrawal, **Unpermitted Withdrawal

Table 20: Top 20 Reported Water Withdrawals in 2024 Excluding Power Generation (MGD)

Facility	Locality	Type	5 Year Avg. (2019-2023)	2024 Withdrawal	Category
AdvanSix Resins and Chemicals: Hopewell Plant**	Hopewell	SW	100.4	96.4	Industrial
Fairfax Water: Corbalis WTP**	Fairfax County	SW	86.6	94.6	Public Water Supply
City of Richmond WTP**	Richmond City	SW	68.2	69.6	Public Water Supply
Fairfax Water: Griffith WTP**	Fairfax	SW	67.2	69.4	Public Water Supply
Narrows Celco Plant**	Giles	SW/GW	59.9	62.4	Industrial
City of Norfolk: Western Branch Reservoir**	Suffolk	SW	58.8	57.2	Public Water Supply
Appomattox River Water Authority: Chesdin Reservoir WTP*	Chesterfield	SW	37.9	40.5	Public Water Supply
WestRock Virginia Corporation: Covington Plant**	Alleghany	SW/GW	38.4	38.8	Industrial
City of Virginia Beach Service Area**	Virginia Beach	SW	32.4	33.7	Public Water Supply
Henrico County WTP & Service Area*	Henrico	SW	26.6	28.7	Public Water Supply
DuPont E I De Nemours & Co: Spruance Plant**	Chesterfield	SW/GW	25.8	28.3	Industrial
Lhoist North America Kimballton Plant 1**	Giles	GW	14.5	27.6	Mining
City of Newport News: Waterworks Lee Hall*	Newport News	SW/GW	23.3	24.5	Public Water Supply
Virginia American Water: Hopewell District*	Hopewell	SW	22.5	22.7	Public Water Supply
City of Newport News: Harwoods Mill WTP**	York	SW	17.9	17.3	Public Water Supply
City of Roanoke Service Area**	Roanoke City	SW/GW	14.4	16.9	Public Water Supply
City of Portsmouth: Lake Kilby WTP*	Suffolk	SW/GW	16.2	15.5	Public Water Supply
International Paper: Franklin Mill*	Isle of Wight	SW/GW	16.4	15.3	Industrial
AdvanSix Resins and Chemicals: Chesterfield Plant**	Chesterfield	SW	14.2	15.1	Industrial
Georgia-Pacific Corporation: Big Island Mill**	Bedford	SW/GW	14.7	14.8	Industrial

Appendix 2: Geographic Distribution of Water Withdrawals in 2024 (MGD) (Excluding Power Generation)

Table 21, shown below, summarizes total facility withdrawals in each locality, both permitted and unpermitted, that occurred in 2024.

Table 21: Water Withdrawals Within Localities in 2024 (MGD)

Locality	GW Withdrawal	SW Withdrawal	GW + SW Total	Percent of Total Withdrawal
City of Hopewell	0.00	127.54	127.54	9.99
Chesterfield County	0.45	96.41	96.85	7.58
Giles County	37.72	57.04	94.76	7.42
City of Suffolk	6.41	85.64	92.05	7.21
Fairfax County	0.39	70.08	70.47	5.52
City of Richmond	0.02	69.72	69.75	5.46
Alleghany County	0.79	39.16	39.95	3.13
City of Virginia Beach	0.15	33.90	34.04	2.67
City of Newport News	0.16	30.70	30.85	2.42
Henrico County	0.02	29.07	29.09	2.28
Rockingham County	14.38	13.69	28.08	2.20
New Kent County	1.24	25.35	26.59	2.08
Stafford County	0.00	23.76	23.76	1.86
York County	0.37	20.18	20.55	1.61
Montgomery County	0.07	19.79	19.86	1.56
City of Bedford	1.30	17.84	19.14	1.50
Amherst County	0.00	19.04	19.05	1.49
City of Roanoke	1.01	16.32	17.33	1.36
Loudoun County	1.59	15.61	17.19	1.35
Isle of Wight County	17.00	0.00	17.00	1.33
King William County	14.38	0.54	14.92	1.17
City of Manassas	0.29	13.66	13.96	1.09
Albemarle County	0.48	11.02	11.51	0.90
Augusta County	3.57	6.76	10.33	0.81
Bath County	0.19	9.58	9.77	0.77
Accomack County	5.15	4.36	9.51	0.74
Frederick County	3.19	6.28	9.47	0.74
Warren County	0.11	8.73	8.84	0.69
Wythe County	0.00	8.36	8.36	0.65
Hanover County	0.44	7.34	7.78	0.61
City of Chesapeake	4.27	3.39	7.65	0.60
Botetourt County	0.84	6.63	7.47	0.58
Spotsylvania County	0.26	6.99	7.25	0.57
Southampton County	2.90	4.05	6.95	0.54
Washington County	0.30	6.62	6.92	0.54
James City County	3.52	3.34	6.86	0.54
Wise County	0.14	6.55	6.69	0.52
City of Danville	0.00	6.58	6.58	0.52
Smyth County	0.68	5.35	6.04	0.47
Roanoke County	1.08	4.02	5.11	0.40
Tazewell County	0.06	4.50	4.56	0.36
Highland County	0.05	4.46	4.51	0.35
Campbell County	0.07	4.33	4.39	0.34
Henry County	0.01	4.25	4.26	0.33

Caroline County	1.35	2.87	4.22	0.33
Shenandoah County	2.68	1.51	4.19	0.33
City of Waynesboro	2.46	1.72	4.18	0.33
City of Salem	1.50	2.66	4.16	0.33
Fauquier County	1.91	1.63	3.54	0.28
Craig County	0.09	3.22	3.31	0.26
Culpeper County	1.31	1.77	3.08	0.24
King George County	1.26	1.63	2.89	0.23
Cumberland County	0.01	2.85	2.86	0.22
Pulaski County	0.00	2.81	2.81	0.22
Prince William County	0.43	2.15	2.59	0.20
Nelson County	0.19	2.38	2.57	0.20
City of Martinsville	0.00	2.44	2.44	0.19
Brunswick County	0.03	2.31	2.33	0.18
Mecklenburg County	0.11	2.18	2.30	0.18
City of Radford	0.00	2.27	2.27	0.18
Lee County	0.00	2.22	2.22	0.17
Orange County	0.02	2.14	2.16	0.17
Essex County	0.44	1.58	2.02	0.16
Sussex County	1.06	0.82	1.88	0.15
Halifax County	0.12	1.76	1.87	0.15
Charles City County	0.04	1.80	1.84	0.14
Page County	1.00	0.84	1.84	0.14
Northampton County	1.08	0.57	1.66	0.13
Goochland County	0.14	1.47	1.61	0.13
Gloucester County	0.55	1.04	1.60	0.13
Pittsylvania County	0.00	1.58	1.58	0.12
Russell County	0.46	1.07	1.53	0.12
Rockbridge County	0.16	1.37	1.52	0.12
Scott County	0.09	1.36	1.45	0.11
Greensville County	0.03	1.41	1.44	0.11
King and Queen County	0.01	1.36	1.37	0.11
Westmoreland County	0.98	0.33	1.31	0.10
City of Galax	0.00	1.30	1.30	0.10
Nottoway County	0.00	1.20	1.20	0.09
City of Williamsburg	1.07	0.00	1.07	0.08
Franklin County	0.18	0.88	1.06	0.08
Prince Edward County	0.06	0.99	1.05	0.08
City of Norfolk	0.95	0.01	0.97	0.08
Fluvanna County	0.16	0.71	0.87	0.07
City of Franklin	0.85	0.00	0.85	0.07
Louisa County	0.37	0.45	0.82	0.06
Greene County	0.02	0.78	0.80	0.06
City of Emporia	0.01	0.76	0.77	0.06
Patrick County	0.10	0.66	0.75	0.06
Dickenson County	0.00	0.66	0.66	0.05
City of Norton	0.00	0.60	0.60	0.05
Clarke County	0.02	0.58	0.60	0.05
Carroll County	0.18	0.32	0.50	0.04
Lunenburg County	0.00	0.47	0.47	0.04
Lancaster County	0.46	0.00	0.46	0.04
Buchanan County	0.08	0.34	0.41	0.03
Buckingham County	0.00	0.37	0.37	0.03
Amelia County	0.09	0.26	0.36	0.03

Middlesex County	0.32	0.02	0.34	0.03
Richmond County	0.32	0.00	0.32	0.02
Surry County	0.24	0.08	0.32	0.02
Northumberland County	0.28	0.00	0.28	0.02
Dinwiddie County	0.04	0.23	0.27	0.02
Powhatan County	0.11	0.14	0.26	0.02
Charlotte County	0.12	0.12	0.24	0.02
Floyd County	0.13	0.07	0.20	0.02
Arlington County	0.02	0.11	0.12	0.01
Prince George County	0.12	0.00	0.12	0.01
City of Fairfax	0.02	0.09	0.11	0.01
City of Harrisonburg	0.00	0.10	0.10	0.01
City of Portsmouth	0.09	0.00	0.09	0.01
Bland County	0.08	0.00	0.08	0.01
Grayson County	0.02	0.05	0.07	0.01
City of Hampton	0.06	0.00	0.06	0.01
Madison County	0.04	0.02	0.06	0.00
City of Buena Vista	0.06	0.00	0.06	0.00
City of Petersburg	0.04	0.00	0.04	0.00
Rappahannock County	0.03	0.00	0.03	0.00
City of Staunton	0.01	0.00	0.01	0.00
Mathews County	0.01	0.00	0.01	0.00
City of Lynchburg	0.00	0.00	0.00	0.00
Appomattox County	0.00	0.00	0.00	0.00
Bedford County	0.00	0.00	0.00	0.00
City of Alexandria	0.00	0.00	0.00	0.00
City of Bristol	0.00	0.00	0.00	0.00
City of Charlottesville	0.00	0.00	0.00	0.00
City of Clifton Forge	0.00	0.00	0.00	0.00
City of Colonial Heights	0.00	0.00	0.00	0.00
City of Covington	0.00	0.00	0.00	0.00
City of Falls Church	0.00	0.00	0.00	0.00
City of Fredericksburg	0.00	0.00	0.00	0.00
City of Lexington	0.00	0.00	0.00	0.00
City of Manassas Park	0.00	0.00	0.00	0.00
City of Poquoson	0.00	0.00	0.00	0.00
City of South Boston	0.00	0.00	0.00	0.00
City of Winchester	0.00	0.00	0.00	0.00
Total	**152.31**	**1031.00**	**1277.03**	**93.50**

Appendix 3: Water Resources Information and Climatic Conditions

State Population
(2020 census) - 8,644,727
(2024 Weldon Cooper Center Estimate[12]) - 8,811,195

State Surface Area - 42,775 square miles (39,490 square miles total land area, 3,285 square miles inland waters)

Major River Basins (with Current Estimates of Annual Mean River Flow):
Tennessee-Big Sandy (4,132 square miles, 3,225 MGD)
Albemarle Sound-Chowan River (4,252 square miles, 1,748 MGD)
James (10,236 square miles, 5,501 MGD)
New (3,068 square miles, 3,304 MGD)
Rappahannock (2,714 square miles, 1,100 MGD)
Roanoke (6,274 square miles, 5,120 MGD)
Shenandoah (3,041 square miles, 1,797 MGD)
Chesapeake Bay-Small Coastal (3,157 square miles, 97 MGD)
York (2,669 square miles, 1,060 MGD)

Total Non-tidal River/Stream Miles - 100,927 (This estimate represents mileage determined by the USGS National Hydrography Dataset)

Publicly-Owned Lakes and Reservoirs
There are 249 publicly-owned lakes in the Commonwealth:

Larger than 5,000 acres -	5	109,838 acres
Smaller than 5,000 acres -	244	55,509 acres
Total -	249	163,347 acres

Additionally, hundreds of small privately-owned lakes and ponds are distributed throughout the state.

Freshwater Wetlands - 808,000 acres

Tidal and Coastal Wetlands - 236,900 acres

Estuary (excluding small coastal areas) - 2,308 square miles

Atlantic Ocean Coastline - 120 miles

Statewide Average Annual Precipitation - 44.3 inches

Average Freshwater Discharge of All Rivers - approximately 22,850 MGD

Average Freshwater Discharge into the Chesapeake Bay - approximately 9,500 MGD

Climatic Conditions: Tropical Storm Helene brought heavy rain to the Commonwealth in late September and early October to start the 2025 Water Year. Preexisting drought watch advisories for the Big Sandy and New River Drought Evaluation Regions (DERs) were lifted as a result of improved hydrological conditions.

In November, low and still declining groundwater levels, limited precipitation, and soil moisture deficits resulted in drought watch advisory statuses in the Eastern Shore, Northern Coastal Plain, Southeast Virginia, and York James DERs. These four regions joined the Shenandoah and Northern Virginia DERs already in drought watch advisory status. Below normal precipitation persisted through the end of the year, along with below normal and declining groundwater levels and drier soil conditions than normal. These conditions resulted in the aforementioned DERs carrying their drought watch advisory status through the end of 2024.

Dry conditions continued into January and early February 2025. Storms in mid-February brought much needed precipitation and improved surface and ground water levels in portions of the Commonwealth.

[12]University of Virginia Weldon Cooper Center, Demographic Research Group. (2024). Virginia Population Estimates. Retrieved from https://demographics.coopercenter.org/virginia-population-estimates.

Drought watch advisory statuses were lifted in the Southeast Virginia, York James, portions of the Northern Coastal Plain, and portions of the Shenandoah DERs in February. In April 2025, widespread below-normal precipitation and declining hydrologic indicators resulted in drought watch advisory statuses being issued in the remainder of the Northern Coastal Plains and Shenandoah DERs, as well as the Northern Piedmont and Roanoke River DERs. May brought more above-normal rainfall to the Commonwealth and drought watch advisories were lifted for the Eastern Shore, Northern Coastal Plain, Northern Piedmont, and Roanoke DERs. Significant groundwater deficits and impacts to agricutlutre were still reported in the Northern Virginia and Shenandoah DERs, and they subsequently remained in drought watch advisory status. Pluvial conditions continued into June, and though a few groundwater indicator wells remained below-normal, other hydrologic indicators had made improvements leading to the drought watch advisory statuses being lifted in the Northern Virginia and Shenandoah DERs.

Appendix 4: Water Transfers

Water transfers can be defined as water that has been withdrawn from surface or groundwater and transported via water pipelines, or other means of conveyance, to a different facility or service area. Water transfers generally represent water that is purchased, sold, or distributed to other water users or customers from a main supplier, although large water utilities may transfer water between sources and service areas they own. Transferred water data is reported to DEQ as a release (the point the water is sent from) or a delivery (the point where water is received). In some cases a transfer is reported from both sides of the transaction, but in others only one side reports the transfer.

In 2024, 486 water transfers were reported to the DEQ with approximately 1,256 MGD transferred on average each day. This continues the recent trend of increases in both the number of reported transfers and the average daily volume transferred. Transfers primarily occurred within regional water distribution systems that sold or purchased water from a larger primary source such as a reservoir. In general, withdrawals from a water source (groundwater or surface water) account for the largest portion of a locality's water use. Transferred water provides an additional supply connection that can be a primary water source or supplementary during drought or other conditions.

The largest water transfers occurred within the cities of Richmond, Norfolk, Virginia Beach, and Suffolk. The City of Richmond provides water supply to numerous customers, including Chesterfield, Hanover, and Henrico counties. The Hampton Roads region includes many of the reported water transfers with the cities of Norfolk and Virginia Beach as the primary provider and recipient. The City of Virginia Beach is primarily supplied by transferred water that originates from Lake Gaston, located in south central Virginia. The raw water is initially transferred to the City of Norfolk for processing, and finished water is transferred to the City of Virginia Beach. This system represents the greatest travel distance of any transfer in Virginia. Additionally, Northern Virginia localities are largely interconnected and supplied by water authorities in the region including Fairfax Water and Loudoun Water.

Currently, not all water transfers are consistently reported to the DEQ, in part because many systems lack the technology or resources to track and report water transfers. For example, there are localities that have reported water releases, but there are no corresponding records indicating the water has been received and used by another locality or entity. Some entities reportedly sell water but do not track where the water is sent. Improvements in the quality of reporting and methods DEQ uses to track the transfer of water, both within systems and between entities, are necessary to better understand the impact transfers have in Virginia.

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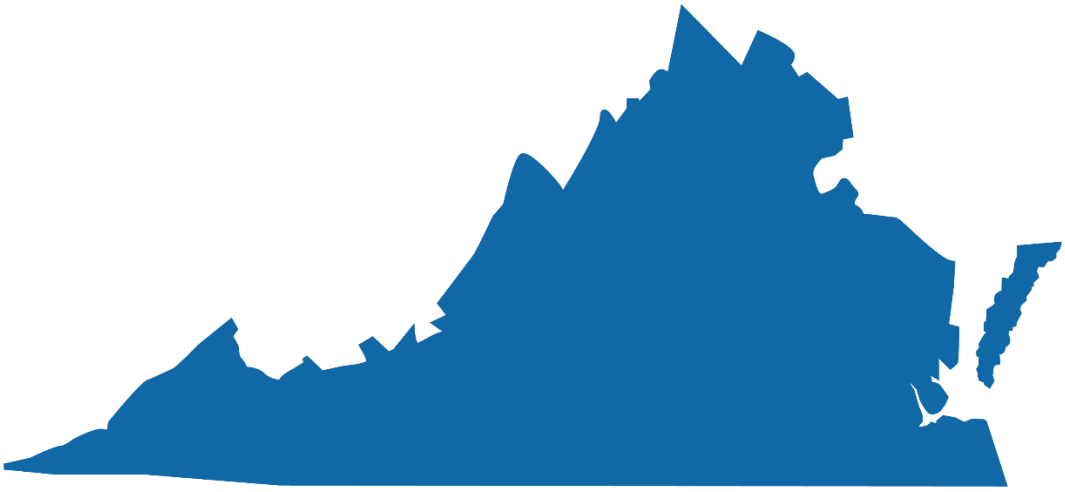
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

2025 ANNUAL SOLID WASTE REPORT FOR CY2024

Commonwealth of Virginia

Department of Environmental Quality



December 2025

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EXECUTIVE SUMMARY

Section 10.1-1413.1 of the Code of Virginia requires the Department of Environmental Quality (DEQ) to prepare a report each year describing the amount of solid waste disposed in the Commonwealth during the preceding calendar year. Pursuant to § 10.1-1183.1 of the Code of Virginia, effective January 1, 2025, DEQ is required to prepare and submit this report annually by October 1 to the Governor and the General Assembly. Facilities that have solid waste management permits are required to submit information to DEQ to prepare this report. One-hundred ninety-eight permitted facilities provided information on their activities for calendar year 2024 for this report.

Based on reports from 198 Virginia facilities, a total of 22,961,793.33 tons of solid waste was received at Virginia's permitted solid waste management facilities during calendar year 2024. Of this total, 17,413,532.06 tons originated in the Commonwealth and 5,548,261.26 tons originated from other jurisdictions. The total amount of solid waste received increased by 1.46%, or 331,139.09 tons, compared to 2023.

Municipal solid waste (MSW) constituted 15,022,210.52 tons of the total amount of solid waste received during calendar year 2024. Of the total MSW received, 10,821,484.07 tons originated in the Commonwealth and 4,200,726.45 tons originated from other jurisdictions. Five jurisdictions accounted for 94.7% of all waste received from out-of-state sources: Maryland (44.83%); New York (18.38%); Washington, D.C. (12.52%); New Jersey (12.22%); and North Carolina (6.76%). During calendar year 2024, the total solid waste received from out-of-state increased by 0.17%. MSW and industrial waste received from out-of-state decreased by 4.79% and 8.43% respectively compared to 2023 amounts. Construction/demolition/debris (CDD) waste increased by 82.49% compared to 2023 amounts. For waste originating in Virginia during the same period, the total solid waste and MSW received increased by 1.88% and 2.34% respectively compared to 2023 amounts. CDD and industrial waste also increased by 1.39% and 19.62% respectively compared to 2023.

Of the solid waste managed in Virginia during the year, 77.31%, or 13,811,213.15 tons, were landfilled onsite, 9.53%, or 1,702,538.02 tons, were incinerated onsite, and the rest was managed by other means (see Table 18). Of all solid waste received at Virginia facilities during the year, 65.42% was MSW, 18.73% was CDD waste, 4.38% was industrial waste and the remainder was other types of waste (see Table 19).

Permitted solid waste management facilities reported that 7.19% of the waste they managed was diverted from disposal by recycling or mulching; 0.85% of the total waste managed was composted. Most recycling occurs at facilities other than permitted waste management facilities and is not captured in this report. Local governments provide more complete information on the recycling of waste generated in Virginia. For more detailed information about recycling rates in Virginia see Calendar Year 2023 Virginia Annual Recycling Rate Report: https://www.deq.virginia.gov/land-waste/waste-management/recycling/recycling-data. Virginia's calculated recycling rate for 2023 was 42.5 percent. This calculated rate was derived from recycling rate data submitted by 19 Virginia SWPUs to DEQ as required by regulation (9VAC-20-130-120 B&C). The annual recycling report for calendar year 2024 will be published to the DEQ website later this year.

At the option of the facility owner, Virginia Code § 10.1-1413.1 provides that the data collected may include an accounting of the facility's economic benefits to the locality where the facility is located. No facilities provided such information for calendar year 2024.

INTRODUCTION

This report has been prepared in accordance with Virginia Code § 10.1-1413.1, which requires DEQ to prepare a report each year describing the amount of solid waste disposed of in the Commonwealth during the preceding calendar year. Pursuant to § 10.1-1183.1 of the Code of Virginia, effective January 1, 2025, DEQ is required to prepare and submit this report annually by October 1 to the Governor and the General Assembly. All permitted facilities (except for captive waste management facilities) that treat, store or dispose of solid waste are required to provide DEQ with information in their possession as is reasonably necessary for DEQ to prepare this report. The requirements for reporting are set forth in the Virginia Administrative Code, 9 VAC 20-81-80.

REPORTING PROCEDURES

For each category of solid waste, permitted solid waste facilities in Virginia were asked to report the amount of waste that they received, the amount of waste mined[1], the method by which the waste was managed, the jurisdiction where the waste originated, if known, and the facility's remaining capacity. A copy of the reporting table, DEQ Form 50-25, for providing information to DEQ is included with this report as Attachment 1.

The facilities identified amounts of solid waste by each of the following categories:

- municipal solid waste (MSW)
- construction/demolition/debris (CDD)
- industrial waste
- regulated medical waste (RMW)
- vegetative and yard waste (VW/YW)
- incineration ash
- sludge other than land applied in accordance with Virginia Code § 62.1-44.19:3
- tires
- white goods (e.g., refrigerators, washing machines)
- friable asbestos
- petroleum-contaminated soil (PCS)
- other waste

The facilities also reported on each of the following methods of waste management:

- recycled onsite
- composted onsite
- landfilled onsite
- incinerated onsite
- sent offsite to be recycled
- sent offsite to be treated, stored or disposed

[1] Landfill mining is the excavation of previously landfilled materials.

- stored onsite at the beginning of the reporting period
- stored onsite at the end of the reporting period
- mulched
- other

Facilities submit this data online or by paper copy to the appropriate DEQ Regional Office. Facilities may log into the DEQ Portal via the Virginia Solid Waste Information and Assessment (SWIA) webpage to submit data at https://www.deq.virginia.gov/our-programs/land-waste/solid-hazardous-waste/solid-waste/solid-waste-information-assessment. For the facilities that provided information, 3.03% (6 facilities) submitted paper copies and 96.97% (192 facilities) submitted the information online.

This report does not include the waste management activities from captive waste management facilities because they are statutorily exempt from the reporting requirements. A captive facility is one that is located on property owned or controlled by the generator of the waste. Most captive waste management facilities in Virginia are industrial landfills or regulated medical waste facilities. As a result, the reported amounts of industrial waste, regulated medical waste and sludge represent only the portion that is managed in off-site facilities. In addition, this report does not reflect tires managed under the Waste Tire Trust Fund at facilities that are not required to have a permit.

RECEIPT OF ASSESSMENT REPORTS

By regulation, facilities must submit their reportable data by March 31 each year. Facilities are required to submit a separate reporting table for each jurisdiction from which they received waste during the prior year. Information from reporting tables received on or before August 7, 2025, has been included in this report. For 2024, 198 permitted facilities reported their activities. These facilities submitted 323 separate reporting tables, representing waste received from 28 states and jurisdictions (including Virginia and Washington, D.C.). Three facilities reported after the March 31st deadline for 2024.

REPORTED WASTE MANAGEMENT ACTIVITIES AND CAPACITY INFORMATION

Table 1 shows how the total solid waste received was managed by all facility types.[2] Table 2 lists the jurisdiction of origin of waste. Tables 3, 5, and 7 show how Municipal Solid Waste Sanitary Landfills, Construction/Demolition/Debris Landfills, and Industrial Landfills managed solid waste.[3]

[2] When referring to information from Table 1, "waste received" refers to information from the first column, and "waste managed" refers to information from the remaining columns on Form DEQ 50-25 except "mined materials" or as noted. The amount of waste "received" for each type of waste may not match the sum of the reported amounts identified for each method of waste management. This reflects information as submitted by facilities in the reporting tables. In particular, incinerators may properly include the ash that they generate as waste that is "sent offsite," and not include it as waste that is "received" at that facility.

[3] Some columns and rows found in Table 1 do not appear in some of these tables. Rows and columns that do not have reported data were not used by any of the reporting entities*; i.e.* MSW Landfills do not incinerate waste so the column is not included; MSW landfills do not accept regulated medical waste so the row is not included.

Tables 9 – 17 show how other facility types (Incinerators, Transfer Stations, Material Recovery Facilities (MRF), Composters, and Regulated Medical Waste) managed the waste they received and a list of submitting facilities. Table 18 shows how the total waste stream was managed and Table 19 shows the composition of the total waste stream.

Permitted facilities that treat, store or dispose of solid waste are required to report the available capacity, expected life and current disposal rates. The reported remaining capacity and life, and a list of submitting facilities are in Tables 4, 6, and 8.[4] The calculated statewide remaining years of landfill capacity do not account for regional variations, population changes, changes in waste generation, or the future closing of disposal units. Also, calculations do not include facilities that have not been built and are not accepting waste for which permits may have been issued.

Figure 1 compares the total amount of waste received from 2016 through 2024 at facilities from Virginia and out-of-state jurisdictions. Figure 2 compares municipal solid waste received from 2016 through 2024 from Virginia and out-of-state sources.

REPORTS OF ECONOMIC BENEFITS

At the option of the facility owner, Virginia Code § 10.1-1413.1 provides that the data collected may include an accounting of the facility's economic benefits to the locality where the facility is located. This may include the value of disposal and recycling facilities provided to the locality at no cost or reduced cost, direct employment associated with the facility, and other economic benefits resulting from the facility during the preceding calendar year. No facilities provided such information for 2024.

WASTE DIVERSION AND RECYCLING

SWIA data is collected from solid waste permitted facilities. Facilities submit the total tonnage received and how the amounts were managed (landfilled, mined, recycled onsite, recycled offsite, mulched, incinerated, other, composted, or stored). Permitted solid waste management facilities reported that 7.19% (1,283,662.73 tons) of the total waste they managed was diverted from disposal by recycling or mulching. Facilities composted 0.85% (152,109.21 tons) of the total waste managed. Table 20 shows for each SWIA category of waste the total amount of Virginia and out-of-state waste managed, total amount diverted and how the material was managed. In addition, Tables 3, 5, 7, 9, 11, 13, and 15 show how the various facility types managed the waste types.

Most recycling occurs at facilities other than permitted waste management facilities. Local governments provide more complete information on the recycling of waste generated in Virginia. For more detailed information about recycling rates in Virginia see Calendar Year 2023 Virginia Annual Recycling Rate Report: https://www.deq.virginia.gov/our-programs/land-waste/recycling/recycling-data. Virginia's calculated recycling rate for 2023 was 42.5 percent. This calculated rate was derived from recycling rate

[4] Facilities report available capacity in cubic yards. The available capacity is estimated using the following conversion factors: 1,000 lbs. of MSW = 1 cu. yd.; 1,200 lbs. of CDD waste = 1 cu. yd.; and 1,000 lbs. of industrial waste = 1 cu. yd. The available capacity for individual facilities may vary, depending on factors such as a facility's compaction rate and use of daily cover materials.

data submitted by 19 Virginia SWPUs to DEQ as required by regulation (9VAC-20-130-120 B&C). The annual recycling report for calendar year 2024 will be published to the DEQ website later this year.

Table 1 – Solid Waste Managed in Virginia for All Reporting Facilities in Tons – 2024

Waste Type	Total Waste Received[5]	Mined Materials	Landfilled Onsite	Recycled Onsite[6]	Composted Onsite	Incinerated Onsite	Mulched Onsite	Other Onsite[7]	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Municipal Solid Waste	15,022,210.52	0.00	9,207,031.64	5,093.29	1,994.36	1,702,144.02	2.88	0.00	87,018.48	4,016,849.21	14,588.76	16,074.41
Construction/Demolition/Debris	4,301,446.91	0.00	2,634,688.04	183,598.68	0.00	0.00	37,181.00	14,946.41	73,770.76	1,309,533.60	214,837.97	262,566.90
Industrial Waste	1,005,700.91	0.00	879,108.11	0.00	43,795.00	394.00	0.00	207.65	6,441.48	75,754.67	0.00	0.00
Other Waste	816,025.22	0.00	25,618.33	15,534.48	12,920.28	0.00	1,352.89	401,929.18	283,978.04	119,895.05	6,638.70	6,845.33
Incineration Ash	515,788.05	0.00	385,604.80	0.00	0.00	0.00	0.00	0.00	168,940.36	381,658.63	22,169.04	17,484.86
Petroleum Contaminated Soil	452,847.16	0.00	352,946.90	0.00	0.00	0.00	0.00	27,059.38	75,043.00	23.88	8,098.00	5,872.00
Vegetative/Yard Waste	391,829.08	0.00	16,233.54	10,121.42	72,120.31	0.00	214,087.71	54,136.45	20,033.57	17,061.78	120,253.20	101,886.44
Sludge	309,730.97	0.00	287,383.47	0.00	21,279.26	0.00	0.00	0.00	0.00	1,068.24	0.00	0.00
Tires	92,828.84	0.00	2,234.16	10,704.74	0.00	0.00	0.00	1,577.39	66,464.00	10,833.65	3,111.19	4,090.58
White Goods	25,408.35	0.00	0.00	38.54	0.00	0.00	0.00	0.00	24,257.42	1,200.11	116.44	28.72
Friable Asbestos	20,365.13	0.00	20,364.17	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
Regulated Medical Waste	7,612.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,611.30	0.00	0.90
Total for 2024	**22,961,793.33**	**0.00**	**13,811,213.15**	**225,091.15**	**152,109.21**	**1,702,538.02**	**252,624.48**	**499,856.46**	**805,947.11**	**5,941,491.08**	**389,813.30**	**414,850.13**
Total for 2023	22,630,654.24	0.00	13,634,810.11	345,902.97	162,837.71	1,902,629.70	224,369.39	699,843.11	756,028.26	5,486,976.80	449,692.48	399,343.58

[5] The amount of "Total Waste Received" and "Stored Onsite at Beginning of Year" may not precisely match the sum of the reported amounts for the remaining columns (i.e., each method of managing the waste). This difference reflects information submitted in the reporting tables. In particular, incineration ash generated by an energy recovery facility or incinerator may be listed as "sent offsite to be treated, stored, or disposed" even though it was not received as ash at that facility. The total waste managed may be greater than the waste received due to ash generated at a facility. Vegetative/Yard Waste may be composted to produce a product that is not managed as a waste.

[6] The majority of recycling takes place at facilities that do not require a permit from the Department and were not required to submit data for this report. Therefore, the amounts shown in this column represent a substantial underestimate of the true recycling rate in the Commonwealth. Table 20 provides more information. The annual recycling rate report for calendar year 2024 will be issued later this year.

[7] "Other Onsite" methods of management may include steam sterilization of medical waste, approved use of shredded tires, and thermal treatment of petroleum contaminated soils, among others.

Table 2 – Jurisdiction of Origin of Waste Received in Tons – 2024

State or Territory	CDD	Friable Asbestos	Incineration Ash	Industrial	MSW	Other	PCS	RMW	Sludge	Tires	VW/YW	White Goods	Total Received
AL - Alabama	0.00	0.00	0.00	0.03	251.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	251.96
CA - California	0.00	0.00	0.00	0.00	21.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.29
CN - Canada	0.00	0.00	0.00	0.00	37.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.59
CT - Connecticut	0.00	0.00	0.00	64.73	69,596.84	0.00	2.00	0.00	0.00	0.00	0.00	0.00	69,663.57
DC - District of Columbia	53,616.37	7.21	0.00	6,014.65	615,811.33	1,229.07	17,800.32	0.00	0.00	0.00	0.00	0.00	694,478.95
DE - Delaware	19.53	0.00	0.00	573.36	11,065.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,658.31
FL - Florida	0.00	0.00	0.00	9.96	116.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	126.84
GA - Georgia	0.00	0.00	0.00	9.25	314.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	323.76
IN - Indiana	0.00	0.00	0.00	17.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.38
KS - Kansas	0.00	0.00	0.00	0.00	12.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.95
KY - Kentucky	0.00	0.00	0.00	0.00	22.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.38
MA - Massachusetts	48,817.48	0.00	0.00	0.00	117,917.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	166,734.83
MD - Maryland	340,314.27	2,408.52	138,158.81	144,795.17	1,503,901.39	256,482.93	9,499.04	5.45	91,495.77	0.00	0.00	0.00	2,487,061.35
MI - Michigan	0.00	0.00	0.00	0.00	109.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	109.99
MS - Mississippi	0.00	0.00	0.00	0.00	159.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	159.27
NC - North Carolina	996.72	814.27	0.00	166,733.81	175,999.64	28,887.19	0.00	187.43	1,358.54	0.00	0.00	0.00	374,977.60
NH - New Hampshire	0.00	0.00	0.00	0.42	110.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	110.63
NJ - New Jersey	21,573.38	0.00	0.00	729.30	655,561.62	171.98	7.05	0.00	0.00	0.00	0.00	0.00	678,043.33
NY - New York	8,452.19	0.00	0.00	111.26	1,011,148.95	4.80	6.08	0.00	0.00	0.00	0.00	0.00	1,019,723.28
OH - Ohio	0.00	0.00	0.00	17.81	306.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	324.06
PA - Pennsylvania	1.61	0.00	0.00	180.03	4,256.21	261.25	8.75	0.00	0.00	0.00	0.00	0.00	4,707.85
RI - Rhode Island	0.00	0.00	0.00	0.00	19,799.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19,799.49
SC - South Carolina	21.60	0.00	0.00	159.34	2,248.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,428.94
TN - Tennessee	0.00	0.00	0.00	3,094.93	265.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,360.44
TX - Texas	0.00	0.00	0.00	0.00	9.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.37
VT - Vermont	0.00	0.00	0.00	0.00	276.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	276.64
WV - West Virginia	409.17	65.69	0.00	1,938.01	11,405.44	0.00	0.00	0.91	0.00	0.00	0.00	0.00	13,819.22
2024 Total Other States	**474,222.32**	**3,295.69**	**138,158.81**	**324,449.44**	**4,200,726.45**	**287,037.22**	**27,323.24**	**193.79**	**92,854.31**	**0.00**	**0.00**	**0.00**	**5,548,261.26**
2024 Total Virginia	**3,827,224.59**	**17,069.44**	**377,629.24**	**681,251.47**	**10,821,484.07**	**528,988.00**	**425,523.92**	**7,418.41**	**216,876.66**	**92,828.84**	**391,829.08**	**25,408.35**	**17,413,532.06**
2024 Total All States	**4,301,446.91**	**20,365.13**	**515,788.05**	**1,005,700.91**	**15,022,210.52**	**816,025.22**	**452,847.16**	**7,612.20**	**309,730.97**	**92,828.84**	**391,829.08**	**25,408.35**	**22,961,793.33**
2023 Total Other States	259,865.22	2,234.60	132,828.98	354,323.50	4,411,967.17	308,695.36	26,943.21	212.74	41,132.27	0.00	772.00	0.00	5,538,975.05
2023 Total Virginia	3,774,592.80	2,836.03	393,062.26	569,510.53	10,574,170.48	649,821.53	393,486.33	10,163.08	238,918.89	83,790.23	376,838.54	24,488.49	17,091,679.18
2023 Total All States	4,034,458.02	5,070.63	525,891.24	923,834.03	14,986,137.65	958,516.89	420,429.54	10,375.82	280,051.16	83,790.23	377,610.54	24,488.49	22,630,654.24

Table 3 – Solid Waste Managed by MSW (Sanitary) Landfills in Tons – 2024

Waste Type	Total Waste Received	Landfilled Onsite	Recycled Onsite	Composted Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Municipal Solid Waste	9,275,081.67	9,207,031.64	1,287.77	0.00	0.00	0.00	12,809.99	53,952.27	0.00	0.00
Construction/Demolition/Debris	924,372.35	903,875.77	917.38	0.00	217.00	14,944.65	0.00	5,123.06	765.70	60.20
Industrial Waste	586,787.91	586,580.26	0.00	0.00	0.00	207.65	0.00	0.00	0.00	0.00
Other Waste	445,518.39	25,618.33	5,710.98	0.00	1,352.89	401,929.18	10,215.75	691.36	11.80	11.70
Incineration Ash	385,604.80	385,604.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Contaminated Soil	351,446.93	351,446.90	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Sludge	304,228.27	282,949.01	0.00	21,279.26	0.00	0.00	0.00	0.00	0.00	0.00
Vegetative/Yard Waste	157,656.83	4,218.79	6,283.97	12,176.53	99,569.14	45,510.25	4,564.55	0.00	27,658.10	12,990.80
Friable Asbestos	19,277.67	19,276.71	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
White Goods	14,664.57	0.00	0.00	0.00	0.00	0.00	14,754.29	0.00	113.44	23.72
Tires	10,194.72	2,116.86	1,499.36	0.00	0.00	1,577.39	3,283.57	766.56	3,014.70	3,930.17
2024 MSW Total	**12,474,834.12**	**11,768,719.06**	**15,699.46**	**33,455.79**	**101,139.03**	**464,169.15**	**45,628.15**	**60,534.21**	**31,563.74**	**17,016.59**
2023 MSW Total	12,596,249.61	11,746,296.76	15,921.62	32,957.29	84,115.86	609,700.01	50,852.56	55,620.49	30,778.71	31,563.74

Table 4 – Capacity and Remaining Life for MSW (Sanitary) Landfills – 2024

	Facility Name	Permit	Capacity in Tons as of 12/2024	Landfilled in 2024 Tons	Expected Remaining Permitted Life (Years)	Region
1	Accomack County Northern Landfill	SWP461	932,021.00	44,908.47	29.8	TRO
2	Active Bedford County Landfill SWP No 560	SWP560	29,886.50	67.92	10	BRRO
3	Amherst County Landfill Permit Number 563	SWP563	960,967.50	32,900.38	38.8	BRRO
4	Atlantic Waste Disposal Landfill	SWP562	41,051,804.00	1,201,517.62	75	PRO
5	Augusta Regional Landfill	SWP585	3,857,603.00	152,529.30	33	VRO
6	Battle Creek Landfill	SWP579	2,019,518.50	64,069.76	22.3	VRO
7	BFI Old Dominion Landfill	SWP553	6,297,986.50	1,081,285.20	8	PRO
8	Blue Ridge Resource Authority	SWP075	1,571,620.50	45,078.05	56	VRO
9	Bristol Integrated Solid Waste Management Facility*	SWP588	2,054,824.50	0.00	32	SWRO
10	Brunswick Waste Management Facility LLC	SWP583	8,102,409.50	450,574.62	30	PRO
11	Carroll Grayson Galax Regional Landfill 2	SWP605	1,289,467.00	48,116.20	37.2	SWRO
12	Charles City County Landfill	SWP531	10,775,931.50	555,873.11	39	PRO
13	Corral Farm Waste Management Facility	SWP575	296,920.00	1,235.64	44.6	NRO
14	Disposal and Recycling Services of Lunenburg	SWP544	908,120.00	447,728.00	2.7	PRO
15	Franklin County - Sanitary Landfill	SWP577	2,147,817.00	60,352.00	40	BRRO
16	Frederick County Landfill	SWP529	5,653,200.00	129,934.33	31	VRO
17	Greensville County Landfill	SWP405	180,016.86	22,062.95	9.6	PRO
18	Interstate 95 Landfill	SWP103	3,032,129.50	347,532.50	29.7	NRO
19	King and Queen Sanitary Landfill	SWP554	7,865,859.50	689,217.95	26	PRO
20	King George Landfill Incorporated	SWP586	13,161,273.00	1,279,495.60	22	NRO
21	Loudoun County Solid Waste Management Facility	SWP001	12,841,985.50	202,220.76	64	NRO
22	Louisa County Sanitary Landfill	SWP567	176,448.00	27,562.29	8.1	NRO
23	Maplewood Recycling and Waste Disposal	SWP540	12,635,391.00	886,770.10	63	PRO
24	Middle Peninsula Landfill and Recycling Facility	SWP572	12,237,255.00	541,415.66	51	PRO
25	New River Resource Authority Solid Waste Facility	SWP548	4,681,939.00	87,163.10	29.1	BRRO
26	Nottoway County Sanitary Landfill - Blackstone	SWP304	208,498.00	14,293.29	10.8	PRO
27	Orange County Sanitary Landfill	SWP566	1,949,418.50	29,924.30	72.2	NRO
28	Peters Mountain Landfill	SWP594	117,774.00	11,613.02	6	BRRO
29	Pittsylvania Co - Sanitary Landfill	SWP571	487,125.00	141,129.00	4.2	BRRO
30	Prince Edward County Sanitary Landfill	SWP584	218,965.50	31,813.19	11.5	PRO
31	Prince William County Sanitary Landfill	SWP029	2,793,000.00	322,785.60	10.3	NRO
32	Rappahannock Regional Solid Waste Management Board	SWP589	4,976,882.00	281,549.03	23	NRO
33	Region 2000 Regional Landfill - Livestock Rd Facil	SWP610	591,982.00	201,959.23	3.7	BRRO

34	Rockingham County Landfill	SWP062	3,515,786.50	141,842.18	25.1	VRO
35	Shenandoah County Landfill - Edinburg	SWP469	1,642,286.50	49,397.00	36.5	VRO
36	Shoosmith Sanitary Landfill	SWP587	17,888,000.00	32,578.57	24	PRO
37	Smith Gap Regional Landfill	SWP555	4,236,302.50	315,282.83	18.3	BRRO
38	Spotsylvania County Livingston Sanitary Landfill	SWP547	2,353,616.50	137,324.83	22.5	NRO
39	SPSA - Regional Landfill	SWP417	6,251,587.00	363,512.00	13.9	TRO
40	SRPSA - Butcher Creek Sanitary Landfill	SWP598	3,971,737.00	86,577.63	64.3	PRO
41	Tazewell County Sanitary Landfill	SWP564	509,209.12	55,576.41	13.6	SWRO
42	Tri City Regional Disposal and Recycling Services*	SWP228	0.00	0.00	0	PRO
43	USA Waste of Virginia Landfills - Bethel	SWP580	20,180,964.50	1,080,234.41	58	TRO
44	Virginia Beach City - Landfill No 2	SWP398	1,512,180.00	26,662.00	65	TRO
45	Wise County Sanitary Landfill	SWP513	642,391.50	45,053.03	15	SWRO
	MSW Landfill Total for 2024		**228,810,100.48**	**11,768,719.06**	**19.4**	
	MSW Landfill Total for 2023		236,113,483.93	11,746,296.76	20.1	

*Facilities inactive, closed or going through the process of closure before or during CY2024

Table 5 – Solid Waste Managed by CDD Landfills in Tons – 2024

Waste Type	Total Waste Received	Landfilled Onsite	Recycled Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Construction/Demolition/Debris	1,833,133.45	1,705,891.88	63,178.00	28,032.00	0.00	21,558.57	65.00	47,082.00	61,490.00
Vegetative/Yard Waste	19,744.38	12,014.75	106.88	7,400.00	0.00	0.00	0.00	1,469.25	1,692.00
Other Waste	10,815.50	0.00	9,823.50	0.00	0.00	0.00	0.00	2,276.50	3,268.50
Petroleum Contaminated Soil	4,820.35	0.00	0.00	0.00	4,820.35	0.00	0.00	0.00	0.00
Tires	117.30	117.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024 CDD Total	**1,868,630.98**	**1,718,023.93**	**73,108.38**	**35,432.00**	**4,820.35**	**21,558.57**	**65.00**	**50,827.75**	**66,450.50**
2023 CDD Total	1,819,576.11	1,617,916.51	139,809.50	34,156.00	7,143.67	16,566.29	0.00	46,843.61	50,827.75

Table 6 – Capacity and Remaining Life for CDD Landfills – 2024

	Facility Name	Permit	Capacity in Tons as of 12/2024	Landfilled in 2024 Tons	Expected Remaining Permitted Life (Years)	Region
1	623 Landfill	SWP506	6,520,804.80	895,353.70	6	PRO
2	Ashcake Road Landfill, Inc.	SWP574	117,000.00	94,620.00	0.7	PRO
3	Centerville Turnpike CDD Landfill	SWP603	2,445,903.60	185,683.87	11	TRO
4	Country South LLC	SWP581	1,321,306.86	7,522.75	232.4	BRRO
5	Frederick County Landfill	SWP591	1,433,340.00	67,889.28	14	VRO
6	Lorton Construction Landfill*	SWP331	0.00	0.00	0	NRO
7	Portsmouth City - Craney Island Landfill	SWP041	1,829,225.40	5,228.00	138.8	TRO
8	Rainwater CDD Landfill	SWP327	186,154.80	7,754.00	20	NRO
9	Recycled Properties LLC	SWP493	1,000,488.00	105,875.33	14	TRO
10	Skinquarter Land CDD Landfill	SWP604	3,337,696.80	174,063.00	16	PRO
11	Taylor Road Landfill	SWP270	4,383,288.60	174,033.00	53	PRO
12	TEEL LLC The East End Landfill*	SWP524	108,514.52	0.00	3	PRO
13	Thomas Brothers Debris Landfill	SWP445	20,993.10	1.00	7	BRRO
	CDD Landfill Total for 2024		**22,704,716.48**	**1,718,023.93**	**13.2**	
	CDD Landfill Total for 2023		24,493,675.18	1,617,916.51	15.1	

*Facilities inactive, closed or going through the process of closure before or during CY2024

Table 7 – Solid Waste Managed by Non-Captive Industrial Landfills in Tons – 2024

Waste Type	Total Waste Received	Landfilled Onsite	Recycled Onsite	Mulched Onsite	Mulched Onsite	Recycled Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Industrial Waste	292,527.85	292,527.85	0.00	0.00	0.00	0.00	0.00	0.00
Construction/Demolition/Debris	39,330.38	24,920.39	480.00	0.00	0.00	10,920.83	8,571.53	11,580.69
Sludge	4,434.46	4,434.46	0.00	0.00	0.00	0.00	0.00	0.00
Vegetative/Yard Waste	3,459.00	0.00	0.00	0.00	2,400.00	0.00	0.00	1,059.00
Friable Asbestos	1,087.46	1,087.46	0.00	0.00	0.00	0.00	0.00	0.00
Tires	41.65	0.00	30.00	0.00	0.00	36.65	93.00	68.00
White Goods	10.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
Petroleum Contaminated Soil	0.00	1,500.00	0.00	0.00	0.00	0.00	3,112.00	1,612.00
2024 Industrial Total	**340,890.80**	**324,470.16**	**510.00**	**0.00**	**2,400.00**	**10,967.48**	**11,776.53**	**14,319.69**
2023 Industrial Total	280,674.80	270,596.85	933.00	4,908.00	0.00	210.28	7,749.86	11,776.53

Table 8 – Capacity and Remaining Life for Non-Captive Industrial Landfills – 2024

	Facility Name	Permit	Capacity in Tons as of 12/2024	Landfilled in 2024 Tons	Expected Remaining Permitted Life (Years)	Region
1	First Piedmont Corp - Ringgold	SWP065	1,545,048.50	266,559.16	11.7	BRRO
2	International Paper LF No 2 - Isle of Wight	SWP504	1,942,648.50	33,420.00	58.1	TRO
3	John C Holland Enterprises Inc	SWP280	709,534.00	24,491.00	40.6	TRO
	Industrial Landfill Total for 2024		**4,197,231.00**	**324,470.16**	**12.9**	
	Industrial Landfill Total for 2023		4,052,713.62	270,596.85	15.0	

Table 9 – Solid Waste Managed by Waste to Energy Incinerators in Tons – 2024

Waste Type	Total Waste Received	Incinerated Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Municipal Solid Waste	1,732,454.32	1,702,144.02	4,189.00	24,552.30	13,265.00	14,834.00
White Goods	506.46	0.00	506.46	0.00	0.00	0.00
Industrial Waste	394.00	394.00	0.00	0.00	0.00	0.00
Tires	45.70	0.00	45.70	0.00	0.00	0.00
Incineration Ash	0.00	0.00	51,101.00	364,630.56	0.00	0.00
Other Waste	0.00	0.00	46,611.94	0.00	0.00	0.00
2024 Incinerator Total	**1,733,400.48**	**1,702,538.02**	**102,454.10**	**389,182.86**	**13,265.00**	**14,834.00**
2023 Incinerator Total	1,962,472.70	1,902,629.70	158,959.60	436,581.67	12,892.00	13,265.00

Table 10 – List of Reporting Incinerators – 2024

	Permit	Facility Name	Region
1	PBR197	US Department of Defense - Pentagon	NRO
2	PBR500	Wheelabrator Portsmouth Inc - Waste to Energy Fac	TRO
3	PBR545	Reworld Fairfax Limited Liability Company	NRO
4	PBR551	Reworld Alexandria Arlington Limited Liability Co	NRO
5	SWP297	Hampton City - NASA Steam Plant	TRO

Table 11 – Solid Waste Managed by Transfer Stations in Tons – 2024

Waste Type	Total Waste Received	Recycled Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Municipal Solid Waste	3,067,769.87	0.00	0.00	0.00	13,162.66	3,054,002.21	214.00	228.00
Construction/Demolition/Debris	280,360.11	0.00	0.00	0.00	1,696.00	278,664.11	0.00	0.00
Vegetative/Yard Waste	102,921.39	0.00	78,018.10	2,884.19	15,469.02	8,771.85	6,656.36	4,434.59
Industrial Waste	50,307.62	0.00	0.00	0.00	771.48	49,536.14	0.00	0.00
Other Waste	24,213.55	0.00	0.00	0.00	12,739.50	11,974.05	500.00	0.00
White Goods	9,027.21	38.54	0.00	0.00	8,986.67	0.00	3.00	5.00
Tires	4,947.69	0.00	0.00	0.00	2,759.89	2,190.88	3.49	0.41
Sludge	1,068.24	0.00	0.00	0.00	0.00	1,068.24	0.00	0.00
2024 TS Total	**3,540,615.69**	**38.54**	**78,018.10**	**2,884.19**	**55,585.22**	**3,406,207.48**	**7,376.85**	**4,668.00**
2023 TS Total	3,370,815.12	0.00	49,815.10	1,942.97	47,867.31	3,269,195.61	5,598.12	7,381.75

Table 12 – List of Reporting Transfer Stations – 2024

	Permit	Facility Name	Region
1	PBR001	Russell County Solid Waste Transfer Station	SWRO
2	PBR002	Cedar Bluff Transfer Station	SWRO
3	PBR003	Washington County Solid Waste Transfer Station	SWRO
4	PBR004	Boissevain Transfer Station	SWRO
5	PBR021	James City County Transfer Station	TRO
6	PBR022	Goodwin Neck Transfer Station	TRO
7	PBR031	Bedford County - Transfer Station	BRRO
8	PBR032	Patrick Co - Solid Waste Transfer Station	BRRO
9	PBR033	Warren County - Transfer Station	VRO
10	PBR041	Smyth County Transfer Station	SWRO
11	PBR044	Wythe/Bland Solid Waste Transfer Station	SWRO
12	PBR049	Dickenson County Transfer Station	SWRO
13	PBR050	Floyd County - Transfer Station	BRRO
14	PBR051	Nelson County Transfer Station & Landfills	VRO
15	PBR069	Westmoreland County of - Montross Transfer Station	PRO
16	PBR070	Lee County Solid Waste Transfer Station	SWRO
17	PBR090	Accomack County - Southern Landfill	TRO
18	PBR091	Waste Management of Virginia - Manassas	NRO
19	PBR103	Alleghany County - Transfer Station	BRRO
20	PBR106	Buchanan County Transfer Station	SWRO
21	PBR112	Accomack County Northern Landfill	TRO
22	PBR121	Bristol Integrated Solid Waste Management Facility	SWRO
23	PBR132	Ivy Solid Waste and Recycling Center	VRO
24	PBR140	Laurel Valley Center- Culpeper County	NRO
25	PBR149	Montgomery Regional Solid Waste Authority	BRRO
26	PBR154	Madison County Landfill and Transfer Station	NRO
27	PBR160	Richmond Transfer Station and Convenience Center	PRO
28	PBR189	Hanover County - 301 Solid Waste Facility	PRO
29	PBR190	SPSA - Oceana Transfer Station	TRO
30	PBR191	SPSA - Landstown Transfer	TRO
31	PBR192	SPSA - Franklin Transfer Station	TRO
32	PBR193	SPSA - Isle Of Wight Transfer Station	TRO
33	PBR194	SPSA - Chesapeake Transfer	TRO
34	PBR195	SPSA - Norfolk Transfer Station	TRO

35	PBR501	Salem Transfer Station	BRRO
36	PBR508	Craig County - Transfer Station	BRRO
37	PBR509	Greene County Transfer Station	VRO
38	PBR518	SPSA - Regional Landfill	TRO
39	PBR520	First Piedmont Corp - Martinsville TS	BRRO
40	PBR524	Wise County Blackwood Transfer Station	SWRO
41	PBR527	Harborton Solid Waste Receiving Facility	TRO
42	PBR529	Bedford Town - Hylton Site	BRRO
43	PBR539	Halifax County Transfer Station Facility	BRRO
44	PBR540	Northampton County - Transfer Station	TRO
45	PBR548	Scott County Transfer Station	SWRO
46	PBR555	Interstate 66 - Solid Waste Management Facility	NRO
47	PBR561	Troy Transfer	VRO
48	PBR591	Henrico County DPU Springfield Rd Waste Management	PRO
49	PBR625	Corral Farm Waste Management Facility	NRO
50	PBR630	County Waste - Hanover	PRO
51	PBR635	Botetourt Convenience Center and Transfer Station	BRRO
52	PBR636	ERI Skippers Facility	PRO
53	PBR638	First Piedmont Corp Transfer Station-Danville	BRRO
54	PBR639	Dominion Recycling and Transfer LLC	NRO
55	PBR640	Amherst County Landfill Permit Number 563	BRRO
56	SWP484	SPSA - Boykins Transfer	TRO
57	SWP539	SPSA - Ivor Transfer Station	TRO
58	SWP546	Tinker Creek Transfer Station	BRRO

Table 13 – Solid Waste Managed by Material Recovery Facilities (MRFs) in Tons – 2024

Waste Type	Total Waste Received	Recycled Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
Construction/Demolition/Debris	1,223,791.37	119,023.30	8,932.00	1.76	39,595.36	1,025,322.09	158,418.74	189,336.11
Municipal Solid Waste	944,891.58	3,805.52	2.88	0.00	56,856.83	884,323.71	1,109.76	1,012.41
Other Waste	289,795.90	0.00	0.00	0.00	214,405.85	74,473.04	3,850.40	3,565.13
Incineration Ash	130,183.25	0.00	0.00	0.00	117,839.36	17,028.07	22,169.04	17,484.86
Petroleum Contaminated Soil	96,579.88	0.00	0.00	22,239.00	75,043.00	23.88	4,986.00	4,260.00
Tires	77,481.78	9,175.38	0.00	0.00	60,338.19	7,876.21	0.00	92.00
Industrial Waste	31,888.53	0.00	0.00	0.00	5,670.00	26,218.53	0.00	0.00
Vegetative/Yard Waste	6,376.98	3,730.57	1,224.68	0.00	0.00	1,108.98	7,621.24	7,933.94
White Goods	1,200.11	0.00	0.00	0.00	0.00	1,200.11	0.00	0.00
2024 MRF Total	**2,802,189.38**	**135,734.77**	**10,159.56**	**22,240.76**	**569,748.59**	**2,037,574.62**	**198,155.18**	**223,684.45**
2023 MRF Total	2,389,188.12	163,093.85	12,182.61	19,250.46	481,572.23	1,706,300.65	196,528.96	199,851.46

Table 14 – List of Reporting MRFs – 2024

	Permit	Facility Name	Region
1	PBR006	Leesburg Transfer Station	NRO
2	PBR039	Virginia Recycling Corporation	PRO
3	PBR052	Aqua Clean Environmental of Virginia	PRO
4	PBR072	SPSA - Regional Landfill	TRO
5	PBR077	Waste Industries LLC	TRO
6	PBR093	Waste Management of Virginia - Sterling	NRO
7	PBR099	BFI Fluvanna Transcyclery	VRO
8	PBR101	AWRF Inc	NRO
9	PBR102	Dulles Materials Recovery Facility	NRO
10	PBR104	Blue Ridge Disposal Inc	BRRO
11	PBR105	Roanoke Hauling-Republic Services of Roanoke	BRRO
12	PBR107	Republic Services of Fredericksburg	NRO
13	PBR111	Waste Management of Virginia - Merrifield	NRO
14	PBR116	Bristol Integrated Solid Waste Management Facility	SWRO
15	PBR135	US Navy - Norfolk Naval Shipyard	TRO
16	PBR155	Clearfield MMG Inc - Suffolk	TRO
17	PBR180	MXI Environmental Services LLC	SWRO
18	PBR516	County Waste, LLC	PRO
19	PBR521	CFP Limited Liability Corporation	NRO
20	PBR522	United Disposal Incorporated	TRO
21	PBR531	Zion Crossroads Recycling Park Inc	VRO
22	PBR533	Warren Disposal Services LLC	TRO
23	PBR536	Broad Run Recycling	NRO
24	PBR537	J and E Recycling Materials Recovery Facility	NRO
25	PBR544	AMRF Incorporated	NRO
26	PBR546	S. B. Cox Recycling Center MRF	PRO
27	PBR547	Emanuel Tire Management Appomattox LLC	BRRO
28	PBR556	Green Zone Investments LLC	PRO
29	PBR558	Recycling and Disposal Solutions of Virginia (RDS)	TRO
30	PBR559	Montgomery Regional Solid Waste Authority	BRRO
31	PBR563	W and N Material Recovery Facility	NRO
32	PBR568	TFC Recycling - Chesapeake	TRO
33	PBR571	GFL Chester Material Waste Facility	PRO
34	PBR572	S B Cox Yorktown Recycling Center	TRO

35	PBR588	Bay Disposal LLC - Hampton	TRO
36	PBR590	Tri City Regional Disposal and Recycling Services	PRO
37	PBR594	Recycling and Disposal Solutions of VA - Enon Road	BRRO
38	PBR596	Military Highway Recycling Center MRF	TRO
39	PBR598	Bay Disposal LLC - Norfolk	TRO
40	PBR599	623 Landfill	PRO
41	PBR602	Recycling and Disposal Solutions of VA - Korte St	BRRO
42	PBR603	Emanuel Tire Management Virginia LLC	PRO
43	PBR619	Select Recycling Waste Services Inc	TRO
44	PBR620	Bay Disposal LLC - Smithfield	TRO
45	PBR622	Clearfield MMG Inc - Chesapeake	TRO
46	PBR623	TFC Recycling - Chester Facility	PRO
47	PBR627	Daniel H Barrett Inc	NRO
48	PBR631	BFI Old Dominion Landfill	PRO
49	PBR645	Clearfield MMG Inc Petersburg Facility	PRO
50	PBR646	Vistas at Lake Manassas Limited Liability Company	NRO
51	PBR648	Diverse City Transport LLC	PRO

Table 15 – Summary Table of Solid Waste Managed by Facility Type in Tons – 2024

Facility Type	Total Waste Received	Mined Materials	Landfilled Onsite	Recycled Onsite	Composted Onsite	Incinerated Onsite	Mulched Onsite	Other Onsite	Recycled Offsite	Treated, Stored, Disposed Offsite	Stored Onsite at Beginning of Year	Stored Onsite at End of Year
MSW Landfill Total	12,474,834.12	0.00	11,768,719.06	15,699.46	33,455.79	0.00	101,139.03	464,169.15	45,628.15	60,534.21	31,563.74	17,016.59
Transfer Station Total	3,540,615.69	0.00	0.00	38.54	0.00	0.00	78,018.10	2,884.19	55,585.22	3,406,207.48	7,376.85	4,668.00
Material Recovery Facility Total	2,802,189.38	0.00	0.00	135,734.77	0.00	0.00	10,159.56	22,240.76	569,748.59	2,037,574.62	198,155.18	223,684.45
CDD Landfill Total	1,868,630.98	0.00	1,718,023.93	73,108.38	0.00	0.00	35,432.00	4,820.35	21,558.57	65.00	50,827.75	66,450.50
Waste to Energy/Incinerator Total	1,733,400.48	0.00	0.00	0.00	0.00	1,702,538.02	0.00	0.00	102,454.10	389,182.86	13,265.00	14,834.00
Non-Captive Industrial Landfill Total	340,890.80	0.00	324,470.16	510.00	0.00	0.00	0.00	2,400.00	10,967.48	0.00	11,776.53	14,319.69
Compost Facility Total	155,668.14	0.00	0.00	0.00	118,653.42	0.00	27,875.79	3,342.00	0.00	3,552.72	76,848.25	72,692.35
RMW Facility Total	7,612.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,611.30	0.00	0.90

Table 16 – List of Reporting Compost Facilities – 2024

	Permit	Facility Name	Region
1	PBR010	Danville City of - Yard Waste Composting Facility	BRRO
2	PBR013	VPPSA -Compost Facility	TRO
3	PBR030	Prince William County Compost Facility	NRO
4	PBR096	Newport News City - Yard Waste Compost Fac No 1	TRO
5	PBR125	Middle Peninsula Landfill and Recycling Facility	PRO
6	PBR175	DOC Powhatan Correctional Center	PRO
7	PBR181	Watkins Nurseries Inc	PRO
8	PBR512	Hanover County - 301 Solid Waste Facility	PRO
9	PBR525	Bristol Integrated Solid Waste Management Facility	SWRO
10	PBR589	Black Bear Composting	VRO
11	PBR597	Commonwealth Compost and Recycling Services Inc	SWRO
12	PBR616	Commonwealth Recycled Aggregates Limited Liability	NRO
13	PBR632	Panorama Paydirt	VRO
14	PBR647	Star City Compost	BRRO
15	SWP601	Royal Oak Farm LLC	BRRO

Table 17 – List of Reporting RMW Facilities – 2024

	Permit	Facility Name	Region
1	PBR143	Curtis Bay Medical Waste Services VA LLC - Roanoke	BRRO
2	PBR517	Stericycle Chesterfield RMW Transfer Station	PRO
3	PBR606	Daniels Sharpsmart RMW Transfer Station	PRO
4	PBR617	Curtis Bay Medical Waste Services Virginia LLC	PRO
5	PBR634	Curtis Bay Medical Waste Services - Norfolk	TRO
6	PBR642	NEIE Medical Waste Services LLC	PRO

Table 18 – Methods of Solid Waste Management (in Tons) – 2024

Methods of Solid Waste Management	2024 Tons	Percentage
Landfilled Onsite	13,811,213.15	77.31%
Incinerated Onsite	1,702,538.02	9.53%
Sent Offsite to be Recycled	805,947.11	4.51%
Other Onsite	499,856.46	2.80%
Stored Onsite End of Year	414,850.13	2.32%
Mulched Onsite	252,624.48	1.41%
Recycled Onsite	225,091.15	1.26%
Composted Onsite	152,109.21	0.85%
Total	**17,864,229.71**	**100.00%**

Note: The basis for determining these percentages is the sum for all methods of waste management (recycled, composted, landfilled, etc.) in Table 1, with the exception of: (1) waste stored onsite at the beginning of the year (which is similar to waste received) and (2) waste that was sent offsite for treatment, storage or disposal (i.e., waste that was simply transferred to another facility for ultimate management). Accounting for those two exceptions, the basis for these percentages is 17,864,229.71 tons. Facilities that mine landfill materials report how much material was mined and how it was managed.

Table 19 – Composition of the Solid Waste Stream in Tons – 2024

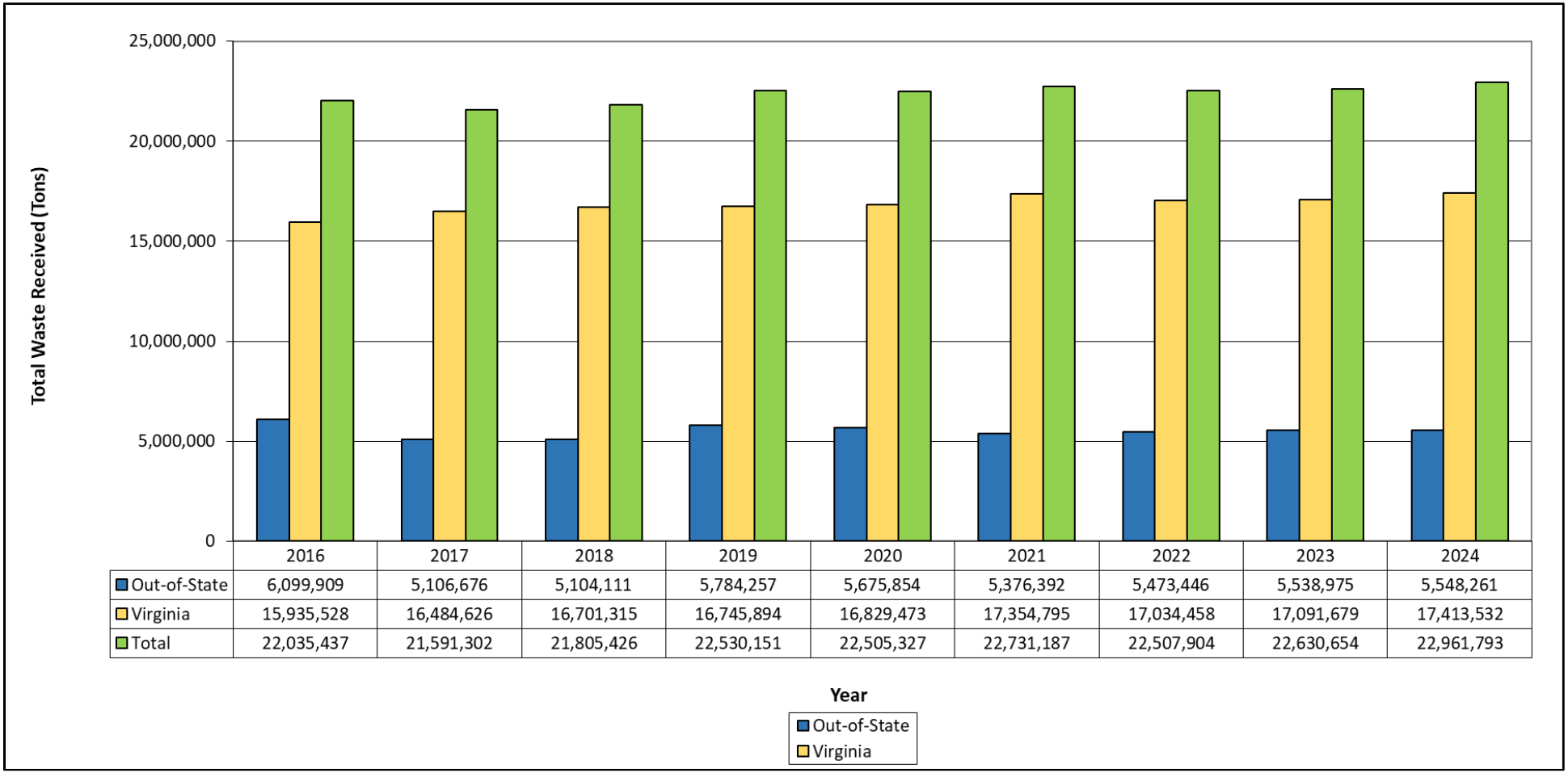
Waste Type	2024 Tons	Percentage
Municipal Solid Waste	15,022,210.52	65.42%
Construction/Demolition/Debris	4,301,446.91	18.73%
Industrial Waste	1,005,700.91	4.38%
Other Waste	816,025.22	3.55%
Incineration Ash	515,788.05	2.25%
Petroleum Contaminated Soil	452,847.16	1.97%
Vegetative/Yard Waste	391,829.08	1.71%
Sludge	309,730.97	1.35%
Tires	92,828.84	0.40%
White Goods	25,408.35	0.11%
Friable Asbestos	20,365.13	0.09%
Regulated Medical Waste	7,612.20	0.03%
Total	**22,961,793.33**	**100.00%**

Table 20 – Tons Recycled or Diverted from Solid Waste Facilities – 2024

Annual Reporting Period 2024 for Virginia Jurisdictions						
Waste Type	**Total Waste Received**	**Tons Recycled or Diverted**	**Recycled Onsite**	**Recycled Offsite**	**Composted Onsite**	**Mulched Onsite**
Municipal Solid Waste	10,821,484.07	94,109.01	5,093.29	87,018.48	1,994.36	2.88
Construction/Demolition/Debris	3,827,224.59	286,570.84	178,108.68	71,377.16	0.00	37,085.00
Industrial Waste	681,251.47	31,360.48	0.00	6,441.48	24,919.00	0.00
Other Waste	528,988.00	295,059.70	15,534.48	265,252.05	12,920.28	1,352.89
Petroleum Contaminated Soil	425,523.92	75,043.00	0.00	75,043.00	0.00	0.00
Vegetative/Yard Waste	391,829.08	316,363.00	10,121.42	20,033.57	72,120.31	214,087.71
Incineration Ash	377,629.24	51,101.00	0.00	51,101.00	0.00	0.00
Sludge	216,876.66	21,279.26	0.00	0.00	21,279.26	0.00
Tires	92,828.84	77,168.74	10,704.74	66,464.00	0.00	0.00
White Goods	25,408.35	24,295.96	38.54	24,257.42	0.00	0.00
Friable Asbestos	17,069.44	0.00	0.00	0.00	0.00	0.00
Regulated Medical Waste	7,418.41	0.00	0.00	0.00	0.00	0.00
Total	**17,413,532.06**	**1,272,350.99**	**219,601.15**	**666,988.16**	**133,233.21**	**252,528.48**

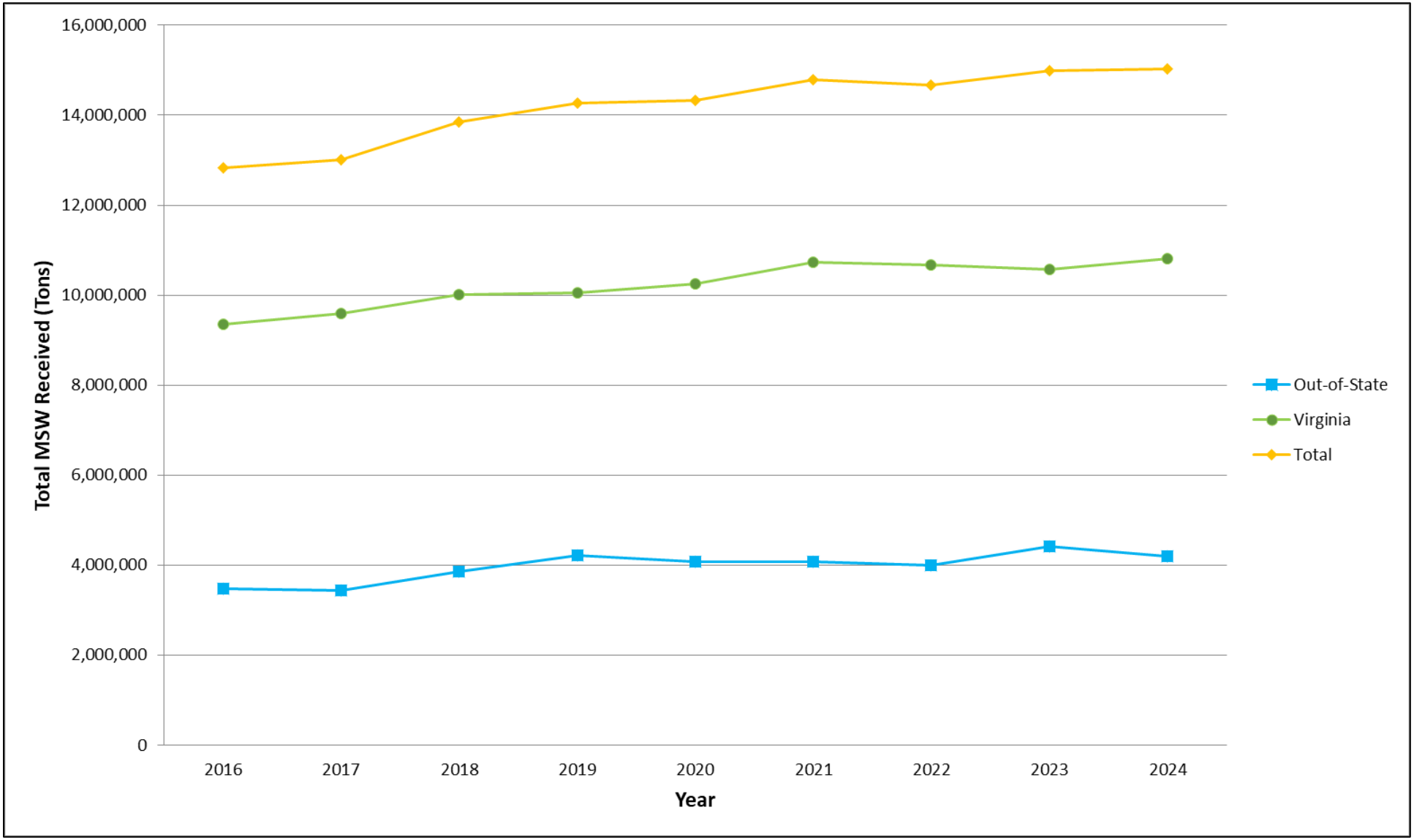
Annual Reporting Period 2024 for Out-of-State Jurisdictions						
Waste Type	**Total Waste Received**	**Tons Recycled or Diverted**	**Recycled Onsite**	**Recycled Offsite**	**Composted Onsite**	**Mulched Onsite**
Municipal Solid Waste	4,200,726.45	0.00	0.00	0.00	0.00	0.00
Construction/Demolition/Debris	474,222.32	7,979.60	5,490.00	2,393.60	0.00	96.00
Industrial Waste	324,449.44	18,876.00	0.00	0.00	18,876.00	0.00
Other Waste	287,037.22	18,726.00	0.00	18,726.00	0.00	0.00
Incineration Ash	138,158.81	117,839.36	0.00	117,839.36	0.00	0.00
Sludge	92,854.31	0.00	0.00	0.00	0.00	0.00
Petroleum Contaminated Soil	27,323.24	0.00	0.00	0.00	0.00	0.00
Friable Asbestos	3,295.69	0.00	0.00	0.00	0.00	0.00
Regulated Medical Waste	193.79	0.00	0.00	0.00	0.00	0.00
Total	**5,548,261.26**	**163,420.96**	**5,490.00**	**138,958.96**	**18,876.00**	**96.00**

Figure 1 – Total Solid Waste Received from 2016 through 2024



	2016	2017	2018	2019	2020	2021	2022	2023	2024
Out-of-State	6,099,909	5,106,676	5,104,111	5,784,257	5,675,854	5,376,392	5,473,446	5,538,975	5,548,261
Virginia	15,935,528	16,484,626	16,701,315	16,745,894	16,829,473	17,354,795	17,034,458	17,091,679	17,413,532
Total	22,035,437	21,591,302	21,805,426	22,530,151	22,505,327	22,731,187	22,507,904	22,630,654	22,961,793

Figure 2 – Municipal Solid Waste Received from 2016 through 2024



Attachment 1 – SWIA Reporting Table (Form DEQ 50-25)

SOLID WASTE INFORMATION AND ASSESSMENT PROGRAM REPORTING TABLE - FORM DEQ 50-25 (Revised 12/17/2018)

1	Facility Name					
2	Permit Number	3 Date Submitted to DEQ		4 Annual Reporting Period		
5	Preparer's First Name	Middle Initial	Last Name		6 Telephone	
7	Preparer's E-mail Address					
8	Has there been a change to the Annual Fee Billing Contact, Address or Telephone Number? □Yes □ N o					
	Contact First Name	Last Name		Contact Phone		
	Address			E-Mail		
	City	State		Zip Code		
9A and 9B Landfills only	9A	Remaining Permitted Capacity Cubic Yards	9B	Expected Remaining Permitted Life	Years	
10	Does facility use active scales? □ Yes or □ No	Landfills not using active scales - enter the total amount landfilled in cubic yards (sum of all jurisdictions)				
11	Originating Jurisdiction	11A Statement of Economic Benefits submitted? □**Yes** or □ **No**				
12	**Facilities landfilling VA incineration ash**	Use the supplemental form to provide the facility from which ash was received and the amount.				

Waste amounts measured in : □ Tons or □ Cubic Yards

Waste Type		Total Amount of Waste Received (a)	Mined Materials (b)	On-site Management of Waste						Sent Off-site to be: (i)		Stored On-site (j)	
				Landfilled (c)	Recycled (d)	Composted (e)	Incinerated (f)	Mulched (g)	Other (h)	Recycled	Treated, Stored, Disposed	Beginning of Reporting Period	End of Reporting Period
13	Municipal Solid Waste												
14	Construction/ Demolition/Debris												
15	Industrial Waste												
16	Regulated Medical Waste												
17	Vegetative/Yard Waste												
18	Incineration Ash												
19	Sludge												
20	Tires												
21	White Goods												
22	Friable Asbestos												
23	Petroleum Contaminated Soil												
24	Other Wastes (specify)												
25	Total												

Facility Comments

Complete a separate form for each jurisdiction.
See the instructions for completing Form DEQ 50-25. A separate form is provided for the optional Statement of Economic Benefits.

SUPPLEMENTAL SOLID WASTE INFORMATION AND ASSESSMENT PROGRAM REPORTING TABLE - FORM DEQ 50-25

Only those facilities that landfill Virginia incineration ash provide this information.

Permit Number	**Annual Reporting Period**
Facilities landfilling VA incineration ash: **Received from Permit No., Facility Name**	**VA ash amount measured in** □ **Tons** □ **Cubic Yards**

Facility Comments

Facilities should use the same units of measure (Cubic Yards or Tons) for Rows 12 - 24. Facilities that do not landfill VA incineration ash do not complete this supplemental form. See the instructions for completing Form DEQ 50-25.

E

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

2025 VIRGINIA TOXICS RELEASE INVENTORY REPORT

Commonwealth of Virginia

Department of Environmental Quality

December 2025

Mission and Programs

It is the mission of the Virginia Department of Environmental Quality (DEQ) to protect the environment in order to promote the health and well-being of Virginians. To this end, DEQ implements numerous programs that range from the media-specific (air quality, water quality, and waste management) to particular areas (such as the Chesapeake Bay and the Virginia Coastal Zone Management Area), to more specific programs (such as Small Business Assistance and Citizen Water Quality Monitoring). DEQ is also committed to pollution prevention and maintains the Office of Pollution Prevention (OPP), specifically to assist Virginia facilities reduce or eliminate waste at the source of generation. Among other things, the OPP promotes pollution prevention through the Virginia Environmental Excellence Program, which encourages businesses and organizations to adopt an environmental management system.

All sectors of government, businesses and industry – and Virginia's citizens – have a role in managing and controlling the release of toxic chemicals in the Commonwealth of Virginia.

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EXECUTIVE SUMMARY

Due to a legislative change effective July 2024, the Virginia Department of Environmental Quality (DEQ), which had previously published the Virginia Toxics Release Inventory (TRI) Report in March, will now publish the report in October of each year, pursuant to Virginia Code § 10.1-1183.1 as part of DEQ's consolidated annual report. The TRI program continues to fulfill its goal of providing chemical use, release, and waste management information to the public. The report contains information on the release or other management of listed chemicals and chemical categories as reported by Virginia industries in specified industrial sectors and by federal facilities located within the Commonwealth. Facility reports are required by Title III of the federal Superfund Amendment and Reauthorization Act (SARA Title III), also known as the Emergency Planning and Community Right-to-Know Act (EPCRA). The Virginia TRI Report is a multi-media report covering air, water, and waste management activities. It also addresses a variety of handling practices, including releases, recycling, energy recovery, and on- and off-site treatment and disposal. The 2023 TRI data represent the 36th year of data collection from facilities for distribution to the public.

This year's Virginia TRI Report covers calendar year 2023, which is the most recent year of available data. The report includes all reports and revisions received by DEQ on or before January 14, 2025.

Between 2010 and 2020 there has been an overall decrease of 63.92% in the total amount of TRI reportable chemicals released to the environment as shown in the table in Appendix E. Table 6 shows the comparison between 2022-2023, with an increase in releases of 2.37%, and 2021-2023, with a decrease in releases of 3.28%. Please note there is a large increase in on-site management being reported by one facility that was advised by the U.S. Environmental Protection Agency (EPA) to change the methodology used for reporting for on-site recycling of a single chemical and submit revisions for reporting years 2022 and 2023. As a revised report was not submitted for 2021 the data reflects an increase from the facility due to the change in reporting methodology.

For 2023, 401 Virginia facilities filed 1,169 individual reports on the release, transfer, or management of TRI chemicals or chemical categories. Compared to calendar year 2022 this was a decrease in the number of facilities reporting (430 facilities) and a decrease in the number of reports received (1,249 reports). Twelve of the facilities reported being permanently closed while the rest were below the reporting threshold. In 2023, Virginia facilities reported the release, transfer, or management of 129 of the more than 700 chemicals and chemical categories which are subject to the TRI reporting requirements.

According to the reports, Virginia facilities reported the release, transfer, or on-site management of 1.06 billion pounds of TRI chemicals during calendar year 2023. This is a 3.25% decrease from updated reported data for 2022 reflecting a total of 1.09 billion pounds of TRI chemicals reported.

Of the total of TRI chemicals reported:

- 26.18 million pounds were released on-site (a 2.37% increase from 2022);
- 55.99 million pounds were transferred off-site for treatment, recycling, energy recovery, or disposal (a 4.47% decrease from 2022); and

976.82 million pounds were managed on-site by treatment, recycling, or energy recovery (a 3.32% decrease from updated 2022 reported data for on-site recycling).

TRI reports for 2023 show an increase in releases to water. Results from the most recent TRI data show the total amount of TRI chemicals as released:

- The total amount released to air for 2023 decreased by 2.61 million pounds (18.61%) compared to 2022.
- The total amount released to water for 2023 increased by 3.71 million pounds (36.57%) compared to 2022.
- The total amount released to land for 2023 decreased by 492,700 pounds (34.56%) compared to 2022.

The report addresses separately those TRI chemicals the EPA has designated as Persistent Bio-accumulative Toxins (PBTs). These chemicals remain in the environment for long periods, are not readily destroyed, and build up or accumulate in body tissue. Risk to human health depends on the toxicity of the chemical; how it disperses, reacts, or persists in the environment; and the quantity, concentration, and type of human exposure. Chemical releases are managed by a variety of environmental permits.

According to the 2023 PBT reports:

- 246,023 pounds of PBT TRI chemicals were released on-site at reporting Virginia facilities (a 3.91% increase from 2022);
- 681,421 pounds of PBT TRI chemicals were transferred off-site for treatment, recycling, energy recovery, or disposal (a 6.88% increase from 2022); and
- 47,658 pounds of PBT TRI chemicals were managed on-site by treatment, recycling, or energy recovery (a 40.54% decrease from 2022).

Dioxins and dioxin-like compounds account for 0.0000031% of the PBT chemicals released, transferred, or managed by Virginia facilities during calendar year 2023. For 2023 there were 13.58 grams (approximately 0.03 pounds) of dioxin and dioxin-like compounds released, transferred or managed by Virginia facilities.

As required by statute, the report also provides information by industrial sector (identified by the North American Industry Classification System), facility, and facility location (jurisdiction). For 2023, three reporting industrial sectors accounted for 78.77% of the total on-site releases to the environment. The top three reporting industrial sectors were: Chemical Manufacturing, Paper Manufacturing, and Food Manufacturing. The text of the report provides additional information about the industrial sectors, facilities, and jurisdictions with the largest reported on-site release, on-site management, and other management of TRI chemicals.

The report provides the public with information concerning specified toxic chemicals and chemical compounds that are manufactured, processed, or otherwise used at Virginia facilities. Responsible use

of the information can help the public and industry identify potential concerns and develop effective strategies for reducing toxic chemical usage and release. The TRI data does not, however, represent a measure of public exposure to chemicals, nor does it assess risk.

The overwhelming majority of the releases are regulated and permitted under other state and federal programs that are designed to protect human health and the environment. These programs include federal programs such as the Clean Air Act (CAA), Clean Water Act (CWA), and the Resource Conservation and Recovery Act (RCRA) and accompanying state laws such as the State Water Control Law, Air Pollution Control Board Law, and Virginia Waste Management Act. These programs include overall restrictions and standards established through permits or other applicable requirements. Information on the permit programs can be found at the following web address: https://www.deq.virginia.gov/news-info/shortcuts/permits.

Because of differences in report generation schedules and receipt of reports, the information in the Virginia TRI Report will not precisely match the information in the national Toxics Release Inventory - Public Data Release, located at https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools, as published by EPA.

INTRODUCTION

Part One - Virginia TRI Reporting

Statutory and Regulatory Basis

The Virginia TRI Report is published annually pursuant to Virginia Code § 10.1-1186.1. The TRI Report contains information on the release, transfer, or management of listed chemicals and chemical categories, as reported by more than 400 Virginia industries and federal facilities. The facilities are required to submit their reports pursuant to the federal Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III.[1] Virginia Code § 10.1-1186.1 directs DEQ to publish the Virginia TRI Report and to include information for the most recent calendar year for which data are available, in this case, the calendar year 2023. The Virginia Code also directs the report to be organized by chemical, facility, facility location, and standard industrial classification (SIC) code. Federal regulations require facilities to submit their TRI reports to the EPA and to the Commonwealth. The Virginia TRI Report is compiled directly from the reports received from Virginia facilities. Due to a legislative change effective July 1, 2024, Virginia Code § 10.1-1183.1 directs DEQ to publish the Virginia TRI Report in October of each year as part of DEQ's consolidated annual report.

A glossary of terms used in the Virginia TRI Report is included as Appendix A.

Current Year (2023) Virginia Facility Reports

Facilities are required to submit their reports for a calendar year by the following July 1st. For example, facilities were required to file their reports on their calendar year 2023 activities on or before July 1, 2024. Therefore, data for calendar year 2023 was the most recent available for drafting the October 2025 report. This TRI Report includes all facility reports and revisions received by DEQ on or before January 14, 2025.

For reporting year 2023, 401 Virginia facilities filed 1,169 individual reports on the release or other management of TRI chemicals or chemical categories, compared to 430 facilities and 1,249 reports that were filed for reporting year 2022. Data for all reporting years are available to the public from DEQ.

A digital copy of the current reporting year 2023 TRI report and appendices, as well as reporting years 2020-2022 TRI reports, are available at: https://www.deq.virginia.gov/land-waste/superfund-amendments-and-reauthorization-act-sara/toxics-release-inventory .

In 2023, Virginia facilities reported the release, transfer, or management of 129 of the more than 700 chemicals and chemical categories, which are subject to TRI reporting requirements.

Changes to the 2023 Virginia TRI Report

Continuing the policy changes which began with the 2002 report, in November 2023 EPA finalized a rule to update the list of North American Industry Classification System (NAICS) codes subject to reporting under the TRI to reflect the Office of Management and Budget (OMB) 2023 NAICS code revision. EPA has implemented the 2023 NAICS codes for TRI Reporting Year 2023.

[1] 42 U.S.C. § 11023, or SARA § 313

Assessing risk is beyond the scope of the report and is subject to site-specific interpretations and calculations. Readers are encouraged to use the resources listed in the report, appendices, and other data to analyze the overall use, release, and management of TRI chemicals.

Virginia is one of 37 states participating in the State Data Exchange program for online data collection of TRI reports. States which join the TRI State Data Exchange can save resources by sending all of their data electronically via the Central Data Exchange (CDX).

Part Two - National Toxics Release Inventory Reporting Program

The National Toxics Release Inventory

The National Toxics Release Inventory was established to provide information to the public about the presence and release of toxic and hazardous chemicals in their communities. The Virginia TRI Report is compiled directly from reports Virginia facilities submit under federal law and regulations.[2] Using those same authorities, EPA compiles and maintains nationwide information in the *Toxics Release Inventory – National Analysis*, which is available to the public on EPA's website at https://www.epa.gov/trinationalanalysis. From inception, the national TRI program and Virginia's program have been expanding and evolving to meet the needs of an informed public. A list of supplementary resources on the program can be found in Appendix B and more detailed information about the historical changes to the TRI program can be found in Chapter Four.

Facilities Which Must Report

Under the national TRI program, a facility must submit a TRI report (or reports) to EPA and the state for the reporting year if:

1) **The facility has 10 or more full-time employees** (a combined total for all employees of 20,000 hours or more for the year);

2) **The facility's primary business is within one of the covered North American Industrial Classification System (NAICS) codes.** The covered industry sectors include metal mining, coal mining, paper and allied products, chemicals and allied products, petroleum terminals and bulk stations and others. The complete list of covered industry groups is provided in Appendix H; and

3) **The facility manufactured, processed, or otherwise used a reportable toxic chemical in quantities greater than the established threshold during the course of a calendar year.** The annual reporting thresholds for non-PBT TRI chemicals are 25,000 pounds for manufacturing, 25,000 pounds for processing, and 10,000 pounds for "otherwise use." For PBT chemicals, the thresholds for reporting are lower and vary by chemical. For example, dioxin and dioxin-like compounds have a threshold of 0.1 grams, while lead and lead compounds have a reporting threshold of 100 pounds. For PBT chemicals, these lower reporting thresholds apply whether the chemical is manufactured, processed, or otherwise used.

[2] The national TRI was established under Title III, Section 313, of the Federal Superfund Amendments and Reauthorization Act (SARA), which is also known as the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), 42 U.S.C § 11023. The related federal regulations are found at 40 CFR Part 372.

A TRI reporting threshold screening tool is available on EPA's website at the following address: https://www.epa.gov/toxics-release-inventory-tri-program/tri-threshold-screening-tool.

Federal facilities also are required to comply with EPCRA and the Pollution Prevention Act (PPA) of 1990, in accordance with Executive Order 13148. The Executive Order requires all federal facilities which manufacture, process, or otherwise use any listed EPCRA Section 313 chemical above the reporting threshold to submit a TRI report. The first federal facility reports were submitted on or before July 1, 1995, for calendar year 1994.

Chemicals and Chemical Categories

For a chemical or chemical category to remain on or be added to the TRI list, the chemical must be known to cause or to reasonably be anticipated to cause one of the following:

- Adverse acute health effects at significant concentration levels beyond facility boundaries as a result of continuous or frequently occurring releases;
- Cancer in humans; or
- A significant adverse effect on the environment because of the chemical's toxicity and persistence in the environment.

As new chemicals of concern are identified, they are added to the TRI list. Conversely, if TRI chemicals are found not to meet the toxicity requirements, they can be deleted. Currently, the reportable TRI chemical list contains more than 700 chemicals and chemical categories. A complete list of TRI chemicals and chemical categories for calendar year 2023 reports is available to the public on EPA's website at https://www.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals.

For 2023, Virginia facilities reported the release, transfer, or management of 129 of the more than 700 chemicals and chemical categories which are subject to the TRI reporting requirements.

Reporting Forms and Activities Which Must Be Reported

Each year, reporting facilities submit one reporting form for each TRI chemical or chemical category which is manufactured, processed, or otherwise used in amounts equal to or greater than the threshold values. For each TRI chemical or chemical category, facilities must submit either a Form A (simplified form) or a Form R (long form). Examples of both forms for reporting year 2023 are provided in Appendix D. Form A has restrictions governing its use.

- The TRI Electronic Reporting Rule, effective January 21, 2015, now requires facilities to use EPA's Automated TRI Reporting Software TRI-Made Easy (TRI-ME) to submit the information electronically online via CDX.
- Reports containing trade secrets or revisions to reports previously containing trade secrets must still be submitted to EPA and Virginia via hard copy.
- The 2009 Omnibus Appropriation Act has returned TRI reporting requirements to the rules in effect prior to the TRI Burden Reduction Rule, announced in December 2006. The change requires that reports on PBT chemicals be submitted on the Form R.

- For all other chemicals, the shorter form, Form A, may be used only if the "annual reporting amount" is 500 pounds or less and the chemical was manufactured, processed, or otherwise used in an amount not exceeding 1 million pounds during the reporting year.

Data used to prepare quantitative information in the Virginia TRI Report come principally from Part II of the Form R reports, and specifically from Sections 5, 6, 7 and 8 of Part II, Form R. These sections are referred to throughout the Virginia TRI Report and are described below:

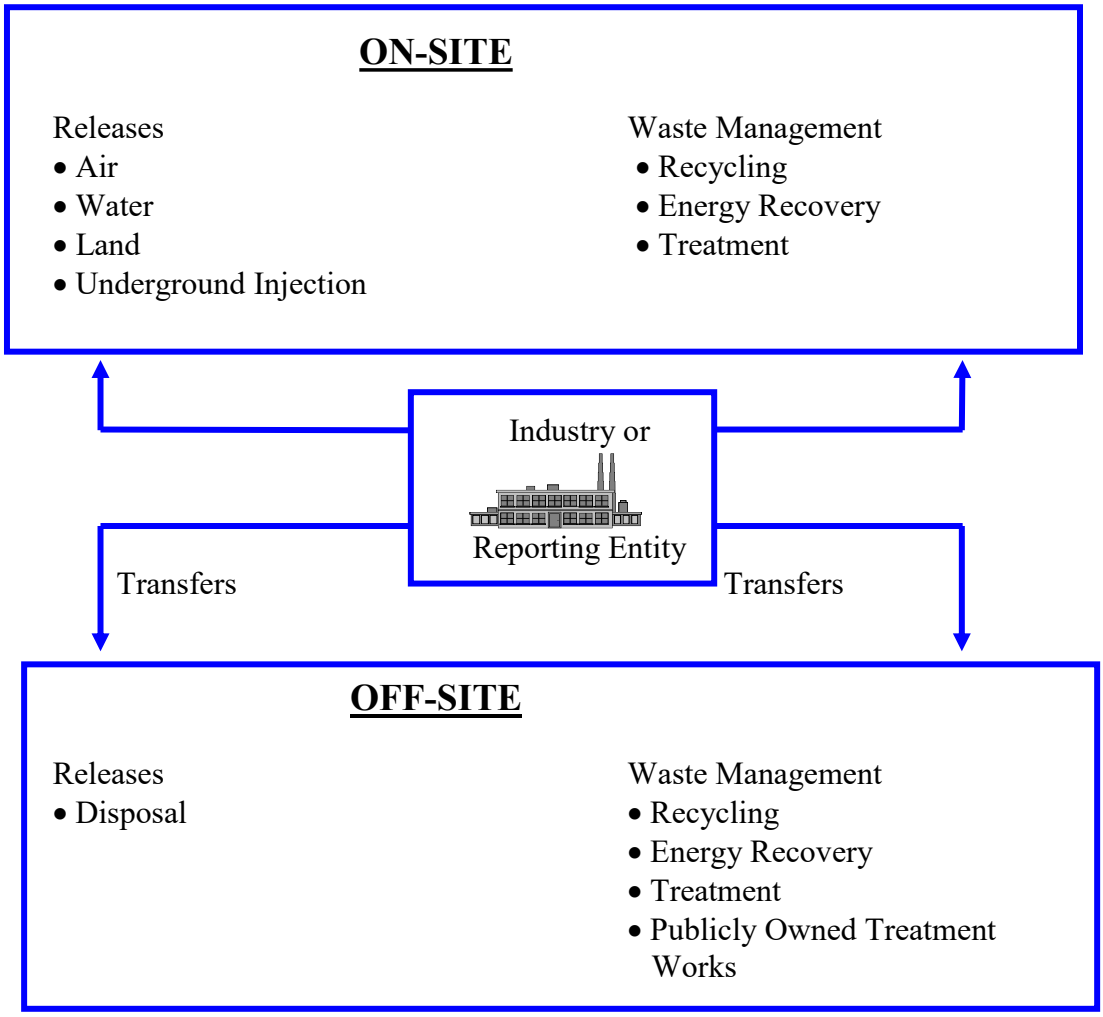
- **Section 5: Quantity of toxic chemical entering each environmental medium on-site.** Release reporting for on-site releases is broken down into categories: releases to the air (from stack and fugitive emissions), releases to water (on-site via Virginia Pollutant Discharge Elimination System (VPDES) permitted outfalls and to publicly owned treatment works (POTWs)), and releases to land (underground injection, disposal to land, Resource Conservation and Recovery Act (RCRA) Subtitle C landfill, other landfills, land treatment/application farming, surface impoundment, or other disposal).

- **Section 6**: **Transfers of the toxic chemical in wastes to off-site locations.** Section 6 contains two main subsections: transfers to POTWs and transfers to all other off-site locations (in-state or out-of-state). Facilities are required to provide the name and location of off-site locations, the quantity transferred, and the method of management (treated, disposed, recycled, or burned for energy recovery).

- **Section 7**: **On-site waste treatment methods and efficiency (including energy recovery processes and recycling processes).** Facilities are asked to provide mostly qualitative information about the on-site treatment processes, the estimated range of influent concentration, and the efficiency of the operation.

- **Section 8**: **Source reduction and waste management.** Section 8 was added to the Form R reporting as a result of the federal Pollution Prevention Act of 1990 to track production-related activities. Section 8 extracts and re-aggregates data reported in Sections 5 through 7 into environmental releases (production-related on-site and off-site releases), off-site transfers/management, and on-site management. Where Section 7 contains qualitative information about on-site management practices, a subsection of Section 8 asks for related quantitative data. Section 8 and its subsections also request previous year reporting and future year estimates for production-related releases, transfers for off-site management, and on-site management. Other subsections of Section 8 ask for episodic/catastrophic releases (non-production related), qualitative information about source reduction activities, and a production ratio or activity index to better gauge the facility's efforts in source reduction. The flow chart (Figure 1) on the following page illustrates the information collected on Form R for TRI chemicals.

Figure 1 - Schematic Diagram of the TRI Data Collected



Part Three - Uses and Limitations of TRI Data

The Virginia TRI Report provides the public, especially local emergency planning committees, with information concerning designated toxic chemicals and chemical categories manufactured, processed, or otherwise used at facilities, including the amounts released to the environment and managed as wastes.

Industry can use the data to: obtain an overview of use and release of toxic chemicals, identify and reduce costs associated with toxic waste, identify promising areas for pollution prevention, establish reduction targets, and measure and document progress toward reduction goals.

The public availability of the data has assisted many facilities in working with their communities to develop effective strategies for reducing environmental and human health risks that may result from toxic chemical releases.

Nevertheless, there are limitations on the use of TRI data:

1. The TRI Report contains reported information on the quantities of chemicals released and managed, not the public's exposure to, or risk from, the chemicals. Due to the limited nature of TRI data collected, readers are strongly discouraged from making any health or environmental risk/exposure assessments from the information presented. Risk to human health by a chemical release depends on the toxicity of the chemical; how it disperses, reacts, or persists in the environment; and the quantity, concentration, and type of human exposure. Furthermore, chemicals reported for the TRI Report are not weighted by their toxicity. For example, a pound of one substance may be more toxic or hazardous than 1,000 pounds of another. Most of the releases are permitted under other federal and state regulatory programs such as the CAA, CWA and RCRA. Data from these regulatory programs may provide additional information to better inform residents about their environment.

2. The TRI program captures only a portion of all toxic chemical releases in Virginia. The TRI reporting program does not account for TRI chemicals from most non-manufacturing facilities, facilities with fewer than 10 employees, facilities that do not meet the chemical quantity thresholds, other non-industrial sources, or transportation-related emissions.

3. The majority of facilities report TRI data based on estimates. The TRI program does not require facilities to monitor releases, only to use best available data in the facilities' estimates. Using different methods to estimate data can result in significant variability from one facility to another, as well as from one year to the next.

4. Patterns of releases and other waste management activities can change significantly from one year to the next. Thus, the data in this report for a specific facility may differ from those reported for a prior year. Although many facilities utilize Environmental Management Systems to improve efficiency and reduce waste, higher production often leads to higher releases.

5. Direct comparison between figures in the current year's report and figures in past Virginia TRI Reports is discouraged because of changes in reporting requirements and the authorized incorporation of revisions to previous years' data. Several historical comparisons, with appropriate standardization of data, are provided in Chapter 4 and Appendix E.

6. EPA is required by law to compile an annual *Toxics Release Inventory – National Analysis* for the nation. The data in the Virginia TRI Report is anticipated to not completely correspond to the data published by the EPA. Contributing factors include: differing dates on which data are extracted for processing, revised facility reports, and facilities which mistakenly report to the Commonwealth or EPA but not both. DEQ and EPA continue to work together to rectify such differences.

The data for calendar year 2023 show a decrease (3.25%) in the amount of TRI chemicals released on-site, transferred off-site and managed on-site from 2022 (see Chapter 4 for the 2021-2023 comparison table). There has been a downward trend in the amount of TRI chemicals released to the environment in Virginia since the implementation of the TRI Program in 1988 with an overall decrease in the total amount of TRI reportable chemicals released of over 63.92% between 2010 and 2020 as shown in the table in Appendix E. A decrease in the amount of TRI chemicals being treated on-site and TRI chemicals being sent off-site for other treatment accounted for the overall decrease in the total amount of TRI chemicals reported in 2023.

CHAPTER ONE - 2023 VIRGINIA TRI DATA REVIEW

Chapter One describes the 2023 reporting year data, based on the type of activity and the chemicals and chemical categories reported. The chapter is divided into four parts. Part One presents an overview and summary of 2023 data collected. Part Two discusses on-site releases of TRI chemicals to the environment, whether to air, water, or land. These data are derived from Section 5 of the Form R reports. Part Three discusses the off-site transfers of TRI chemicals, whether to POTWs or to other off-site locations. These data are derived from Section 6 of the Form R reports. Part Four discusses on-site and off-site management activities. These data are derived from Section 8 of the Form R reports. While Chapter One includes all TRI chemicals, Chapter Two addresses PBT chemicals in more detail.

As described in the Introduction, Section 8 of the federal Form R asks facilities to extract and re-aggregate certain data from Sections 5 and 6. To avoid double-counting these chemicals in the Overview and Summary, only data which are independent of Sections 5 and 6 are presented when discussing "On-Site Management" in Part One of this chapter. When discussing Section 8 data as a whole, however, all these data are used in Part Four of this chapter; including data extracted and re-aggregated from Sections 5 and 6, so the balance between various on-site and off-site management activities can be shown. Appendices F and G contain facility-specific information, arranged by jurisdiction, for TRI chemicals (excluding PBTs) and for PBT chemicals, respectively.

Part One - 2023 Overview and Summary

For calendar year 2023, Virginia facilities reported they released, transferred, or managed approximately 1.06 billion pounds of TRI chemicals (see Table 1).

Approximately 26.18 million pounds of TRI chemicals were reported to have been released on-site to the environment. Air releases represented 11.40 million pounds, or 43.56% of all the TRI chemicals released on-site in 2023. Releases to the water totaled approximately 13.84 million pounds, or 52.87% of the total released on-site. Releases to the land totaled approximately 932,745pounds, or 3.56% of the total released on-site. For 2023, the amount of TRI chemical releases to the environment represented approximately 2.47% of the total TRI chemicals reported.

The majority of the reported releases occurred under a federal or state permit program designed to protect human health and the environment.

Off-site transfers totaled approximately 55.99 million pounds of TRI chemicals. Off-site transfers to POTWs totaled approximately 13.87 million pounds. Off-site transfers to other (non-POTW) facilities (for treatment, recycling, energy recovery, and disposal) totaled approximately 42.12 million pounds. For 2023, the amount of TRI chemicals transferred off-site represented approximately 5.29% of the total for TRI chemicals by this measure.

For 2023 facilities reported that approximately 976.82 million pounds were managed on-site by treatment, recycling, or energy recovery which represents approximately 92.24% of the total TRI chemicals.

Table 1. Summary of Data by Type of Release, Transfer, and On-Site Management for TRI Chemicals (in pounds per year)

On-Site Releases By Media (Section 5 of Form R)		
Total Air		11,404,654.58
Fugitive Air	2,262,628.31	
Stack Air	9,142,026.27	
Total Water		13,841,484.40
Total Land		932,745.00
Landfills	516,553.20	
Land Treatment / Application	10,622.90	
Surface Impoundment	245.08	
Other Disposal	405,323.82	
Total On-Site Releases to Media		**26,178,883.99**
Off-Site Transfers By Type (Section 6 of Form R)		
Publicly Owned Treatment Works (POTWs) (includes metals and metal compounds)		13,871,579.08
Total Other Off-Site Transfers		42,117,088.16
Off-Site Transfers for Recycling	23,182,482.31	
Off-Site Transfers for Energy Recovery	3,318,905.75	
Off-Site Transfers for Other Treatment	13,313,929.35	
Off-Site Transfers for Disposal	2,301,770.75	
Total Off-Site Transfers		**55,988,667.24**
On-Site Management (From Section 8 of Form R) *		
Treated On-Site	79,538,556.06	
Recycled On-Site	894,616,602.55	
Energy Recovery On-Site	2,667,730.00	
Total On-Site Management		**976,822,888.61**
Total TRI Chemicals Released On-site to Media, Transferred Off-site, or Managed On-site by Reporting Facilities	**1,058,990,439.83**	

* The data for the on-site management of TRI chemicals are a summary of data collected from Part II, Sections 8.2, 8.4 and 8.6 of the Form R. These sections, in turn, are quantitative data not reported anywhere else in the Form R and reflect the descriptive data reported in Part II, Section 7 (on-site management practices - treatment, energy recovery, and recycling) of the Form R. Data extracted and re-aggregated to Section 8 from Sections 5 and 6 of Form R have not been included here to avoid duplicate counting.

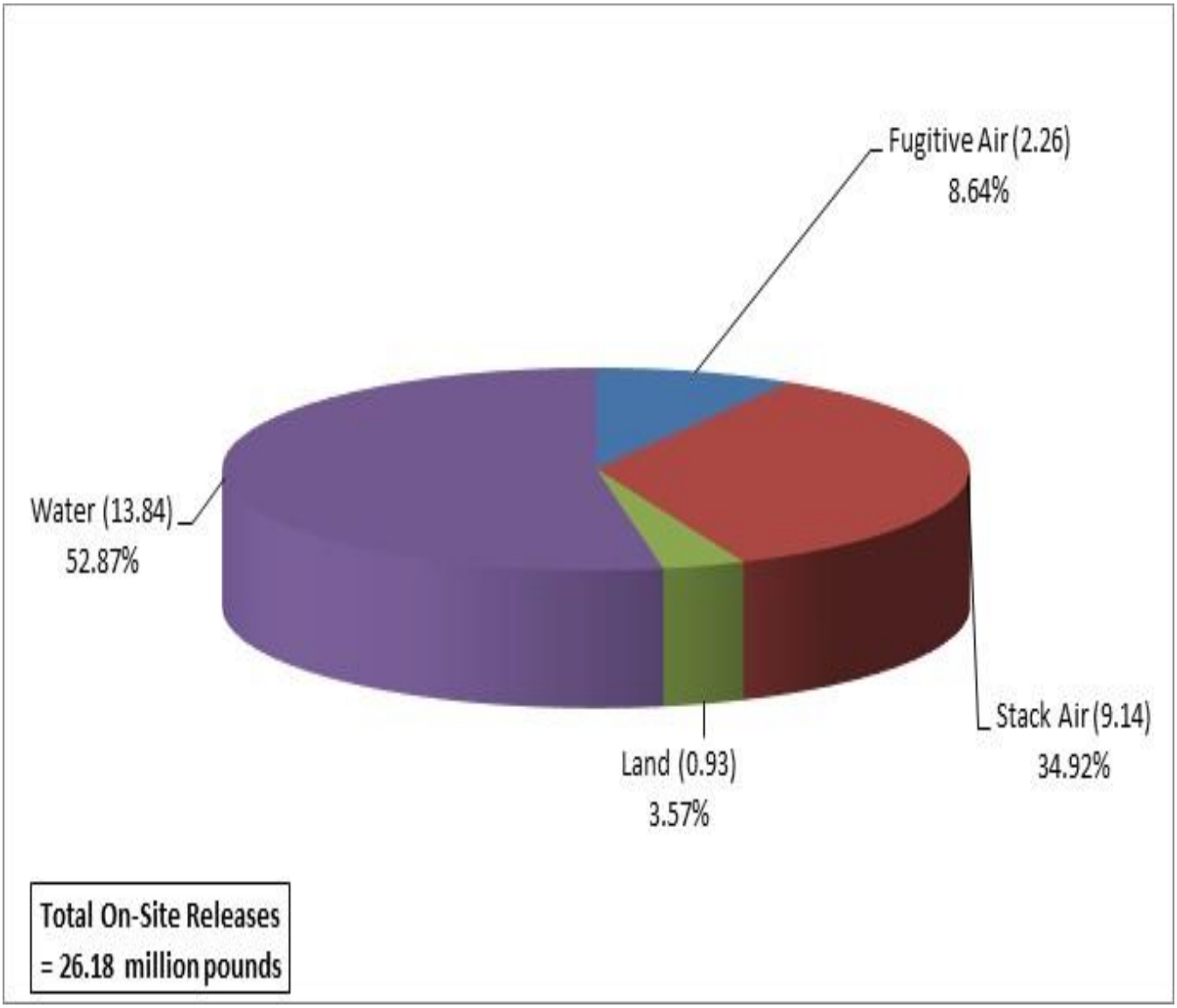
Part Two - On-Site Releases to the Environment

Part Two of Chapter One discusses on-site releases to the environment by facilities, as reported in Section 5 of the TRI Form R. The quantities reported include production-related releases, any catastrophic releases or one-time events not associated with routine production processes.

A release refers to an on-site discharge of TRI chemicals to the air, water, land, and/or disposal in underground injection wells. Any reductions in waste managed by on-site treatment methods are considered when facilities determine their release data.

Approximately 26.18 million pounds of TRI chemicals were reported as released into the environment by reporting facilities for reporting year 2023.

Figure 2. On-Site Releases of TRI Chemicals to All Media for Reporting Year 2023 (From Section 5 of Form R. The number inside the parentheses is the quantity of releases in each category in millions of pounds and the % figure is the % of total on-site releases. There were no underground injection releases reported in 2023.)

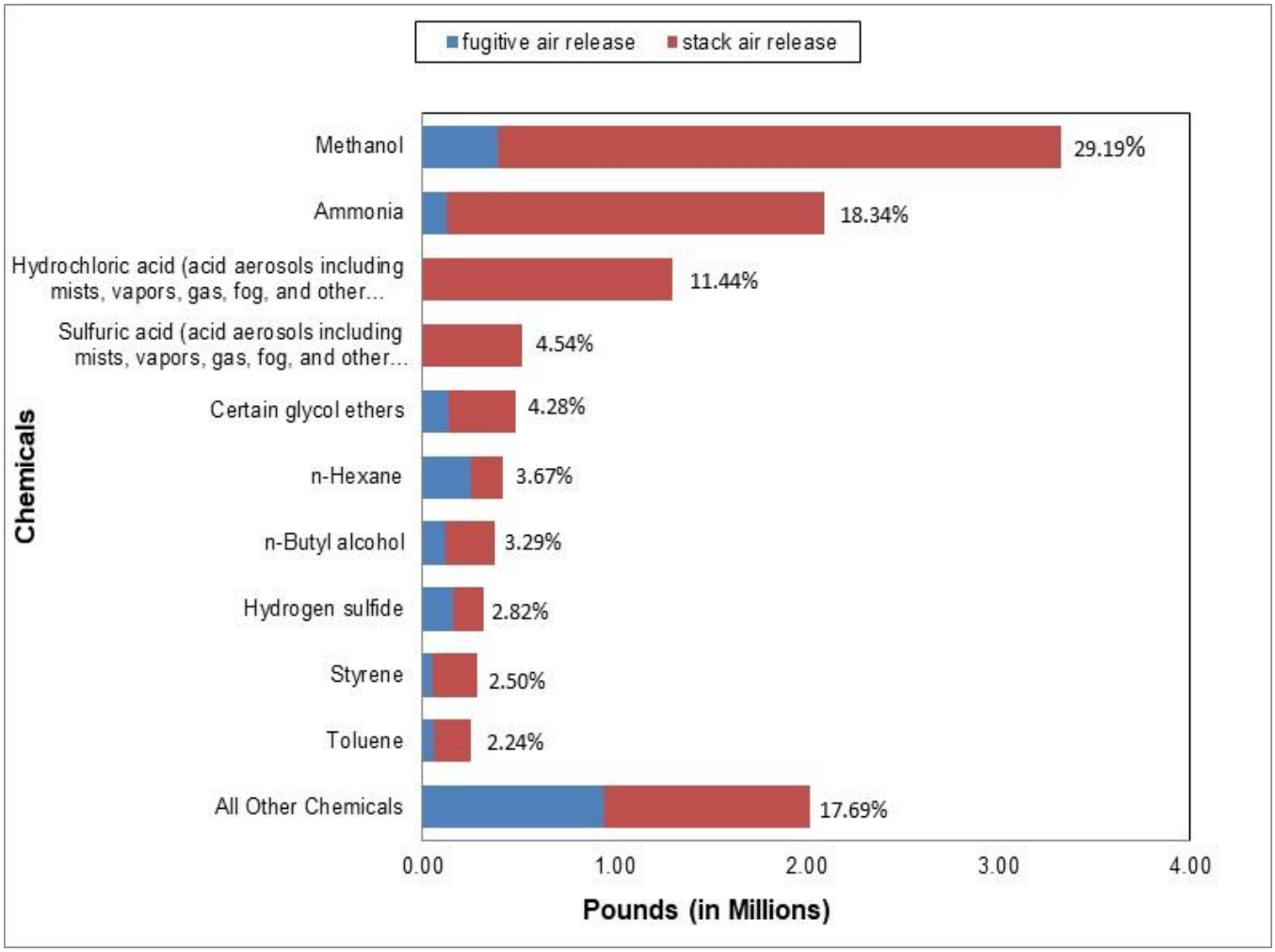


On-Site Releases to the Air

On-site air releases are classified as either "fugitive" (non-point source) or "stack" (point source) air emissions. Examples of fugitive air emissions are equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, and evaporative losses from surface impoundments and spills. Stack air emissions are releases which are conveyed through stacks, ducts, pipes, vents, or other confined air streams. Most facilities reporting stack emissions to TRI are required to have permits for the control of those emissions.

Based on the amount of fugitive and stack emissions reported, the total amount of releases to the air of all TRI chemicals was approximately 11.40 million pounds, which accounted for 43.56% of the total on-site releases to all media (air, water, and land). Ten TRI chemicals released to the air made up approximately 82.31% of the total reported TRI air emissions in 2023 (See Figure 3). Those 10 chemicals were: methanol, ammonia, hydrochloric acid, sulfuric acid, certain glycol ethers, n-hexane, n-butyl alcohol, hydrogen sulfide, styrene, and toluene. Most reported acid aerosols such as hydrochloric acid and sulfuric acid were reported as generated during the combustion of coal or oil. Electric power generating facilities contributed to the emissions of acid aerosols. Ammonia, methanol, and toluene continued to be the air pollutants reported primarily from the manufacturing sector.

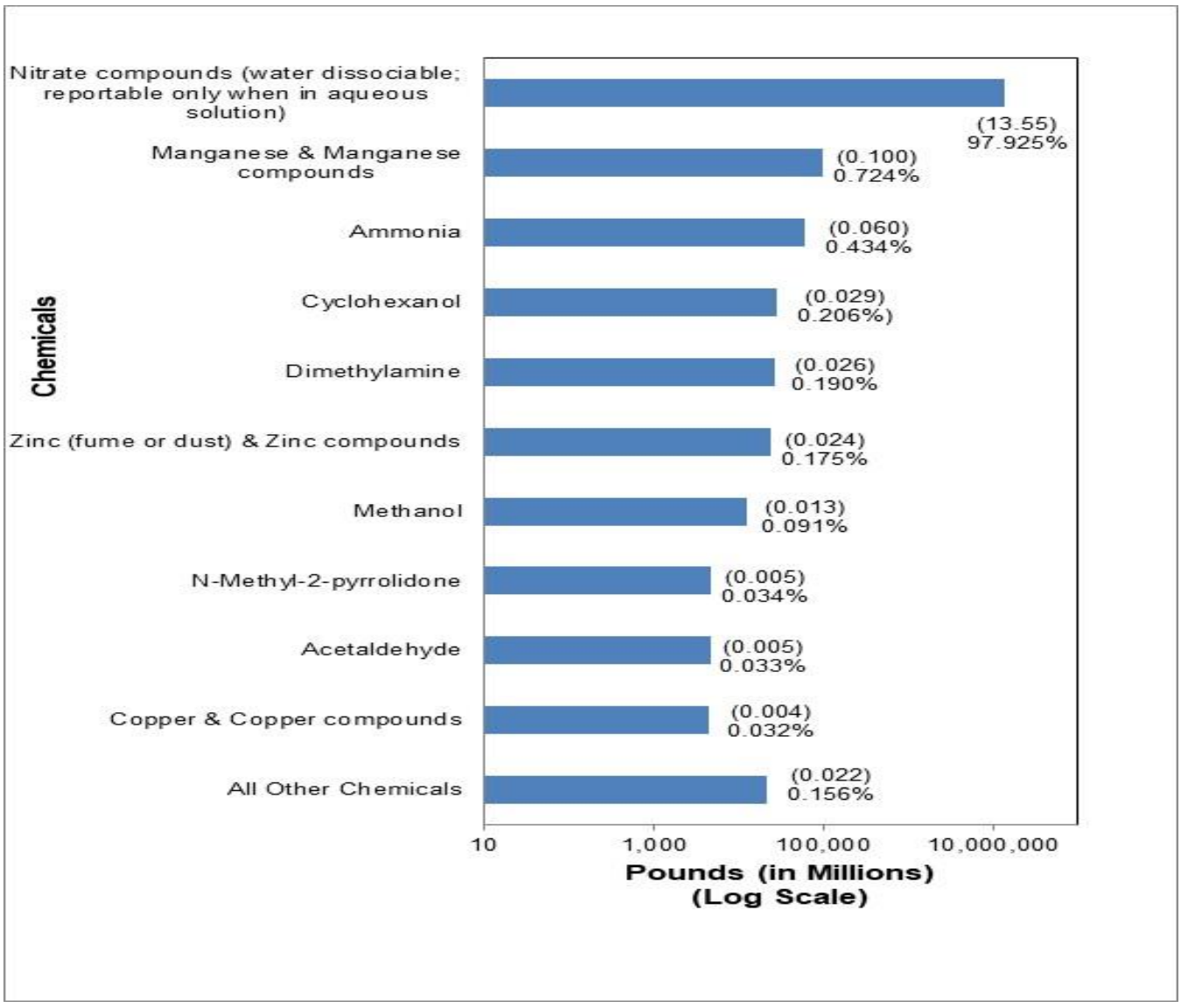
Figure 3. Top 10 TRI Chemicals Released to the Air On-Site in 2023 (From Section 5 of Form R. The number next to each bar is the % of total air releases for all 2023 chemicals reported.)



On-Site Releases to Water

On-site releases to water include discharges to surface waters, such as rivers, lakes, ponds, and streams. These discharges are often from VPDES permitted outfalls. Reported on-site releases of TRI chemicals to water in 2023 totaled approximately 13.84 million pounds and accounted for 52.87% of all on-site releases to the air, water, and land in 2023. Ten chemicals and chemical categories accounted for more than 99.84% of the on-site TRI chemical releases to the water. Those 10 TRI chemicals were: nitrate compounds (97.925% of total releases to water), manganese and manganese compounds, ammonia, cyclohexanol, dimethylamine, zinc and zinc compounds, methanol, n-methyl-2-pyrrolidone, acetaldehyde, and copper and copper compounds. Nitrate compounds are a common byproduct of industrial wastewater treatment processes and have consistently been reported as the chemical released in the highest quantity to surface water.

Figure 4. Top 10 TRI Chemicals Released to Water On-Site in 2023 (From Section 5 of Form R. The information presented here is in logarithmic, base 10 scale, which compresses the bar chart to show up to 450-fold magnitudes of the difference between nitrate compounds and other chemicals. The number by the bars represents the quantity in millions of pounds followed by % of total reported releases to water.)

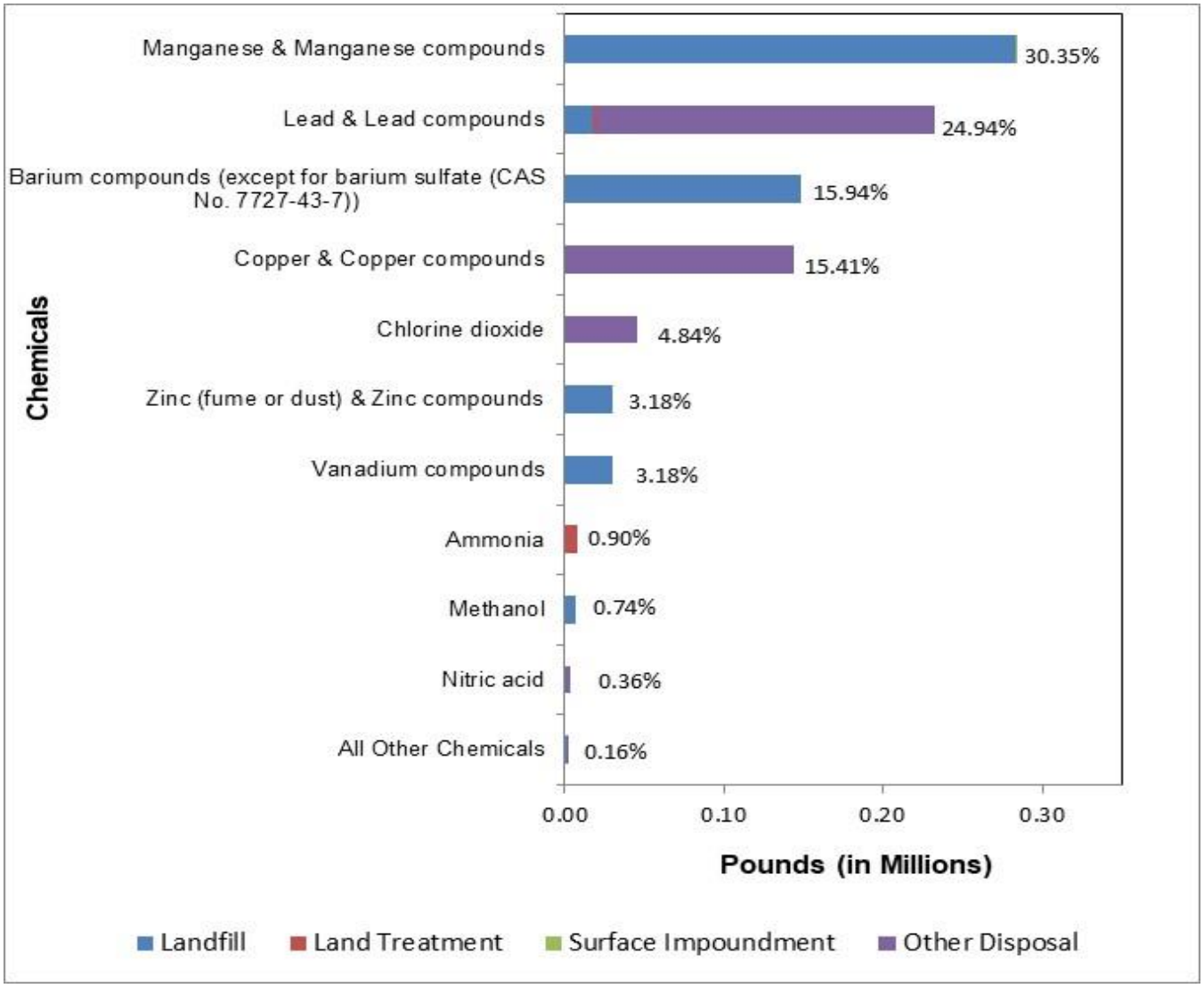


On-Site Releases to the Land

On-site releases to the land refer to land filling, surface impoundment, land treatment/application for farming, or any other release of a TRI chemical to land within the boundaries of a facility. Virginia does not permit underground injection as a method of hazardous waste disposal (nor was any reported) and no underground injection or RCRA Subtitle C permitted land disposal of TRI chemicals was reported.

The total amount of TRI chemicals released to the land in Virginia during 2023 was approximately 932,745 pounds, which accounted for 3.57% of all reported on-site TRI releases (releases to the air, water, and land). Ten chemicals constituted approximately 99.84% of all of the TRI chemicals released to the land. Those ten chemicals were: manganese and manganese compounds, lead and lead compounds, barium compounds, copper and copper compounds, chlorine dioxide, zinc and zinc compounds, vanadium compounds, ammonia, methanol, and nitric acid (Figure 5). Metals and metal compounds such as barium are found naturally in coal combusted for energy generation and in the ashes remaining after combustion of the coal.

Figure 5. Top 10 TRI Chemicals Released On-Site to the Land in 2023 (From Section 5 of Form R. The number next to each bar is the % of total on-site land releases for all 2023 reported.)



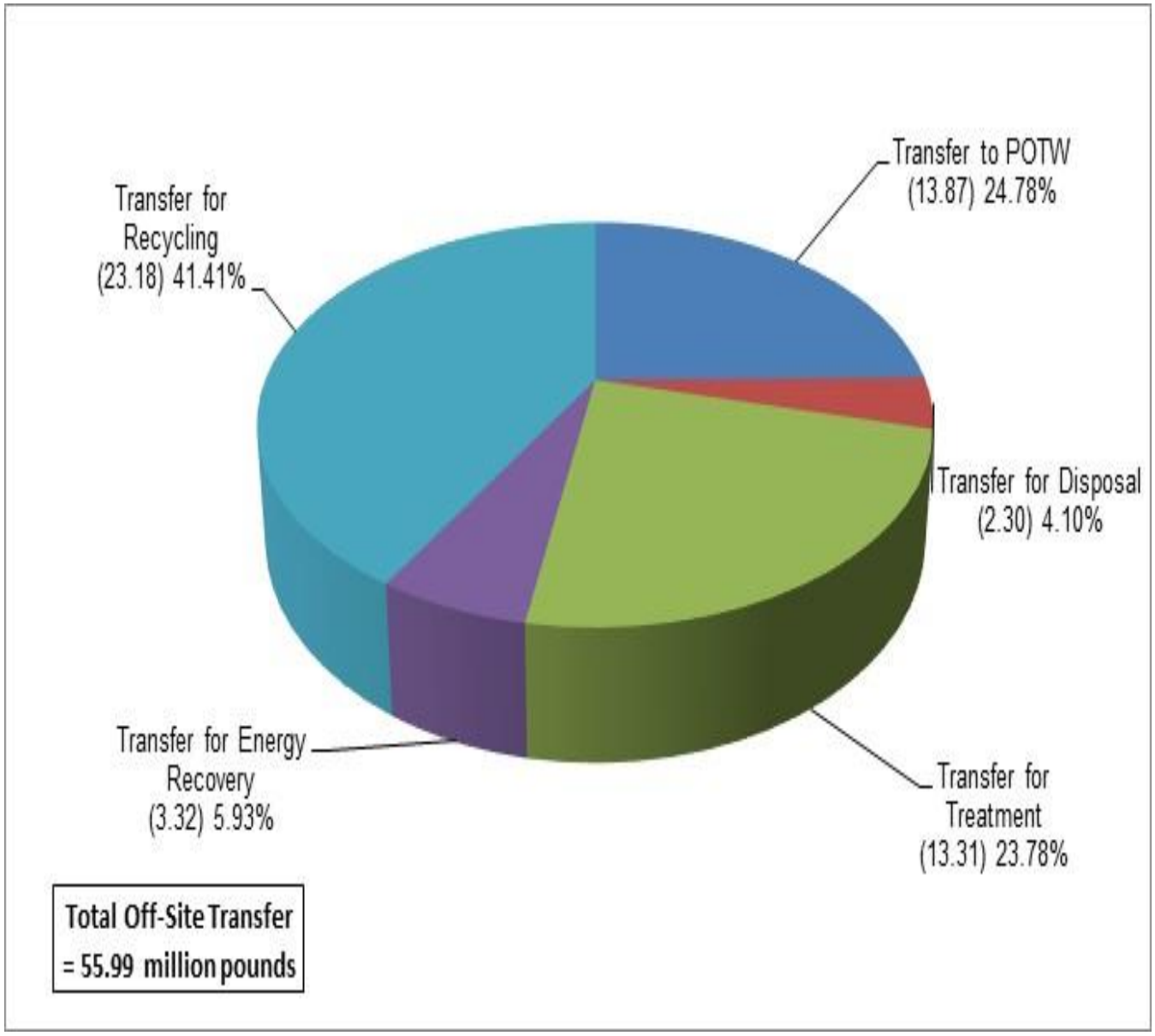
Part Three - Off-Site Transfers

Transfers refer to TRI chemicals sent off-site. Transfers are reported as transfers to POTWs or other off-site destinations which are not part of the reporting facility, such as incinerators, landfills, or other facilities for treatment, recycling, energy recovery, or disposal.

In this section, data were collected from Section 6 of Form R.

For 2023, approximately 55.99 million pounds of TRI chemicals were reported as sent off-site for further management or disposal.

Figure 6. All Off-Site Transfers of TRI Chemicals for Reporting Year 2023 (From Section 6 of Form R. The number inside the parentheses is the quantity of transfers in each category in millions of pounds and the % figure is the % of total transfers.)



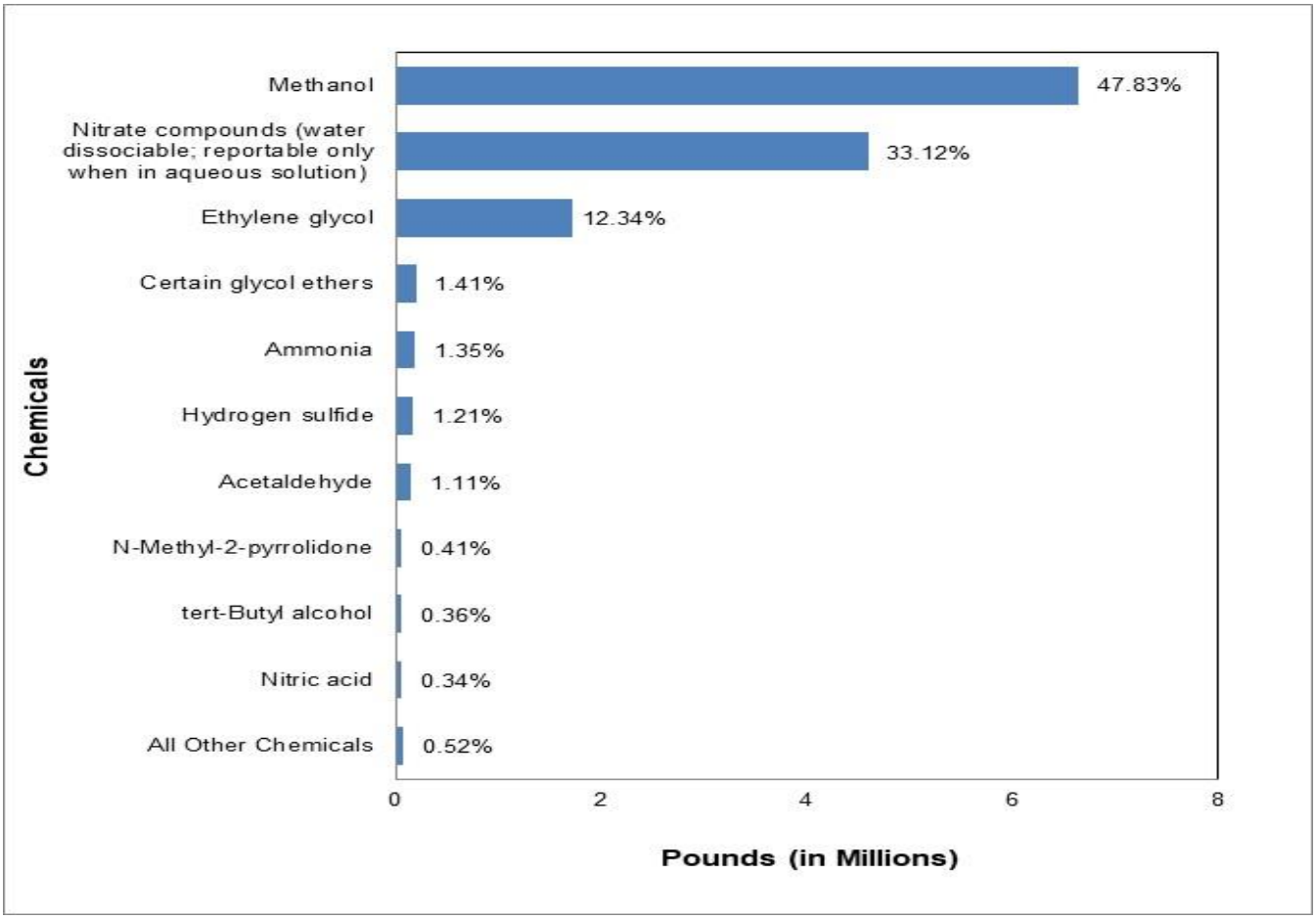
Transfers to Publicly Owned Treatment Works

A POTW is a wastewater treatment facility which is owned by a state or local government. Wastewater from facilities reporting under TRI is transferred through pipes or sewers to the POTW. The TRI information summarized below reports transfers of a chemical to a POTW; however, a transfer to a POTW is not necessarily the same as the release of a chemical to the environment. TRI chemicals may be treated, destroyed, and/or removed from the environment in a POTW's physical, chemical, and biological treatment processes. Some TRI chemicals are almost completely destroyed by a POTW. However, not all chemicals can be treated or removed by a POTW. Some chemicals such as metals and metal compounds may be removed but not destroyed. These metals may ultimately be disposed of in a permitted landfill, disposed of in a permitted land application process, or released through a permitted discharge to receiving waters.

Ten TRI chemicals accounted for approximately 99.48%, or 13.80 million pounds of the approximately 13.87 million pounds of TRI chemicals transferred to POTWs in reporting year 2023.

Methanol was the leading pollutant discharged to POTWs for treatment for this reporting period. The other nine top-reported chemicals transferred were: nitrate compounds, ethylene glycol, certain glycol ethers, ammonia, hydrogen sulfide, acetaldehyde, n-methyl-2-pyrrolidone, tert-butyl alcohol, and nitric acid.

Figure 7. Top 10 TRI Chemicals Transferred to Publicly Owned Treatment Works (POTWs) in 2023 (From Section 6.1 of the Form R. The number next to each bar is the % of total transfers to POTWs.)

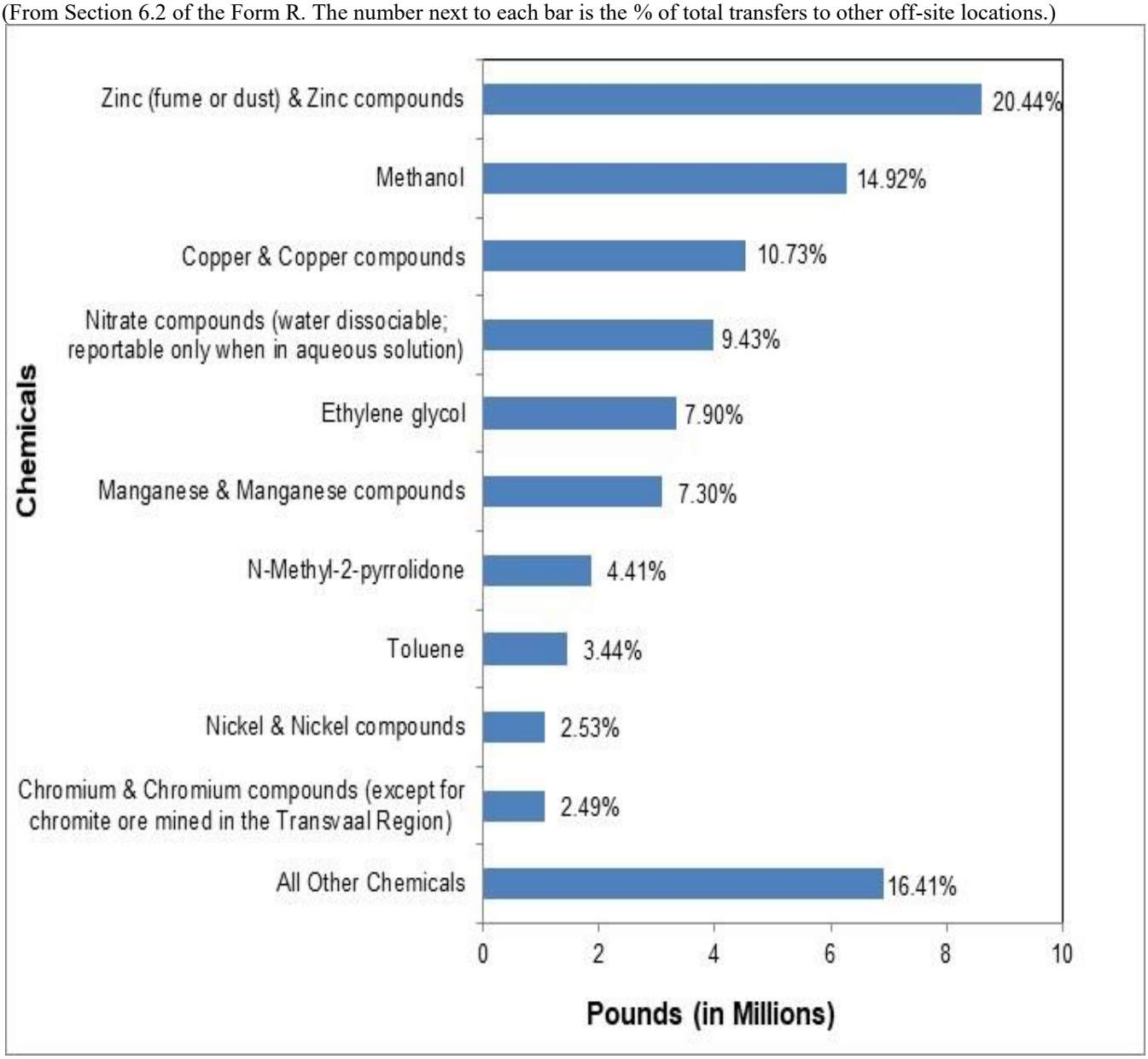


Transfers to Other Off-Site Locations

The Form R also reports transfers of TRI chemicals to facilities other than POTWs. These off-site locations include incinerators, landfills, other treatment, energy recovery, recycling, and/or disposal facilities. Off-site transfers can be to facilities located inside or outside of the Commonwealth.

In 2023, the total amount of TRI chemicals transferred to other off-site locations was approximately 42.12 million pounds. Ten TRI chemicals represented approximately 83.59% of the total TRI chemicals transferred off-site to locations other than POTWs. Those 10 chemicals and chemical categories transferred off-site to locations other than POTWs in reporting year 2023 were: zinc and zinc compounds, methanol, copper and copper compounds, nitrate compounds, ethylene glycol, manganese and manganese compounds, n-methyl-2-pyrrolidone, toluene, nickel and nickel compounds, and chromium and chromium compounds.

Figure 8. Top 10 TRI Chemicals Transferred to Off-Site Locations Other than POTWs in 2023
(From Section 6.2 of the Form R. The number next to each bar is the % of total transfers to other off-site locations.)



Part Four - On-Site and Off-Site Management

Under the Pollution Prevention Act of 1990, facilities subject to EPCRA Section 313 must report their source reduction and recycling activities. Consequently, EPA added Section 8 to the Form R (Appendix D) to track production-related activities. Section 8 contains 11 subsections and requires facilities to extract and re-aggregate data reported in Sections 5 through 7 into releases (on-site and off-site releases to the environment); off-site transfers/management; and on-site management categories. This part of Chapter One discusses all of the data included in Section 8 to track production-related activities so the relative methods of toxic chemical management can be compared.

Some of the data and information reported in Sections 5, 6 and 7 are handled differently for Section 8 reporting. The differences are the releases-to-the-environment data in Section 8 exclude catastrophic releases and one-time events not associated with the production process. Furthermore, metal and metal compounds reported as transfers for off-site management in Section 6 are aggregated with the on-site release data from Section 5 as releases to the environment. Metal and metal compounds cannot be destroyed through treatment; hence, their final disposal is considered a release to the environment. There are other differences in how quantities are reported, so the total toxics managed, as reported in Section 8, do not precisely match the total in Table 1. Also, Section 8 is the only part of the Form R which contains quantitative data on on-site waste management activities other than releases. While Section 7 contains qualitative information about on-site management practices, a subsection of Section 8 asks for quantitative data related to information reported in Section 7.

Consistent with the pollution prevention goal, Section 8 of Form R and its subsections also report additional information which addresses resource reduction efforts. In general, facilities utilize several options to manage TRI chemicals. Treatment of waste, both on-site and off-site, involves a variety of methods, including biological treatment, neutralization, incineration, and physical separation. Another option is on-site or off-site recycling. On-site or off-site recycling involves the toxic chemicals in waste being recovered or reclaimed and being returned for further processing or being made available for use in commerce. Energy recovery involves the combustion of toxic chemicals in industrial furnaces or boilers which generate energy for on-site or off-site use. The least preferable and last management option is disposal, which is considered a release to the environment.

As reported in Section 8 of the 2023 facility reports, 1.06 billion pounds of production-related TRI chemicals were released, treated, recycled, or recovered both on-site and off-site from Virginia facilities.

Approximately 92.24% of the TRI chemicals were managed on-site and 2.47% of the TRI chemicals were released into the environment on-site. About 5.29% of the TRI chemicals were transferred off-site to be managed by various means.

CHAPTER TWO - 2023 TRI DATA FOR PBT CHEMICALS

Persistent bio-accumulative toxic (PBT) chemicals are those which remain in the environment for long periods of time, are not readily destroyed, and build up or accumulate in body tissue. Because of these characteristics, beginning with reporting year 2000, EPA added several PBT chemicals to the TRI reporting list and lowered the reporting thresholds for 18 PBT chemicals and chemical categories.

For reporting year 2023, DEQ received 250 reports and revisions for PBT chemicals, out of a total of 1,169 TRI reports and revisions (21.39%).

Table 2 shows the reporting thresholds for the TRI PBTs. The table also shows that 12 of the 20 PBTs were reported as released, transferred, or managed by facilities in Virginia for reporting year 2023. Appendix G has facility-specific information for PBT chemicals.

Table 2. TRI Reporting Year 2023 Persistent Bio-accumulative Toxic Chemicals - Reporting Thresholds and Number of Reports Received

CAS Number	Chemical /Chemical Category Name	Reporting Threshold	Reports Received
309-00-2	Aldrin	100 lbs.	0
191-24-2	Benzo(g,h,i)perylene	10 lbs.	**18**
57-74-9	Chlordane	10 lbs.	**1**
N150	Dioxin and Dioxin-Like Compounds	0.1 gram	**11**
76-44-8	Heptachlor	10 lbs.	**1**
118-74-1	Hexachlorobenzene	10 lbs.	0
465-73-6	Isodrin	10 lbs.	0
7439-92-1	Lead	100 lbs.	**96**
N420	Lead Compounds	100 lbs.	**72**
7439-97-6	Mercury	10 lbs.	**5**
N458	Mercury Compounds	10 lbs.	**15**
72-43-5	Methoxychlor	100 lbs.	**1**
29082-74-4	Octochlorostyrene	10 lbs.	0
40487-42-1	Pendimethalin	100 lbs.	0
608-93-5	Pentachlorobenzene	10 lbs.	0
1336-36-3	Polychlorinated biphenyls (PCBs)	10 lbs.	**1**
N590	Polycyclic aromatic compounds (PACs)	100 lbs.	**27**
79-94-7	Tetrabromobisphenol A (TBBPA)	100 lbs.	0
8001-35-2	Toxaphene	10 lbs.	0
1582-09-8	Trifluralin	100 lbs.	**2**

Table 3 provides an overview and summary of 2023 PBT data. The data are organized as in Table 1, Chapter 1. In order to avoid duplicate counting, data extracted and re-aggregated in Section 8 from Sections 5 and 6 of Form R have not been included as "On-Site Management" in Table 3.

Table 3. Summary of Data by Type of Release, Transfer and On-Site Management for PBT Chemicals (Dioxin and dioxin-like compounds are listed separately from the "Other PBT Chemicals" column because they were reported in grams, while the other PBT chemicals were reported in pounds. A conversion to pounds is shown adjacent to the reported number of dioxins in grams.)

On-Site Releases by Media (Section 5 of Form R)	**Dioxin and Dioxin-Like Compounds*** in amounts for the year		**Other PBT chemicals** in amounts for the year
	Grams (g)	Pounds (lbs)	Pounds (lbs)
Total Air	4.66	1.03E-02	10,841.01
Fugitive Air	0.01	3.15E-05	2,139.25
Stack Air	4.65	1.02E-02	8,701.75
Water	1.61	3.55E-03	2,187.24
Land	1.10	2.43E-03	232,995.28
Total On-Site Releases to Media	**7.37**	**1.63E-02**	**246,023.53**
Off-Site Transfers by Type (Section 6 of Form R)			
Publicly Owned Treatment Works (POTWs) (includes metals and metal compounds)	0.00	0.00E+00	449.90
Total Other Off-Site Transfers	6.20	1.37E-02	680,971.50
Off-Site Transfers for Recycling	2.00	4.41E-03	619,376.73
Off-Site Transfers for Energy Recovery	0.00	0.00E+00	723.50
Off-Site Transfers for Other Treatment	0.00	0.00E+00	2,332.45
Off-Site Transfers for Disposal	4.20	9.27E-03	58,538.82
Total Off-Site Transfers	**6.20**	**1.37E-02**	**681,421.41**
ON-SITE MANAGEMENT (Section 8 of Form R)			
Treated On-Site	0.00E+00	0.00E+00	6.50
Recycled On-Site	0.00E+00	0.00E+00	47,651.00
Energy Recovery On-Site	0.00E+00	0.00E+00	0.00
Total On-Site Management	**0.00E+00**	**0.00E+00**	**47,657.50**
Total PBT Chemicals Released On-site, Transferred Off-site, and Managed On-site by Reporting Facilities	**13.58**	**0.03**	**975,102.44**

* Facilities are allowed to report PBT chemicals up to 7 decimal places of accuracy. For presentation purposes the summary amounts in this table have been rounded; however, the integrity of facility reported data has been maintained in the database. The specific data reported by each facility are provided in Appendix G.

Comparing Table 3 (PBT information) to Table 1 (information on all TRI chemicals), the amount of reported PBTs released on-site (246,024 pounds) was approximately 0.94% of the total TRI chemicals released on-site to the environment. The reported PBTs managed on-site (47,658 pounds) were less than 1% (0.0000031%) of the total TRI chemicals managed on-site. The reported PBTs transferred off-site for treatment, recycling, energy recovery, or disposal (681,421 pounds) were approximately 1.22% of

the total TRI chemicals transferred off-site. In 2022, the previous reporting year, the on-site releases of PBT contributed to 0.93% of the total releases, 0.02% of on-site management, and 1.09% of off-site transfers.

Information on the amounts of each individual chemical or chemical category released on-site, transferred off-site, and managed on-site for the 12 PBT chemicals reported by Virginia facilities is provided in Table 4.

Table 4. Reporting Year 2023 Amounts of TRI PBT Chemicals Released On-Site, Transferred Off-Site, and Managed On-Site by PBT (Dioxin and Dioxin-like compounds have been converted to pounds and included in the totals.)

Chemical Name	Released On-Site (in pounds)	Transferred Off-Site (in pounds)	Managed On-Site (in pounds)
Benzo(g,h,i)perylene	7.59	427.42	146.60
Chlordane	0.00	80.00	0.00
Dioxin and Dioxin-Like Compounds	0.02	0.01	0.00
Heptachlor	0.00	80.00	0.00
Lead	91,373.49	216,829.95	0.00
Lead Compounds	152,881.27	427,662.44	0.00
Mercury	3.95	2,090.28	0.00
Mercury Compounds	505.73	155.41	0.00
Methoxychlor	0.00	80.00	0.00
Polychlorinated biphenyls	0.00	58.65	0.00
Polycyclic aromatic compounds (PACs)	1,251.50	33,957.27	47,510.90
Trifluralin	0.00	0.00	0.00
Total for all 12 chemical/categories	**246,023.56**	**681,421.42**	**47,657.50**

Of the PBTs listed in Table 4, lead, lead compounds, and PACs represented the most reported on-site releases to the environment, off-site transfers, and on-site management of PBT chemicals. Lead and lead compounds contributed to the bulk (99.28%) of the PBT on-site releases and off-site transfers (94.58 %). Referring to Figure 5 in Chapter 1, lead and lead compounds ranked second in chemicals released on-site to land in Virginia. Releases of lead and lead compounds and mercury and mercury compounds to the air (via stacks) or to the land (through fly ash disposal) can result from coal or oil combustion. PACs may form as a result of incomplete combustion of coal or oil or as a by-product of other industrial processes. PACs found in the waste stream can contain adequate British thermal units (BTUs) for energy recovery from incinerated waste.

Table 5 data show the distribution of PBTs versus reported activities (manufacturing, processing, or otherwise use). A facility may report more than one type of activity for a single TRI chemical.

Table 5. Activities and Uses of PBT Chemicals at Facilities (From Section 3 of the Form R) for 2023

	Activities Reported						
Chemical Name	**Manufacturing Only**	**Processing Only**	**Otherwise Use Only**	**Both Manufacturing & Processing**	**Both Manufacturing & Otherwise Use**	**Both Processing & Otherwise Use**	**Manufacturing & Processing & Otherwise Use**
Benzo(g,h,i)perylene	0	12	1	5	0	0	1
Chlordane	0	1	0	0	0	0	0
Dioxin and Dioxin-Like Compounds	12	1	0	3	0	0	0
Heptachlor	0	1	0	0	0	0	0
Lead	0	56	21	6	2	3	1
Lead Compounds	0	31	11	7	9	2	11
Mercury	0	1	1	0	1	0	0
Mercury Compounds	0	2	0	4	4	0	3
Methoxychlor	0	1	0	0	0	0	0
Polychlorinated biphenyls	0	0	1	0	0	0	0
Polycyclic aromatic compounds (PACs)	0	13	3	6	3	0	1
Trifluralin	0	0	2	0	0	0	0
Total for all 12 chemicals/categories	12	119	40	31	19	5	17

Table 5 shows “processing only” was the most frequently reported activity (119) involving PBT chemicals. "Processing only" was followed by “otherwise use only" (40) and “both manufacturing and otherwise use” (31).

The major industrial sectors which reported processing of lead or lead compounds were the furniture and fixture industries; stone, clay, glass, and concrete products industries; primary metal and fabricated metal products industries; electronic or electrical equipment manufacturers; petroleum bulk plant operators; and manufacturer of transportation equipment.

Dioxin and dioxin-like compounds are normally a product of incomplete combustion of waste streams containing chlorinated products.

Lead or lead compounds can be co-manufactured under chemical manufacturing processes or as a by-product of fuel (coal or fuel oil) combustion.

Industries such as primary metal; stone, clay, and glass products; transportation equipment manufacturers; electric power generation facilities; solvent recovery facilities; and paper and allied products industries were key reporters of lead compounds and mercury compounds in all three (manufacturing, processing, and otherwise used) activities.

CHAPTER THREE – INDUSTRIAL SECTORS, FACILITIES AND LOCATIONS

In this chapter, data are presented by industrial sectors, as identified by the primary North American Industry Classification System Code (Part One), facilities (Part Two), and facility locations (Part Three). The chapter identifies the top 10 Virginia industrial sectors, facilities, and facility locations (also referred to as jurisdictions) based on the reported on-site releases and the total on-site management of TRI chemicals.

As with Table 1 (Chapter 1) and Table 3 (Chapter 2), in order to avoid double counting, the data in this chapter for on-site management do not include the data extracted and re-aggregated from Sections 5 and 6 of Form R. Complete rankings of industrial sectors, facilities, and jurisdictions are included in Appendices H, I and J.

Part One - Industrial Sectors

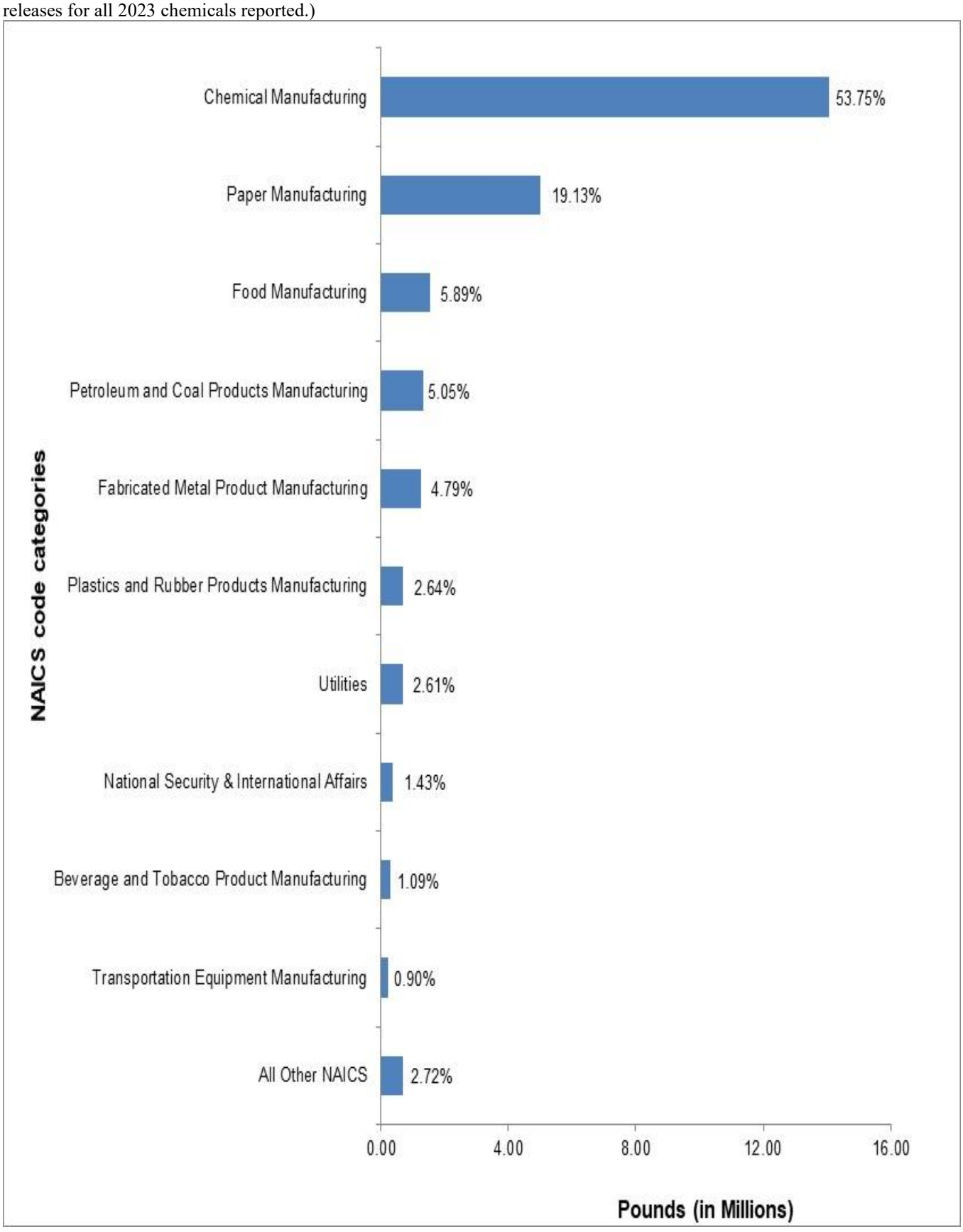
Industrial Sectors Reporting On-Site Releases of TRI Chemicals

Twenty-six industrial sectors, including federal facilities, are subject to TRI reporting requirements (see Appendix C).

The three industrial sectors reporting the most on-site releases of TRI chemicals for 2023, based on the primary North American Industrial Classification System (NAICS) Code, were: chemical manufacturing, paper manufacturing, and food manufacturing. These three sectors contributed to 78.77% of the total on-site releases to the environment. The remaining top 10 industrial sectors for 2023 were: petroleum and coal products manufacturing, fabricated metal product manufacturing, plastics and rubber manufacturing, utilities, national security and international relations, beverage and tobacco product manufacturing, and transportation equipment manufacturing.

A complete ranking of industrial sectors reporting on-site TRI releases is provided in Appendix H-1.

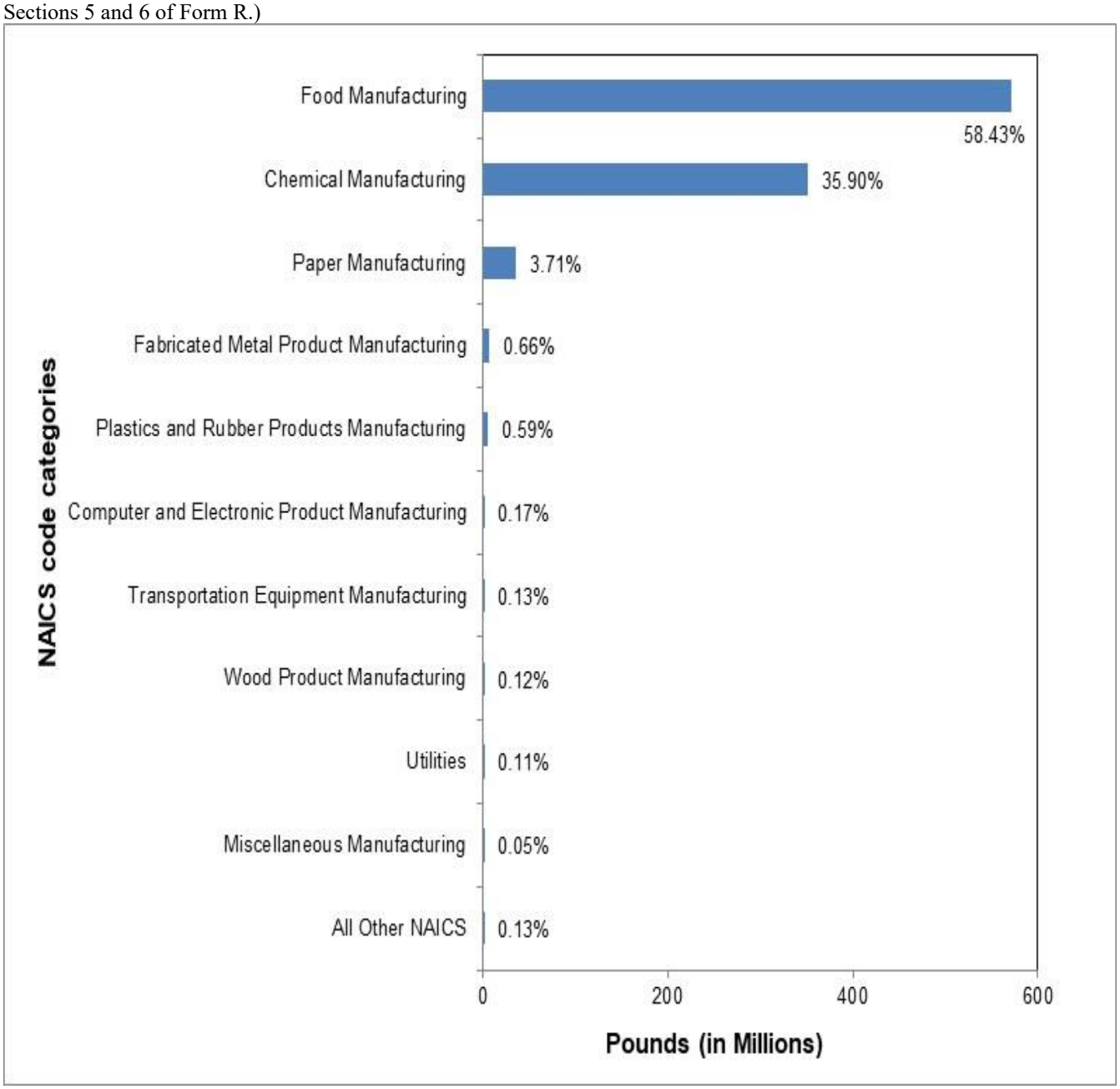
Figure 9. Top 10 Reporting Industrial Sectors (based on NAICS codes) Releasing TRI Chemicals On-Site in Virginia for 2023 (From Section 5 of the Form R. The number next to each bar is the % of total on-site releases for all 2023 chemicals reported.)



Industrial Sectors Reporting On-Site Management of TRI Chemicals

The three industrial sectors reporting the most on-site management of TRI chemicals (see Figure 10) for 2023 based on the primary NAICS Code were: food manufacturing, chemical manufacturing, and paper manufacturing. These three sectors contributed to 98.05% of the total of on-site management of TRI chemicals. The remaining top 10 industrial sectors for 2023 were: fabricated metal products manufacturing, plastics and rubber manufacturing, computer and electronics manufacturing, transportation equipment manufacturing, wood product manufacturing, utilities and miscellaneous manufacturing. A complete ranking of industrial sectors reporting on-site TRI management is provided in Appendix H-2.

Figure 10. Top 10 Reporting Industrial Sectors (based on NAICS codes) Managing TRI Chemicals On-Site in Virginia for 2023 (From Section 8 of the Form R. The number next to each bar is the % total of on-site management for all 2023 chemicals reported. Figure 10 does not include the data extracted and re-aggregated from Sections 5 and 6 of Form R.)



Part Two - Facilities

Facilities Reporting On-Site Releases of TRI Chemicals

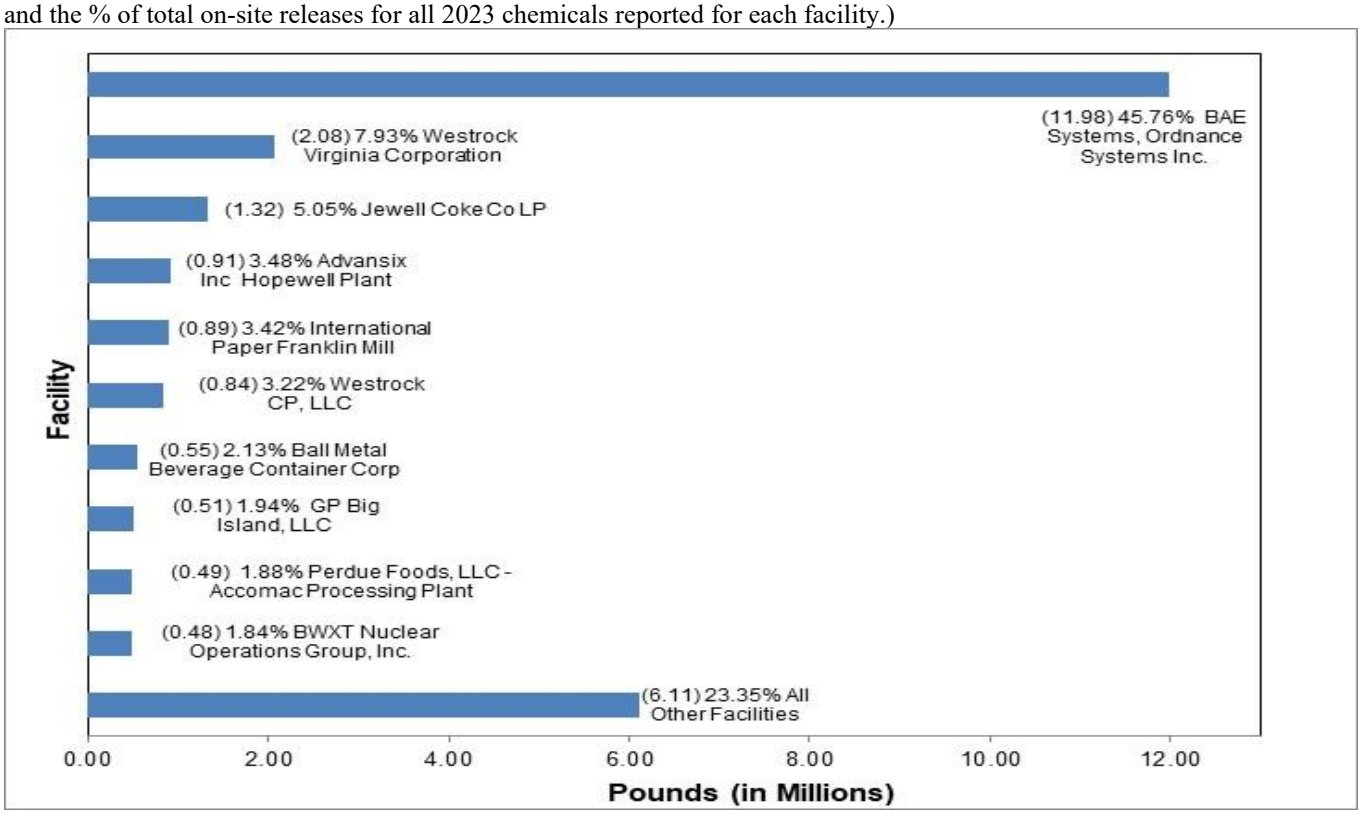
Virginia facilities that reported the highest contributions to the on-site release of TRI chemicals to the air (fugitive and stack), water, and land in 2023 were:

- BAE Systems, Ordnance Systems Inc. - City of Radford, Montgomery County
- Westrock Virginia Corporation - City of Covington
- Jewell Coke Co L.P. - Buchanan County
- Advansix, Inc. - Hopewell Plant - City of Hopewell
- International Paper Franklin Mill - City of Franklin
- Westrock CP, LLC - West Point - King William County
- Ball Metal Container Corporation - City of Williamsburg
- GP Big Island, LLC – Bedford County
- Perdue Foods, LLC – Accomac Processing Plant – Accomack County
- BWXT Nuclear Operations Group, Inc. – City of Lynchburg

These facilities accounted for 76.65% (20.06 million pounds) of all reported TRI releases for 2023. Of the 10 facilities, four are paper manufacturing facilities; two are chemical manufacturing facilities, one is a metal can manufacturer, one is a nuclear power boiler and heat exchanger manufacturer, one is a food manufacturing facility, and one is a petroleum and coal products manufacturing facility.

Figure 11 shows the quantity of TRI chemicals each of these facilities released in Virginia in 2023. See Appendix I-1 for a complete ranking of on-site releases by facility.

Figure 11. 2023 Top 10 Virginia Facilities Reporting Releases of TRI Chemicals On-Site (From Section 5 of Form R. The numbers next to each bar are the total on-site releases (in millions of pounds), in the parentheses and the % of total on-site releases for all 2023 chemicals reported for each facility.)



Facilities Reporting On-Site Management of TRI Chemicals

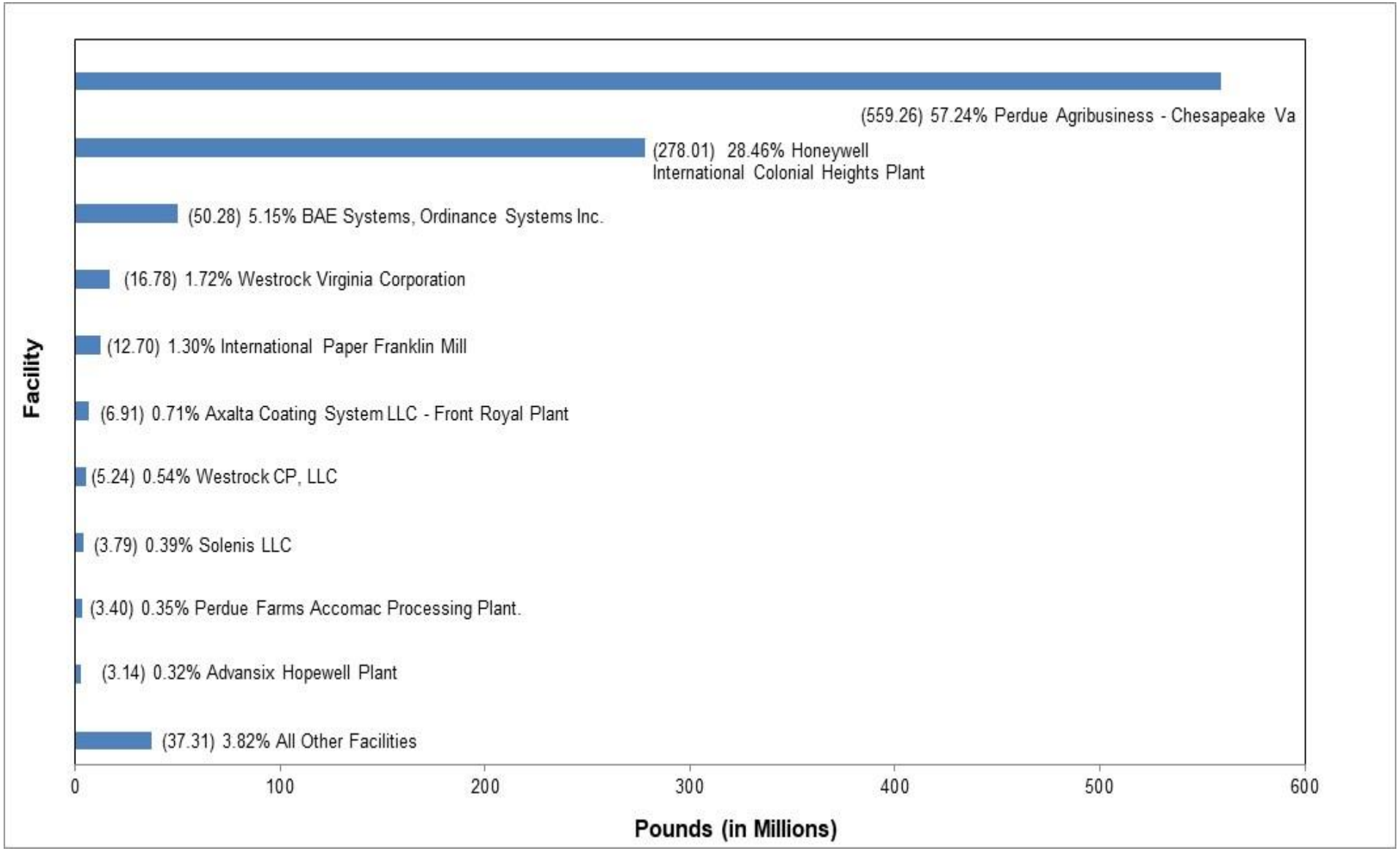
Figure 12 shows the 10 Virginia facilities reporting management of the greatest quantity of TRI chemicals on-site in 2023 other than releases. These facilities were:

- Perdue Agribusiness, LLC – City of Chesapeake
- Honeywell International Colonial Heights Plant - City of Colonial Heights
- BAE Systems, Ordinance Systems Inc. - Montgomery County
- Westrock Virginia Corporation - City of Covington
- International Paper Franklin Mill - City of Franklin
- Axalta Coating Systems, LLC - Front Royal Plant - Front Royal, Warren County
- Westrock CP, LLC - West Point - King William County
- Solenis, LLC - Suffolk County
- Perdue Farms Accomack Processing Plant - Accomack County
- Advansix, Inc. Hopewell Plant – City of Hopewell

These facilities accounted for approximately 96.18% (940 million pounds) of all reported on-site management (other than releases) in 2023.

Figure 12 shows the quantity each of these facilities managed on-site. Of the 10 facilities, five are chemical manufacturing facilities; three are paper manufacturing facilities; and two are food manufacturing facilities. See Appendix I-2 for a ranking of on-site management by facility.

Figure 12: 2023 Top 10 Virginia Facilities Managing TRI Chemicals On-Site, Other than Releases (From Section 8 of the Form R. The number next to each bar is the total on-site management (in millions of pounds) for each facility, in the parentheses, and the % of total on-site management of TRI chemicals for each facility. This figure does not include the data extracted and re-aggregated from Sections 5 and 6 of Form R.)



Part Three - Jurisdictions

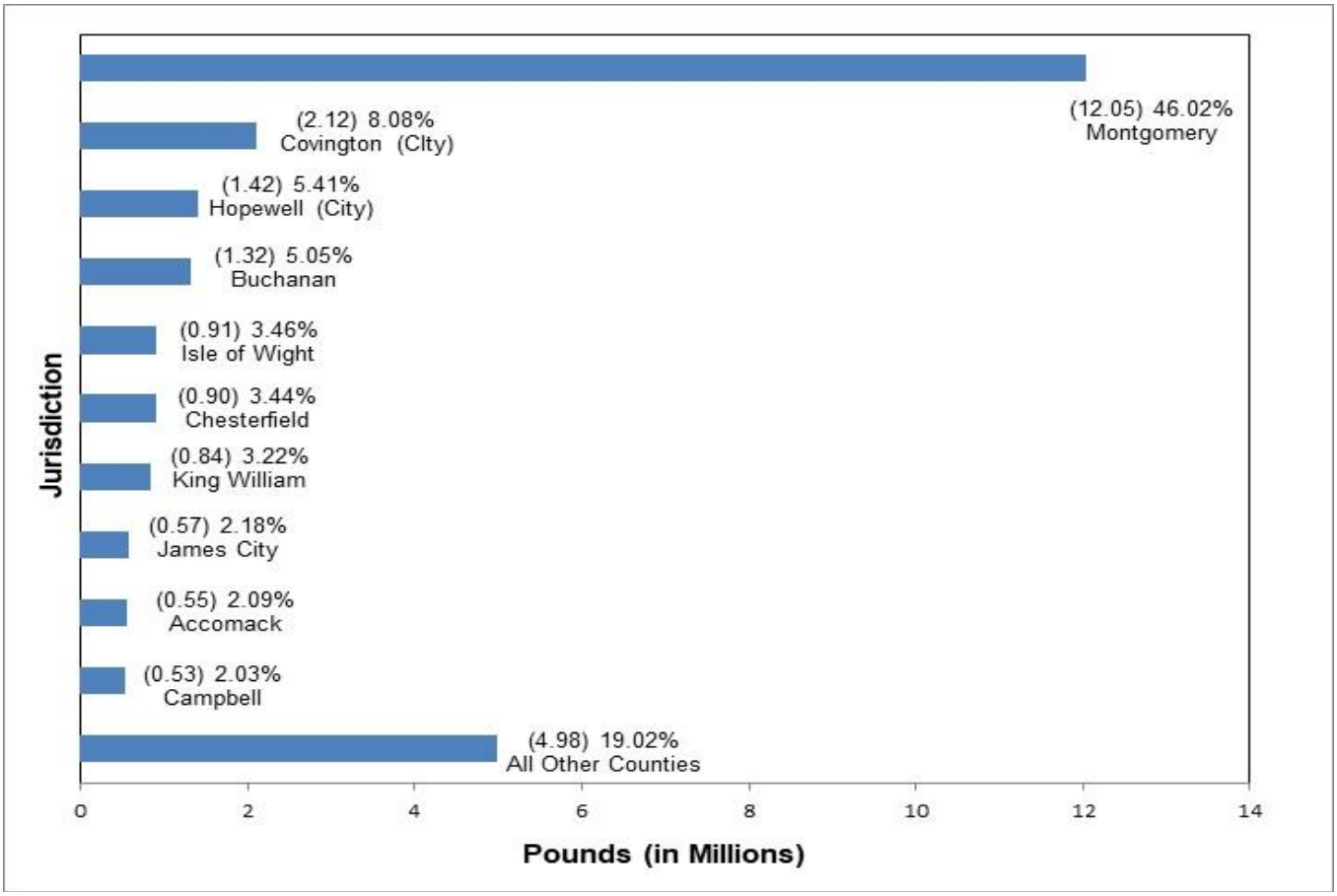
Jurisdictions with Facilities Reporting On-Site Releases of TRI Chemicals

The Virginia jurisdictions (counties and independent cities) with facilities having the largest reported amount of total TRI chemicals released on-site to the environment (air, water, and land) in 2023 were: Montgomery County, City of Covington, City of Hopewell, Buchanan County, Isle of Wight County, Chesterfield County, King William County, James City County, Accomack County, and Campbell County.

The reported on-site releases occurring within these jurisdictions comprised 80.98% (21.20 million pounds) of the total TRI chemicals released on-site into the environment by reporting facilities in Virginia.

Appendix J-1 contains a ranking of jurisdictions by the on-site releases of facilities located in each jurisdiction. Furthermore, Appendices F and G contain detailed information about facilities located in these jurisdictions.

Figure 13. 2023 Top 10 Virginia Jurisdictions for On-Site TRI Releases Reported by Facilities
(From Section 5 of the Form R. The number next to each bar represents the total on-site releases (in millions of pounds), in the parentheses, and the % of the total on-site releases for each jurisdiction.)

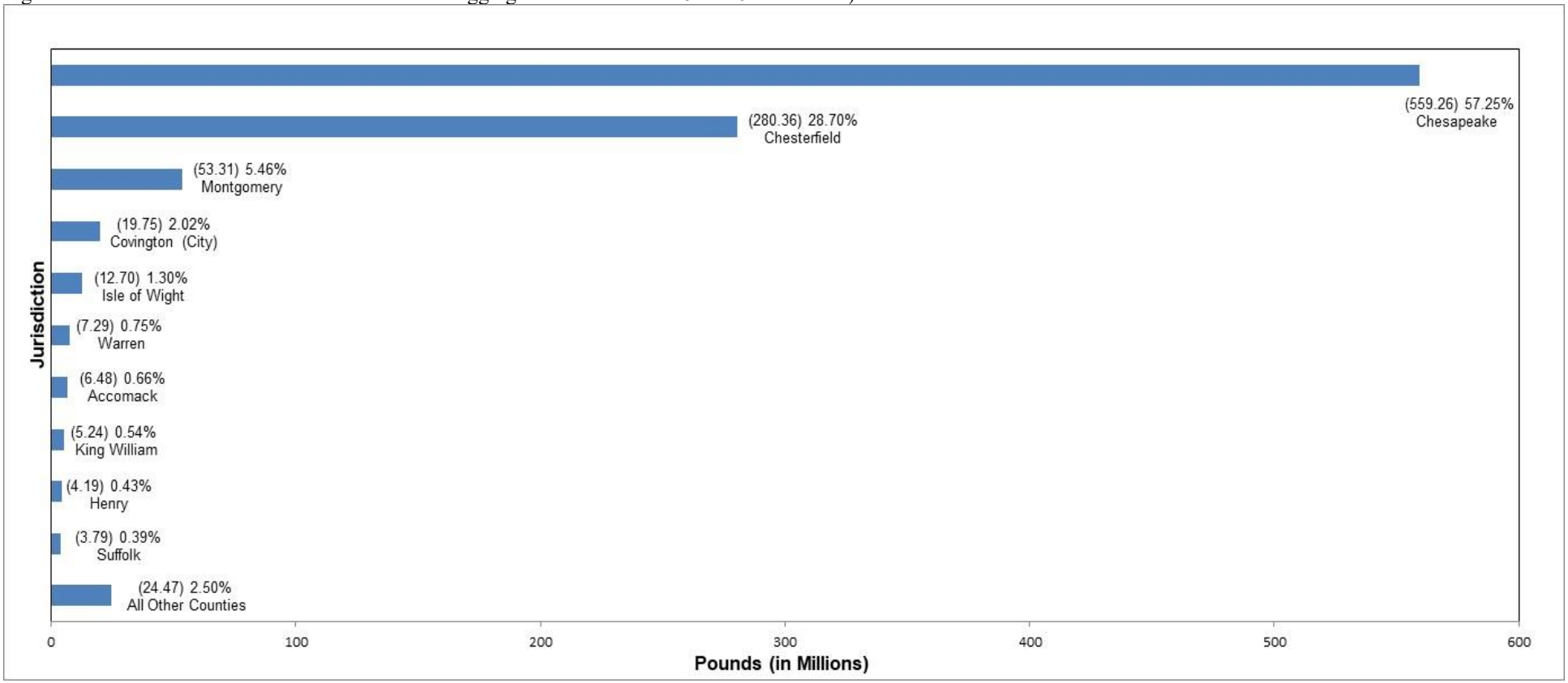


Jurisdictions with Facilities Reporting Other On-site Management of TRI Chemicals

The Virginia jurisdictions with facilities having the largest total reportable TRI chemicals managed on-site (other than releases) were: City of Chesapeake, Chesterfield County, Montgomery County, City of Covington, Isle of Wight County, Warren County, Accomack County, King William County, Henry County, and City of Suffolk. The on-site management of these chemicals in these jurisdictions comprised 97.50% (952.35 million pounds) of the total managed on-site (other than releases) by reporting facilities in Virginia.

Appendix J-2 contains a ranking of jurisdictions by the on-site management of facilities located there. Furthermore, Appendices F and G contain detailed information about facilities located in these jurisdictions.

Figure 14. 2023 Top 10 Virginia Jurisdictions for TRI Chemicals Managed On-Site as Reported by Facilities: (From Section 8 of the Form R. The number next to each bar is the total on-site management (in millions of pounds), in the parentheses, and the % of the total of TRI chemicals managed on-site for each jurisdiction. Figure 14 does not include the data extracted and re-aggregated from Sections 5 and 6 of Form R.)



CHAPTER FOUR – VIRGINIA TRI HISTORICAL COMPARISON

Since its inception, the TRI program has been expanding and evolving, providing more information to the public about the presence and release of toxic and hazardous chemicals in communities. Over the past 30 years, various regulatory changes have occurred. In addition, facilities are authorized to revise reports from previous years. Allowing facilities to submit revised reports for previous years makes direct comparison of current data to historical reports difficult and potentially misleading. Appendix E provides further information about the changes in reporting requirements and sets out limited historical data which have been standardized.[3]

Nevertheless, reporting years 2021, 2022, and 2023 are generally comparable and Chapter Four presents data for those three years. All revisions for these reporting years received on or before January 14, 2025, have been incorporated.

Table 6 compares TRI data for reporting years 2021 to 2023 by type of release, transfer, and on-site management.

For reporting year 2023 the total amount of on-site releases shows an increase from the corresponding amount for reporting year 2022, off-site transfers decreased, and on-site management decreased from the corresponding amounts for reporting year 2022. From 2022 to 2023 the total TRI chemicals released on-site, transferred off-site, or managed on-site decreased by 3.25%.

Table 6 shows the changes with respect to on-site releases from reporting year 2022 to 2023, including a 18.61% decrease in on-site releases to air, a 36.57% increase in on-site releases to water, and a 34.56% decrease in on-site releases to land. There was an overall increase of 2.37% for on-site releases from 2022 to 2023.

The overall quantities of TRI chemicals transferred off-site for further management or disposal decreased by 4.47% from 2022 to 2023. With respect to off-site transfers, Table 6 shows a 2.55% decrease in TRI chemicals being transferred off-site for recycling, 8.63% decrease in TRI chemicals being transferred off-site for energy recovery, and a 13.99% decrease in TRI chemicals being transferred off-site for other treatment from 2022 to 2023.

Table 6 also shows that the on-site management of TRI chemicals through treatment, recycling, or energy recovery decreased in 2023. The 2023 report data show a decrease in on-site energy recovery by 4.02%, a decrease in on-site recycling by 2.95%, and a 7.22% decrease in on-site treatment. The overall quantities of TRI chemicals managed on-site decreased by 3.32% for 2023.

Longer term trends can be seen in the last column of Table 6. Over three years, on-site releases of TRI chemicals decreased by 3.28%, off-site transfers increased by 2.59%, and on-site management increased by 125.28%. From 2021 through 2023, Virginia facilities reported a 105.53% increase in the release, transfer, or other management of TRI chemicals. As stated earlier in the summary, this dramatic increase in on-site management comes from one facility that was advised by EPA to change the methodology used for reporting for on-site recycling of a single chemical and submit revisions for reporting years 2022 and 2023. As a revised report was not submitted for 2021 the data reflects an increase from the facility due to the change in reporting methodology.

[3] The information in Appendix E is historical and is for general comparison purposes only.

Table 6. Comparison Summary Data by Type of Release, Transfer and On-Site Management for TRI Chemicals for 2021, 2022 and 2023 (from Table 1)

Management Activities	RY 2021 (Pounds)	RY 2022 (Pounds)	RY 2023 (Pounds)	Changes 2022-2023	% Change 2022-2023	% Change 2021-2023
On-Site Releases						
Air (Total)	13,902,322.61	14,012,907.33	11,404,654.58	-2,608,252.76	-18.61%	-17.97%
Fugitive Air	3,481,628.72	3,339,237.33	2,262,628.31	-1,076,609.02	-32.24%	-35.01%
Stack Air	10,420,693.89	10,673,670.00	9,142,026.27	-1,531,643.73	-14.35%	-12.27%
Water	11,923,694.73	10,135,353.72	13,841,484.40	3,706,130.68	36.57%	16.08%
Land	1,239,755.30	1,425,445.59	932,745.00	-492,700.59	-34.56%	-24.76%
Total	**27,065,772.64**	**25,573,706.65**	**26,178,883.99**	**605,177.34**	**2.37%**	**-3.28%**
Off-Site Transfers						
POTW	13,356,709.06	13,385,726.46	13,871,579.08	485,852.61	3.63%	3.85%
Other Off-Site Transfers	41,220,629.29	45,223,142.38	42,117,088.16	-3,106,054.22	-6.87%	2.17%
Recycling	22,307,679.92	23,788,639.22	23,182,482.31	-606,156.91	-2.55%	3.92%
Energy Recovery	3,159,121.59	3,632,267.36	3,318,905.75	-313,361.60	-8.63%	5.06%
Other Treatment	13,557,001.34	15,480,379.54	13,313,929.35	-2,166,450.19	-13.99%	-1.79%
Disposal	2,196,826.44	2,321,856.27	2,301,770.75	-20,085.52	-0.87%	4.78%
Total	**54,577,338.35**	**58,608,868.85**	**55,988,667.24**	**-2,620,201.61**	**-4.47%**	**2.59%**
On-Site Management						
Treated On-Site	87,681,980.85	85,729,473.58	79,538,556.06	-6,190,917.52	-7.22%	-9.29%
Recycled On-Site	343,257,849.12	921,818,197.12	894,616,602.55	-27,201,594.57	-2.95%	160.63%
Energy Recovery On-Site	2,672,179.67	2,779,497.00	2,667,730.00	-111,767.00	-4.02%	-0.17%
Total	**433,612,009.64**	**1,010,327,167.70**	**976,822,888.61**	**-33,504,279.09**	**-3.32%**	**125.28%**
Grand Total	**515,255,120.63**	**1,094,509,743.20**	**1,058,990,439.83**	**-35,519,303.36**	**-3.25%**	**105.53%**

Table 7 compares, in detail, the TRI data for PBT chemicals by type of release, transfer, and on-site management for reporting years 2021 to 2023. From 2022 to 2023, the total of PBT chemicals released on-site, transferred off-site, or managed on-site increased by 2.93%.

The data show an increase in releases to water and land, and a decrease in releases to stack air and fugitive air of PBT chemicals compared to 2022. Table 7 also shows an increase of PBT chemicals transferred off-site and a decrease in PBT chemicals managed on-site for reporting years 2021 to 2023.

Table 7. Comparison Summary Data by Type of Release, Transfer and On-site Management for PBT chemicals for 2021, 2022 and 2023 (from Table 3).

Management Activities	RY 2021 (Pounds)	RY 2022 (Pounds)	RY 2023 (Pounds)	Changes 2022-2023 (Pounds)	% Change 2022-2023	% Change 2021-2023
On-Site Releases						
Air (Total)	12,032.60	12,498.74	10,841.02	-1,657.72	-13.26%	-9.90%
Fugitive Air	2,001.46	2,660.20	2,139.25	-520.95	-19.58%	6.88%
Stack Air	10,031.15	9,838.53	8,701.76	-1,136.77	-11.55%	-13.25%
Water	1,929.45	1,775.09	2,187.24	412.16	23.22%	13.36%
Land	218,137.07	222,489.64	232,995.28	10,505.64	4.72%	6.81%
Total	**232,099.13**	**236,763.47**	**246,023.55**	**9,260.08**	**3.91%**	**6.00%**
Off-Site Transfers						
POTW	435.25	445.05	449.90	4.85	1.11%	3.37%
Other Off-Site Transfers	603,533.59	639,409.13	680,971.52	41,562.38	6.89%	12.83%
Recycling	528,951.39	579,091.83	619,376.74	40,284.91	7.62%	17.10%
Energy Recovery	1,891.93	2,359.74	723.50	-1,636.24	-86.48%	-61.76%
Other Treatment	2,876.43	5,983.20	2,332.45	-3,650.75	-126.92%	-18.91%
Disposal	69,813.84	51,974.37	58,538.83	6,564.46	9.40%	-16.15%
Total	**603,968.84**	**639,854.19**	**681,421.42**	**41,567.24**	**6.88%**	**12.82%**

Management Activities	RY 2021 (Pounds)	RY 2022 (Pounds)	RY 2023 (Pounds)	Changes 2022-2023 (Pounds)	% Change 2022-2023	% Change 2021-2023
On-Site Management						
Treated On-Site	6.50	6.50	6.50	0.00	0.00%	0.00%
Recycled On-Site	56,901.00	70,720.20	47,651.00	-23,069.20	-40.54%	-16.26%
Energy Recovery On-Site	0.00	0.00	0.00	0.00	0.00%	0.00%
Total	**56,907.50**	**70,726.70**	**47,657.50**	**-23,069.20**	**-40.54%**	**-16.25%**
Grand Total	**892,975.47**	**947,344.35**	**975,102.47**	**27,758.11**	**2.93%**	**9.20%**

CHAPTER FIVE - CONCLUSION

The 2023 Virginia TRI Report is issued pursuant to Virginia Code § 10.1-1186.1. The report has information on chemicals and chemical categories, activities involving their use, industrial sectors, facilities and facility locations (jurisdictions).

The report provides information concerning listed toxic chemicals and chemical categories that are manufactured, processed, or otherwise used at Virginia facilities, including amounts released to the environment, transferred off-site and managed on-site. Industry and the public can use the data in a variety of ways, including as a measurement of progress toward reduction targets. As noted previously, the majority of the releases to the environment included in the TRI report occur under a federal or state permitting program determined to be protective of human health and the environment.

Appendix A – Glossary of Terms

Coincidental Manufacture – Production of an EPCRA section 313 chemical as a byproduct or impurity as a result of the manufacture, processing, otherwise use, treatment, disposal, or other waste management of other chemical substances.

Energy Recovery – Recovery of useful energy from waste mainly through combustion of chemical waste.

Facility – Defined for the purposes of TRI reporting as all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (entity).

Fugitive (Non-Point) Air Releases – Emissions to the air that are not conveyed through stacks, vents, ducts, pipes, or other confined air streams within the boundaries of a facility. Examples include equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, and evaporative losses from surface impoundments and spills.

Manufacture – To produce, prepare, import, or compound a toxic chemical.

North American Industry Classification System (NAICS) - NAICS is the standard used by Federal statistical agencies which collect or publish data by industry. It is a system for classifying an establishment by type of economic activity.

Off-Site Locations – Locations outside the boundaries of a facility to which wastes are transported for treatment, energy recovery, recycling, or disposal.

Otherwise Use – Any use of a toxic chemical at a facility which is not covered by the definitions of manufacture or process. This includes any activities in which a listed toxic chemical does not become intentionally incorporated into the final product for distribution in commerce. Examples of otherwise use include degreasers, solvents in paints that are applied to a product, chemicals used in water treatment, and refrigerants or coolants.

Persistent Bio-accumulative Toxic (PBT) chemical – A chemical that is stable for a long period of time, and builds up in the environment, particularly in food chains.

Publicly Owned Treatment Works (POTW) – A wastewater treatment facility which is owned by a unit of the government.

Process – Refers to the preparation of a listed toxic chemical after its manufacture, for distribution in commerce. Processing is usually the intentional incorporation of a toxic chemical into a product. It includes making mixtures, repackaging, and using a toxic chemical as a feedstock, raw material, or starting material for making another chemical.

Recycle – The process of capturing a useful product from a waste stream. Solvent recovery, metals recovery, and acid regeneration are examples of recycling.

Releases – Refers to on-site discharges of TRI chemicals to the air, water, land, and disposal in underground injection wells (none in Virginia). They include permitted, accidental, and non-permitted discharges.

Releases to Air – See fugitive (non-point) air releases and stack (point source) air releases.

Releases to Land – Refers to landfilling, surface impoundment, land treatment/application farming or any other release of a toxic chemical to land within the boundaries of a facility.

Releases to Water – Refers to discharging of chemicals to surface waters such as rivers, lakes, ponds, and streams within the boundaries of a facility.

Source Reduction/Pollution Prevention – Activities that reduce the quantity and /or toxicity of wastes generated. Improved operation and maintenance, process and equipment modification, conservation practices, material substitution, product modification, and in-process recycling are examples of pollution prevention.

Stack (Point Source) Air Releases – Emissions to the air that are conveyed through stacks, vents, ducts, pipes, or other confined air streams within the boundaries of a facility. Examples include storage tank emissions and emissions from air pollution control equipment.

Standard Industrial Classification Code (SIC Code) – A four digit number code designated by the Federal Office of Management and Budget to describe the type of activity(s) at a facility. The first two numbers of the code define a major business sector, and the last two numbers define a facility's specialty within the major sector.

Toxic – A substance that produces or causes systemic damage to an organism.

Transfers – Refers to TRI chemicals sent off-site for energy recovery, recycling, treatment, or disposal. They are reported as transfers to either Publicly Owned Treatment Works (POTWs) or other off-site transfers (non-POTWs) such as incinerators, landfills, other treatment, recycling, energy recovery, or disposal facilities not part of the reporting facility.

Appendix B – Supplementary Resources

Additional TRI data and individual facility information are available for the 1997 through 2023 reporting years. If you would like additional information on specific facilities or chemicals, please call DEQ's SARA Title III Office at (804) 350-5623 or direct your request in writing to the Virginia Department of Environmental Quality, SARA Title III Office, P.O. Box 1105, Richmond, Virginia, 23218.

1. TRI data can be accessed on the Internet through DEQ SARA Title III Program web page: https://www.deq.virginia.gov/land-waste/superfund-amendments-and-reauthorization-act-sara/toxics-release-inventory .

2. The Form Rs submitted by facilities within the state are on file at DEQ. Any inquiries about Form R information or the TRI program in Virginia should be made to the SARA Title III Program Coordinator.

3. The U.S. Environmental Protection Agency's Toxic Release Reporting Center is the national repository for all TRI reports submitted to the EPA. The data is available via EPA's website at https://www.epa.gov/toxics-release-inventory-tri-program/find-understand-and-use-tri.

4. Any questions regarding the Emergency Planning and Community Right to Know Act (EPCRA) can be forwarded to EPA's toll free EPCRA call center. The phone numbers are: (800) 424-9346 (select option #4 from menu), or (703) 348-5070.

5. The Toxic Release Inventory – Made Easy Web (TRI-MEweb) includes instructions for on-line reporting and submittal of TRI reports. The TRI-MEweb Resources page on EPA's website contains guidance documents and tutorials to help facilities with TRI reporting. For more information visit EPA's website: http://www.epa.gov/toxics-release-inventory-tri-program/tri-meweb-resources.

6. **ENVIROFACTS** integrates data extracted from several EPA programs, including TRI. ENVIROFACTS allows users to search the database by facility name, its location, by chemical, or by NAICS code. http://www3.epa.gov/enviro/.

7. **TRI Explorer** is another tool provided by EPA, which allows users to search TRI data by county, facility, chemical, etc. https://enviro.epa.gov/triexplorer/tri_release.chemical.

8. **EPCRA Section 313** program information and consolidated list of chemicals subject to EPCRA Section 313 and other federal programs, please visit EPA's website: http://www.epa.gov/tri/.

9. **EPA's Risk Screening Environmental Indicators (RSEI)** is a computer based model that uses TRI data for analysis of risk-related impacts of toxic chemical releases and transfers in the US. https://www.epa.gov/rsei.

Appendix C – TRI Covered Industry Groups by North American Industry Classification System

TRI covered industry groups are identified by the following North American Industry Classification Systems (NAICS) sub-sector codes and general industry types:

111 Crop Production
112 Poultry Production
211 Oil and Gas Extraction
212 Mining
221 Utilities
238 Specialty Trade Contractors
311 Food Manufacturing
312 Beverage and Tobacco Product Manufacturing
313 Textile Mills
314 Textile Product Mills
315 Apparel Manufacturing
316 Footwear Manufacturing
321 Wood Product Manufacturing
322 Paper Manufacturing
323 Printing and Related Support Activities
324 Petroleum and Coal Products Manufacturing
325 Chemical Manufacturing
326 Plastics and Rubber Products Manufacturing
327 Nonmetallic Mineral Product Manufacturing
331 Primary Metal Manufacturing
332 Fabricated Metal Product Manufacturing
333 Machinery Manufacturing
334 Computer and Electronic Product Manufacturing
335 Electrical Equipment, Appliance, and Component Manufacturing
336 Transportation Equipment Manufacturing
337 Furniture and Related Product Manufacturing
339 Miscellaneous Manufacturing
424 Merchant Wholesalers, Non Goods

425 Wholesale Electronic Markets and Agents and Brokers

454 Non-store Retailers

488 Other Airport Operations

493 Other Warehousing and Storage

562 Waste Management and Remediation Services

811 Repair and Maintenance

921 Executive, Legislative, and Other General Government Support

922 Justice, Public Order, and Safety Activities

924 Administration of Environmental Quality Programs

926 Administration of Economic Programs

927 Space Research and Technology

928 National Security and International Affairs

Appendix D - 2023 VA TRI Reporting Forms

Please note that the TRI reporting forms in this appendix are for reference only. Do not submit these forms to EPA. All facilities are required to submit their TRI data electronically using the TRI-MEweb application, per the TRI Electronic Reporting Rule. A link to the reporting rule language can be found at the following address: http://www.epa.gov/toxics-release-inventory-tri-program/electronic-reporting-toxics-release-inventory-data.

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EPA United States Environmental Protection Agency

FORM R

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, also Known as Title III of the Superfund Amendments and Reauthorization Act

TRI Facility ID Number

Toxic Chemical, Category, or Generic Name

Complete form online via TRI-MEweb. For a trade secret submission, send completed forms to TRI Reporting Center, P. O. Box 10163, Fairfax, VA 22038. See the Reporting Forms and Instructions for more information on submissions and the Paperwork Reduction Act. This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2070-0212). Responses to this collection of information are mandatory (42 CFR 11023). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The annual public burden related to Form R is estimated to average 35.76 hours per response for a facility filing a report on one chemical. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden including through the use of automated collection techniques to the Director, Regulatory Support Division, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

This section only applies if you are revising or withdrawing a previously submitted form, otherwise leave blank.	**Revision (Enter up to two code(s))**	**Withdrawal (Enter up to two code(s))**

IMPORTANT: See instructions to determine when "Not Applicable (NA)" boxes should be checked.

PART I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1	Are you claiming the toxic chemical identified on page 2 as a trade secret? ☐ Yes (Answer question 2.2; attach substantiation forms) ☐ No (Do not answer 2.2; go to Section 3)	2.2	Is this copy ☐ Sanitized ☐ Unsanitized (Answer only if "Yes" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official:	Signature:	Date signed:

SECTION 4. FACILITY IDENTIFICATION

	Facility or Establishment Name		TRI Facility ID Number		BIA Code	
4.1	Physical Street Address		Mailing Address (if different from physical street address)			
	City/County/State/ZIP Code		City/State/ZIP Code		Country (Non-US)	
4.2	This report contains information for: (Important: Check a or b; check c or d if applicable)	a. ☐ An entire facility	b. ☐ Part of a facility	c. ☐ A federal facility	d. ☐ GOCO	
4.3	Technical Contact Name				Telephone Number (include area code and ext.)	
	Email Address					
4.4	Public Contact Name				Telephone Number (include area code and ext.)	
	Email Address					
4.5	NAICS Code(s) (6 digits)	Primary a.	b.	c.	d.	e. f.
4.6	Dun & Bradstreet Number(s) (9 digits)	a.				
		b.				

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of U.S. Parent Company (for TRI Reporting purposes)		No U.S. Parent Company (for TRI Reporting purposes) ☐
5.2	U.S. Parent Company's Dun & Bradstreet Number	NA ☐	
5.3	Name of Foreign Parent Company (for TRI Reporting purposes)		No Foreign Parent Company (for TRI Reporting purposes) ☐
5.4	Foreign Parent Company's Dun & Bradstreet Number	NA ☐	

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FORM R

Part II. CHEMICAL-SPECIFIC INFORMATION

TRI Facility ID Number

Toxic Chemical, Category, or Generic Name

SECTION 1. TOXIC CHEMICAL IDENTITY

(Important: DO NOT complete this section if you are reporting a mixture component in Section 2 below.)

1.1 CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)

1.2 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)

1.3 Generic Chemical Name (Important: Complete only if Part I, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY

(Important: DO NOT complete this section if you completed Section 1.)

2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY

(Important: Check all that apply.)

3.1 Manufacture the toxic chemical:

a. ☐ Produce b. ☐ Import

If Produce or Import
c. ☐ For on-site use/processing
d. ☐ For sale/distribution
e. ☐ As a byproduct
f. ☐ As an impurity

3.2 Process the toxic chemical:

a. ☐ As a reactant
b. ☐ As a formulation component
c. ☐ As an article component
d. ☐ Repackaging
e. ☐ As an impurity
f. ☐ Recycling

Enter 4-digit code(s) from instruction package

3.3 Otherwise use the toxic chemical:

a. ☐ As a chemical processing aid
b. ☐ As a manufacturing aid
c. ☐ Ancillary or other use

Enter 4-digit code(s) from instruction package

SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ON-SITE AT ANY TIME DURING THE CALENDAR YEAR

4.1 ☐ (Enter two-digit code from instruction package.)

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ON-SITE

			A. Total Release (pounds/year*) (Enter a range code** or estimate)	B. Basis of Estimate (Enter code)	C. Percent from Stormwater
5.1	Fugitive or non-point air emissions	NA ☐			
5.2	Stack or point air emissions	NA ☐			
5.3	Discharges to receiving streams or water bodies (Enter one name per box)	NA ☐			
	Stream or Water Body Name	Reach Code (optional)			
5.3.1					
5.3.2					

If additional pages of Part II, Section 3.2 and 3.3 are attached, indicate the total number of pages in this box ☐
and indicate the Part II, Section 3.2 and 3.3 page number in this box. ☐ (Example: 1, 2, 3, etc.)
If additional pages of Part II, Section 5.3 are attached, indicate the total number of pages in this box ☐
and indicate the Part II, Section 5.3 page number in this box. ☐ (Example: 1, 2, 3, etc.)

EPA Form 9350 -1 (Rev. 04/2023). Previous editions are obsolete.

*For Dioxin or Dioxin-like compounds, report in grams/year.
**Range Codes: A= 1-10 pounds; B= 11-499 pounds; C= 500-999 pounds.

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Form Approved OMB Number: 2070-0212
Approval Expires: 06/30/2025 **Page 3 of 6**

FORM R	TRI Facility ID Number
Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)	Toxic Chemical, Category, or Generic Name

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ON-SITE (continued)

		NA	A. Total Release (pounds/year*) (Enter a range code** or estimate)	B. Basis of Estimate (Enter code)
5.4-5.5	Disposal to land on-site			
5.4.1	Class I Underground Injection Wells	☐		
5.4.2	Class II-V Underground Injection Wells	☐		
5.5.1A	RCRA Subtitle C landfills	☐		
5.5.1B	Other landfills	☐		
5.5.2	Land treatment/application farming	☐		
5.5.3A	RCRA Subtitle C surface impoundments	☐		
5.5.3B	Other surface impoundments	☐		
5.5.4	Other disposal	☐		

Optional Waste Rock Piles Information
You may check this box if your Section 5.5 quantities include "waste rock piles." ☐ Enter quantity of "waste rock piles" (pounds/year*)

SECTION 6. TRANSFER(S) OF THE TOXIC CHEMICAL IN WASTES TO OFF-SITE LOCATIONS

6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs) **NA** ☐

6.1.___ POTW Name

POTW Address

City | County | State | ZIP

A. Quantity Transferred to this POTW (pounds/year*) (Enter range code** or estimate)	B. Basis of Estimate (Enter code)	C. Disposal/Treatment (Enter code)
1.	1.	1. P
2.	2.	2. P
3.	3.	3. P

If additional pages of Part II, Section 6.1 are attached, indicate the total number of pages in this box ☐
and indicate the Part II, Section 6.1 page number in this box. ☐ (Example: 1, 2, 3, etc.)

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS **NA** ☐

6.2.___ Off-Site EPA Identification Number (RCRA ID No.)

Off-Site Location Name:

Off-Site Address:

City | County | State | ZIP | Country (non-US)

Is this location under control of reporting facility or parent company? ☐ Yes ☐ No

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*For Dioxin or Dioxin-like compounds, report in grams/year.
**Range Codes: A= 1-10 pounds; B= 11-499 pounds; C= 500-999 pounds.

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	TRI Facility ID Number
FORM R	Toxic Chemical, Category, or Generic Name
Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)	

SECTION 6.2. TRANSFERS TO OTHER OFF-SITE LOCATION (CONTINUED)

A. Total Transfer (pounds/year*) (Enter a range code** or estimate)	**B. Basis of Estimate** (Enter code)	**C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery** (Enter code)
1.	**1.**	**1. M**
2.	**2.**	**2. M**
3.	**3.**	**3. M**

6.2____ Off-Site EPA Identification Number (RCRA ID No.)

Off-Site Location Name:

Off-Site Address:

City | County | State | ZIP | Country (non-US)

Is this location under control of reporting facility or parent company? ☐ Yes ☐ No

A. Total Transfer (pounds/year*) (Enter a range code** or estimate)	**B. Basis of Estimate** (Enter code)	**C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery** (Enter code)
1.	**1.**	**1. M**
2.	**2.**	**2. M**
3.	**3.**	**3. M**

SECTION 7A. ON-SITE WASTE TREATMENT METHODS AND EFFICIENCY

☐ Not Applicable (NA) - Check here if no on-site waste treatment method is applied to any waste stream containing the toxic chemical or chemical category.

a. General Waste Stream (Enter code)	b. Waste Treatment Method(s) Sequence (Enter 3- or 4-character code(s))						c. Waste Treatment Efficiency (Enter 2 character code)
7A.1a	**7A.1b**	1		2			**7A.1c**
	3		4		5		
	6		7		8		
7A.2a	**7A.2b**	1		2			**7A.2c**
	3		4		5		
	6		7		8		
7A.3a	**7A.3b**	1		2			**7A.3c**
	3		4		5		
	6		7		8		
7A.4a	**7A.4b**	1		2			**7A.4c**
	3		4		5		
	6		7		8		
7A.5a	**7A.5b**	1		2			**7A.5c**
	3		4		5		
	6		7		8		

If additional pages of Part II, Section 6.2/7.A are attached, indicate the total number of pages in this ☐ box and indicate the Part II, Section 6.2/7.A page number in this box. ☐ (Example: 1, 2, 3, etc.)

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*For Dioxin or Dioxin-like compounds, report in grams/year.
**Range Codes: A= 1-10 pounds; B= 11-499 pounds; C= 500-999 pounds.

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FORM R	TRI Facility ID Number
Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)	Toxic Chemical, Category, or Generic Name

SECTION 7B. ON-SITE ENERGY RECOVERY PROCESSES

☐ NA Check here if no on-site energy recovery is applied to any waste stream containing the toxic chemical or chemical category.

Energy Recovery Methods (Enter 3-character code(s))

1 ☐ 2 ☐ 3 ☐

SECTION 7C. ON-SITE RECYLING PROCESSES

☐ NA Check here if no on-site recycling is applied to any waste stream containing the toxic chemical or chemical category.

Recycling Methods (Enter 3-character code(s))

1. ☐ 2. ☐ 3. ☐

SECTION 8. SOURCE REDUCTION AND WASTE MANAGEMENT

		Column A Prior Year (pounds/year*)	Column B Current Reporting Year (pounds/year*)	Column C Following Year (pounds/year*)	Column D Second Following Year (pounds/year*)
8.1 – 8.7 Production-Related Waste Managed					
8.1a	Total on-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills				
8.1b	Total other on-site disposal or other releases				
8.1c	Total off-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills				
8.1d	Total other off-site disposal or other releases				
8.2	Quantity used for energy recovery on-site				
8.3	Quantity used for energy recovery off-site				
8.4	Quantity recycled on-site				
8.5	Quantity recycled off-site				
8.6	Quantity treated on-site				
8.7	Quantity treated off-site				
8.8	Non-Production-Related Waste Managed**				
8.9	☐ Production ratio or ☐ Activity ratio (select one and enter value to the right)				
8.10	Did your facility engage in any newly implemented source reduction activities for this chemical during the reporting year? If so, complete the following section; if not, check NA. **NA** ☐				

	Source Reduction Activities (Enter code(s))	Methods to Identify Activity (Enter code(s))			Estimated annual reduction (Enter code(s)) (optional)
8.10.1		**a.**	**b.**	**c.**	**d.**
8.10.2		**a.**	**b.**	**c.**	**d.**
8.10.3		**a.**	**b.**	**c.**	**d.**
8.10.4		**a.**	**b.**	**c.**	**d.**

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*For Dioxin or Dioxin-like compounds, report in grams/year.

**Includes quantities released to the environment or transferred off-site as a result of remedial actions, catastrophic events, or other one-time events not associated with production processes

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FORM R	TRI Facility ID Number
Part II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)	Toxic Chemical, Category, or Generic Name

SECTION 8.11. DISPOSAL OR OTHER RELEASES, SOURCE REDUCTION, AND RECYCLING ACTIVITIES

8.11	If you wish to submit additional optional information on source reduction, recycling, or pollution control activities, provide it here.

SECTION 9. MISCELLANEOUS INFORMATION

9.1	If you wish to submit any miscellaneous, additional, or optional information regarding your Form R submission, provide it here.

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EPA United States Environmental Protection Agency

FORM R Schedule 1

TRI Facility ID Number

PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

SECTION 5. QUANTITY OF DIOXIN AND DIOXIN-LIKE COMPOUNDS ENTERING EACH ENVIRONMENTAL MEDIUM ON-SITE

	5.1	NA		5.2	NA		5.3	Discharges to receiving streams or water bodies (Enter data for one stream or water body per box)	NA	
	Fugitive or non-point air emissions			Stack or point air emissions			5.3.1	5.3.2	5.3.3	
D. Mass (grams) of each compound in the category (1-17)	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									

If additional pages of Section 5.3 are attached, indicate the total number of pages in this box

and indicate the Section 5.3 page number in this box (Example: 1, 2, 3, etc.)

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FORM R Schedule 1
PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

TRI Facility ID Number

SECTION 5. QUANTITY OF DIOXIN AND DIOXIN-LIKE COMPOUNDS ENTERING EACH ENVIRONMENTAL MEDIUM ON-SITE

		5.4 – 5.5 Disposal to land on-site							
		5.4.1 NA	5.4.2 NA	5.5.1.A NA	5.5.1.B NA	5.5.2 NA	5.5.3.A NA	5.5.3.B NA	5.5.4 NA
		Class I Underground Injection Wells	Class II-V Underground Injection Wells	RCRA Subtitle C landfills	Other landfills	Land treatment/ application farming	RCRA Subtitle C surface impoundments	Other surface impoundments	Other disposal
C. Mass (grams) of each compound in the category (1-17)	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
	11								
	12								
	13								
	14								
	15								
	16								
	17								

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FORM R Schedule 1
PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

TRI Facility ID Number

SECTION 6. TRANSFERS OF DIOXIN AND DIOXIN-LIKE COMPOUNDS IN WASTES TO OFF-SITE LOCATIONS

6.1. DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs) NA

6.1 ___	D. Mass (grams) of Each Compound in the Category (1-17)								
1.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
2.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
3.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	

6.1 ___	D. Mass (grams) of Each Compound in the Category (1-17)								
1.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
2.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
3.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	

6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS NA

6.2 ___	D. Mass (grams) of Each Compound in the Category (1-17)								
1.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
2.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
3.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	

6.2 ___	D. Mass (grams) of Each Compound in the Category (1-17)								
1.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
2.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	
3.	1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17	

If additional pages of Section 6.1 or 6.2 are attached, indicate the total number of pages in this box ____

and indicate the Section 6.1 or 6.2 page number in this box ____ **(Example: 1, 2, 3, etc.)**

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FORM R Schedule 1
PART II. CHEMICAL-SPECIFIC INFORMATION (continued)

SECTIONS 8.1-8.8. WASTE MANAGEMENT QUANTITIES FOR DIOXIN AND DIOXIN-LIKE COMPOUNDS (current year only)

		8.1-8.7 Production-related waste managed										8.8 Non-production related waste managed*		
		8.1a	8.1b	8.1c	8.1d	8.2	8.3	8.4	8.5	8.6	8.7	8.8a	8.8b	8.8c
		Total on-site disposal to Class 1 Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	Total other on-site disposal or other releases	Total off-site disposal to Class 1 Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	Total other off-site disposal or other releases	Quantity used for energy recovery on-site	Quantity used for energy recovery off-site	Quantity recycled on-site	Quantity recycled off-site	Quantity treated on-site	Quantity treated off-site	Remedial actions	Catastrophic events	One-time events
Column f. Mass (grams) of each compound in the category (1-17)	1													
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													

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*Includes quantities released to the environment or transferred off-site as a result of remedial actions, catastrophic events, or other one-time events not associated with production processes.

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TOXICS RELEASE INVENTORY FORM A

EPA United States Environmental Protection Agency

Complete form online via TRI-MEweb. For a trade secret submission, send completed forms to TRI Reporting Center, P. O. Box 10163, Fairfax, VA 22038. See the Reporting Forms and Instructions for more information on submissions and the Paperwork Reduction Act. This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2070-0212). Responses to this collection of information are mandatory (42 CFR 11023). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The annual public burden related to Form A is estimated to average 21.96 hours per response for a facility filing a report on one chemical. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden including through the use of automated collection techniques to the Director, Regulatory Support Division, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

TRI Facility ID Number

This section only applies if you are revising or withdrawing a previously submitted form, otherwise leave blank.

Revision (Enter up to two code(s)) ☐ ☐

Withdrawal (Enter up to two code(s)) ☐ ☐

IMPORTANT: See instructions to determine when "Not Applicable (NA)" boxes should be checked.

PART I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1 Are you claiming the toxic chemical identified on page 2 as a trade secret? ☐ Yes (Answer question 2.2; attach substantiation forms) ☐ No (Do not answer 2.2; go to Section 3)

2.2 Is this copy ☐ Sanitized ☐ Unsanitized (Answer only if "Yes" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that to the best of my knowledge and belief, for each toxic chemical listed in this statement, the annual reportable amount as defined in 40 CFR 372.27(a), did not exceed 500 pounds for this reporting year and that the chemical was manufactured, processed, or otherwise used in an amount not exceeding 1 million pounds during this reporting year.

Name and official title of owner/operator or senior management official:	Signature:	Date signed:

SECTION 4. FACILITY IDENTIFICATION

4.1	Facility or Establishment Name	TRI Facility ID Number	BIA Code
	Physical Street Address	Mailing Address (if different from physical street address)	
	City/County/State/ZIP Code	City/State/ZIP Code	Country (Non-US)

4.2 This report contains information for: (Important: Check c or d if applicable) c. ☐ A Federal Facility d. ☐ GOCO

4.3	Technical Contact Name		Telephone Number (include area code and ext.)
	Email Address		
4.4	Public Contact Name		Telephone Number (include area code and ext.)
	Email Address		

4.5 NAICS Code(s) (6 digits)

Primary					
a.	b.	c.	d.	e.	f.

4.6 Dun & Bradstreet Number(s) (9 digits)

a.
b.

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of U.S. Parent Company (for TRI Reporting purposes)		No U.S. Parent Company (for TRI Reporting purposes) ☐
5.2	U.S. Parent Company's Dun & Bradstreet Number	**NA** ☐	
5.3	Name of Foreign Parent Company (for TRI Reporting purposes)		No Foreign Parent Company (for TRI Reporting purposes) ☐
5.4	Foreign Parent Company's Dun & Bradstreet Number	**NA** ☐	

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EPA FORM A **PART II. CHEMICAL IDENTIFICATION** Do not use this form for reporting PBT chemicals, including Dioxin and Dioxin-like Compounds*	TRI Facility ID Number

SECTION 1. TOXIC CHEMICAL IDENTITY **Report____of ___**

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 9.2. OPTIONAL POLLUTION PREVENTION AND ADDITIONAL INFORMATION FOR THIS TOXIC CHEMICAL

9.2	If you wish to provide optional chemical specific pollution prevention or additional information, provide it here.

SECTION 1. TOXIC CHEMICAL IDENTITY **Report____of ___**

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 9.2. OPTIONAL POLLUTION PREVENTION AND ADDITIONAL INFORMATION FOR THIS TOXIC CHEMICAL

9.2	If you wish to provide optional chemical specific pollution prevention or additional information, provide it here.

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*See the TRI Reporting Forms and Instructions manual for the list of PBT Chemicals (including Dioxin and Dioxin-like Compounds)

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Appendix E -VA TRI Historical Trend

Since its inception, the TRI program has been expanding and evolving, providing more information to the public about the presence and release of toxic and hazardous chemicals in communities. As a result, over the past 33 years, major regulatory changes have occurred that have made the direct historical comparison of releases from 1988 to 2023 difficult and potentially misleading. The information in Appendix E is historical and for general comparison purposes only.

During the early years of the program there were no major reporting changes. From 1988 until 1994 the consistency between reporting sectors and chemicals made comparison straightforward.

The first major change in reporting requirements was the addition of 286 chemicals and chemical categories to the TRI list beginning with reporting year 1995. The addition of chemicals in reporting year 1995 created a new baseline for TRI comparisons. A second major change was the inclusion of seven new non-manufacturing sectors (sectors that had not previously reported) to the TRI facility coverage beginning in the 1998 reporting year. With this change, 1998 became the new baseline for historical comparison. The third major change began with reporting year 2000, when seven chemicals and two chemical categories were added to the TRI chemical list. These chemicals, and chemical categories must be subtracted from reporting year 2000, 2001, and 2002 data to make comparisons to 1998 and 1999 more accurate. A fourth major change was the inclusion of 16 new chemicals to the list of reportable chemicals beginning in the 2011 reporting year. Of the 16 new chemicals which were added, four of these are classified as Polycyclic Aromatic Compounds (PACs). PACs are Persistent Bio-accumulative Toxins (PBTs) chemicals, and as such, they are likely to remain in the environment for a very long time, are not readily destroyed, and may build up or accumulate in body tissue. Hydrogen Sulfide was added to the list in reporting year 2012 following the lifting of an administrative stay on Oct. 17, 2011. Ortho-Nitrotoluene was added to the list in reporting year 2014 following a final rule published by EPA which became effective on Nov. 29, 2013. The Nonylphenol category of chemicals was added to the 2015 reporting year chemicals list in a final rule effective on Sept. 30, 2014. The hexabromocyclododecane category was added to the chemical list for the 2017 reporting year in November 2014. The 2020 National Defense Authorization Act (NDAA) added 172 PFAS to the list of chemicals required to be reported to the Toxics Release Inventory (TRI) and established a 100-pound reporting threshold for these substances beginning in the 2021 reporting year. Additional PFAS compounds continue to be added annually to the TRI based on a framework provided in the NDAA.

It should be noted beginning with reporting year 2001, lead and lead compounds were re-designated as PBT chemicals, and the threshold for reporting was reduced to 100 pounds. This caused facilities to submit more reports for lead and lead compounds for reporting years 2001 and 2002.

Table E-1 shows the amounts of releases to each media for reporting years 2010 through 2020 (without specified PBTs, or vanadium and vanadium compounds). Facility revisions for previous reporting years were not included in this comparison of on-site releases.

Table E-1. On-Site Releases Comparison from 2010 – 2020 (from Section 5 of Form R)

Chapter Four of the Virginia 2023 TRI Report covers the reporting period 2021 to 2023, and includes all chemicals and chemical compounds, and all facility revisions received through January 9, 2023.

Media	2010 (pounds)	2011 (pounds)	2012 (pounds)	2013 (pounds)	2014 (pounds)	2015 (pounds)	2016 (pounds)	2017 (pounds)	2018 (pounds)	2019 (pounds)	2020 (pounds)	Percent Change 2010 - 2020
Air	24,617,658	19,972,183	18,404,743	20,651,918	20,388,755	18,020,039	19,059,859	16,511,870	16,508,457	15,078,986	14,674,288	-40.39%
Water	17,687,071	16,714,204	11,763,752	11,707,977	11,164,687	11,535,717	13,571,328	11,297,989	9,137,578	10,824,346	12,218,106	-30.92%
Land	3,247,285	2,545,232	2,515,236	3,695,524	3,637,625	2,939,038	3,541,541	2,986,889	2,602,409	1,488,490	1,416,105	-56.39%
Total	78,463,236	39,231,618	32,683,731	36,055,419	35,191,067	32,494,794	36,172,727	30,796,747	28,248,444	27,391,822	28,308,499	-63.92%

Appendix F - 2023 Summary of Facilities, Chemical Releases, Transfers and Management (Non-PBT)

Appendix F: 2023 Summary of Facilities, Chemical Releases, Transfers, and Management (Non-PBT)
Alphabetical Listing by Facility
Within Each County/Independent City

2023 Toxics Release Inventory

Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
ACCOMACK	**COMMONWEALTH CHESAPEAKE COMPANY, LLC**							**3415 WHITE OAK WAY**				**NAICS Code**	**221112**
NAPHTHALENE	N	5	33	38	0	0	38	0	0	0	0	0	0
Total for COMMONWEALTH CHESAPEAKE COMP		**5**	**33**	**38**	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**0**
ACCOMACK	**PERDUE FOODS LLC - ACCOMAC PROCESSING PLANT**							**22520 LANKFORD HWY**				**NAICS Code**	**311615**
AMMONIA	N	5,475	0	5,475	0	39	5,514	0	0	711,940	711,940	0	0
HYDROGEN SULFIDE	N	29,764	0	29,764	0	0	29,764	0	0	182,383	182,383	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	455,127	455,127	0	0	2,155,127	2,155,127	0	0
PERACETIC ACID	N	1,586	176	1,762	0	176	1,938	0	0	352,363	352,363	0	0
Total for PERDUE FOODS LLC - ACCOMAC PROC		**36,824**	**176**	**37,001**	**0**	**455,342**	**492,343**	**0**	**0**	**3,401,813**	**3,401,813**	**0**	**0**
ACCOMACK	**TYSON FARMS INC-TEMPERANCEVILLE**							**11224 LANKFORD HWY**				**NAICS Code**	**311615**
AMMONIA	N	10,001	0	10,001	0	47	10,048	0	0	31,508	31,508	0	66
CHLORINE DIOXIDE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	40,890	40,890	0	0	2,730,221	2,730,221	0	3,462
PERACETIC ACID	N	3,800	0	3,800	0	0	3,800	0	0	311,784	311,784	0	0
Total for TYSON FARMS INC-TEMPERANCEVILLE		**13,801**	**0**	**13,801**	**0**	**40,937**	**54,738**	**0**	**0**	**3,073,513**	**3,073,513**	**0**	**3,528**
ACCOMACK	**U.S. NASA GSFC WALLOPS FLIGHT FACILITY**							**34200 FULTON STREET**				**NAICS Code**	**927110**
NAPHTHALENE	N	0	11	11	0	0	11	0	0	0	0	0	1

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for U.S. NASA GSFC WALLOPS FLIGHT FACI		**0**	**11**	**11**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**1**
Total for Above County : (10 reports)		**50,630**	**220**	**50,850**	**0**	**496,279**	**547,130**	**0**	**0**	**6,475,326**	**6,475,326**	**0**	**3,529**
ALBEMARLE	**INTERNATIONAL COLD STORAGE**							**5678 HEARDS MOUNTAIN RD**				**NAICS Code**	**333415**
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for INTERNATIONAL COLD STORAGE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AMHERST	**COOPER STEEL OF VIRGINIA**							**275 FRANCIS AVE**				**NAICS Code**	**332312**
CHROMIUM	N	0	0	0	0	1	1	0	0	0	0	0	0
COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE	N	122	2	124	0	19	143	0	0	0	0	0	326
NICKEL	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for COOPER STEEL OF VIRGINIA		**122**	**2**	**125**	**0**	**20**	**144**	**0**	**0**	**0**	**0**	**0**	**326**
AMHERST	**GREIF PACKAGING LLC**							**861 FIBRE PLANT RD**				**NAICS Code**	**322110**
ACETALDEHYDE	N	3,040	40,997	44,037	0	0	44,037	46,345	0	17,047	63,392	0	0
METHANOL	N	6,785	288,352	295,137	0	0	295,137	50,738	0	93,652	144,390	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	2,333	2,333	0	0	161,111	161,111	0	0
Total for GREIF PACKAGING LLC		**9,825**	**329,349**	**339,174**	**0**	**2,333**	**341,507**	**97,083**	**0**	**271,810**	**368,893**	**0**	**0**
Total for Above County : (7 reports)		**9,947**	**329,351**	**339,299**	**0**	**2,353**	**341,651**	**97,083**	**0**	**271,810**	**368,893**	**0**	**326**
ARLINGTON	**ALLIED AVIATION FUELING CO INC**							**RONALD REAGAN NATIONAL AIRPORT**				**NAICS Code**	**424710**

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Chemical Name	form A*	Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
CUMENE	N	1	61	62	0	0	62	0	0	0	0	0	173
ETHYLBENZENE	N	4	75	79	0	0	79	0	0	0	0	0	1,036
NAPHTHALENE	N	6	59	65	0	0	65	0	0	0	0	0	1,877
TOLUENE	N	0	266	266	0	0	266	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	N	2	273	276	0	0	276	0	0	0	0	0	173
Total for ALLIED AVIATION FUELING CO INC		**14**	**734**	**748**	**0**	**0**	**748**	**0**	**0**	**0**	**0**	**0**	**3,260**
ARLINGTON	**PENTAGON RESERVATION**							**2 N ROTARY RD**				**NAICS Code**	**928110**
1,2,4-TRIMETHYLBENZENE	N	0	64	64	0	0	64	0	0	0	0	0	0
BIPHENYL	N	0	64	64	0	0	64	0	0	0	0	0	0
CUMENE	N	0	32	32	0	0	32	0	0	0	0	0	0
ETHYLBENZENE	N	0	32	32	0	0	32	0	0	0	0	0	0
NAPHTHALENE	N	0	65	65	0	0	65	0	0	0	0	0	0
Total for PENTAGON RESERVATION		**0**	**257**	**257**	**0**	**0**	**257**	**0**	**0**	**0**	**0**	**0**	**0**
ARLINGTON	**VIRGINIA CONCRETE SHIRLINGTON PLANT**							**2651 SHIRLINGTON RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	327	327	0	0	0	0	0	0
Total for VIRGINIA CONCRETE SHIRLINGTON PLA		**0**	**0**	**0**	**0**	**327**	**327**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (11 reports)		**14**	**991**	**1,005**	**0**	**327**	**1,332**	**0**	**0**	**0**	**0**	**0**	**3,260**
AUGUSTA	**ACCUTEC BLADES, INC.**							**57 RAZOR BLADE LN**				**NAICS Code**	**332215**
AMMONIA	N	668	45	713	0	0	713	0	0	0	0	0	0
CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	25,169

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for ACCUTEC BLADES, INC.		**668**	**45**	**713**	**0**	**0**	**713**	**0**	**0**	**0**	**0**	**0**	**25,169**
AUGUSTA	**BALL ADVANCED ALUMINUM TECHNOLOGIES CORP**							**56 DUNSMORE RD**				**NAICS Code**	**331524**
ALUMINUM (FUME OR DUST)	N	0	9,800	9,800	0	0	9,800	0	0	0	0	0	32,189
Total for BALL ADVANCED ALUMINUM TECHNOLO		**0**	**9,800**	**9,800**	**0**	**0**	**9,800**	**0**	**0**	**0**	**0**	**0**	**32,189**
AUGUSTA	**CERRO FABRICATED PRODUCTS LLC**							**300 TRIANGLE DR**				**NAICS Code**	**332112**
COPPER COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	176,780
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	2,534	2,281
NITRIC ACID	N	0	0	0	0	0	0	0	0	28,908	28,908	0	0
ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	5	143,048
Total for CERRO FABRICATED PRODUCTS LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28,908**	**28,908**	**2,539**	**322,108**
AUGUSTA	**DEGESCH AMERICA INC**							**153 TRIANGLE DR**				**NAICS Code**	**325320**
ALUMINUM PHOSPHIDE	Y	0	0	0	0	0	0	0	0	0	0	0	0
AMMONIA	N	5	28	33	0	0	33	0	0	0	0	0	0
PHOSPHINE	N	5	0	5	0	0	5	0	0	0	0	0	0
Total for DEGESCH AMERICA INC		**10**	**28**	**38**	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**0**
AUGUSTA	**GROTTOES PLASTICS PLANT**							**149 GRAND CAVERNS DR**				**NAICS Code**	**326113**
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GROTTOES PLASTICS PLANT		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AUGUSTA	**MASTIC HOME EXTERIORS**							**185 JOHNSON DR**				**NAICS Code**	**326199**
ANTIMONY COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0

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CHROMIUM COMPOUNDS (EXCEPT	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for MASTIC HOME EXTERIORS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AUGUSTA	**NIBCO OF VIRGINIA INC.**							**131 JOHNSON DRIVE**				**NAICS Code**	**332112**
CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	1	38,667
COPPER	N	7,050	4,632	11,682	0	0	11,682	0	0	0	0	0	207,797
Total for NIBCO OF VIRGINIA INC.		**7,050**	**4,632**	**11,682**	**0**	**0**	**11,682**	**0**	**0**	**0**	**0**	**1**	**246,464**
AUGUSTA	**REXNORD INDUSTRIES LLC**							**150 JOHNSON DR**				**NAICS Code**	**333612**
AMMONIA	N	0	3,405	3,405	0	0	3,405	0	0	0	0	0	0
Total for REXNORD INDUSTRIES LLC		**0**	**3,405**	**3,405**	**0**	**0**	**3,405**	**0**	**0**	**0**	**0**	**0**	**0**
AUGUSTA	**SHAMROCK FOODS DAIRY DIV**							**318 MILL PL PKWY**				**NAICS Code**	**311511**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	88,122	79,310
NITRIC ACID	N	5	13	18	0	0	18	0	0	0	0	9	9
Total for SHAMROCK FOODS DAIRY DIV		**5**	**13**	**18**	**0**	**0**	**18**	**0**	**0**	**0**	**0**	**88,131**	**79,319**
AUGUSTA	**SUNLITE PLASTICS INC.**							**846 KEEZLETOWN RD**				**NAICS Code**	**326199**
DI(2-ETHYLHEXYL) PHTHALATE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for SUNLITE PLASTICS INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
AUGUSTA	**THE LYCRA COMPANY LLC**							**400 DU PONT BLVD**				**NAICS Code**	**325220**
DIISOCYANATES	N	18	0	18	0	0	18	0	0	0	0	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	34,000	34,000	0	0	19,000	19,000	0	0

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Total for THE LYCRA COMPANY LLC		**18**	**0**	**18**	**0**	**34,000**	**34,018**	**0**	**0**	**19,000**	**19,000**	**0**	**0**
Total for Above County : (22 reports)		**7,751**	**17,922**	**25,673**	**0**	**34,000**	**59,673**	**0**	**0**	**47,908**	**47,908**	**90,671**	**705,248**
BEDFORD	**CUSTOM TRUCK ONE SOURCE**							**12660 E LYNCHBURG SALEM TPKE**				**NAICS Code**	**333120**
ALUMINUM (FUME OR DUST)	Y	0	0	0	0	0	0	0	0	0	0	0	0
CHROMIUM	N	2	53	55	0	0	55	0	0	0	0	0	0
COBALT	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE	N	2	11	12	0	0	12	0	0	0	0	0	0
NICKEL	N	1	50	51	0	0	51	0	0	0	0	0	0
ZINC (FUME OR DUST)	N	0	48	48	0	0	48	0	0	0	0	0	0
Total for CUSTOM TRUCK ONE SOURCE		**5**	**161**	**166**	**0**	**0**	**166**	**0**	**0**	**0**	**0**	**0**	**0**
BEDFORD	**GP BIG ISLAND, LLC**							**9909 LEE JACKSON HWY**				**NAICS Code**	**322120**
ACETALDEHYDE	N	1,300	51,000	52,300	5	630	52,935	43,000	0	7,800	50,800	0	0
AMMONIA	N	500	9,300	9,800	0	4,700	14,500	0	0	0	0	0	0
FORMIC ACID	N	0	0	0	0	1	1	0	0	0	0	0	0
HYDROGEN SULFIDE	N	15,000	0	15,000	6	3	15,009	0	0	170,000	170,000	0	0
MANGANESE COMPOUNDS	N	14	36	50	58,000	4,400	62,450	0	0	0	0	0	0
METHANOL	N	4,400	280,000	284,400	130	1,500	286,030	120,000	0	540,000	660,000	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	740	76,000	76,740	0	0	0	0	0	0
Total for GP BIG ISLAND, LLC		**21,214**	**340,336**	**361,550**	**58,881**	**87,234**	**507,665**	**163,000**	**0**	**717,800**	**880,800**	**0**	**0**

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BEDFORD	**PROWOOD, LLC MONETA**							**1220 HENDRICKS STORE RD**				**NAICS Code**	**321114**
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for PROWOOD, LLC MONETA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (15 reports)		**21,219**	**340,497**	**361,716**	**58,881**	**87,234**	**507,831**	**163,000**	**0**	**717,800**	**880,800**	**0**	**0**
BLAND	**HITACHI ENERGY USA INC.**							**171 INDUSTRY DRIVE**				**NAICS Code**	**335311**
MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	36,378
NICKEL COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	31,205
Total for HITACHI ENERGY USA INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**67,583**
BLAND	**HITACHI ENERGY USA, INC.**							**171 INDUSTRY DRIVE**				**NAICS Code**	**335311**
COPPER	N	0	0	0	0	0	0	0	0	0	0	0	251,665
Total for HITACHI ENERGY USA, INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**251,665**
BLAND	**PASCOR ATLANTIC CORP**							**254 INDUSTRY DR**				**NAICS Code**	**335313**
COPPER	N	0	0	0	0	0	0	0	0	0	0	0	17,473
Total for PASCOR ATLANTIC CORP		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17,473**
Total for Above County : (4 reports)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**336,721**
BOTETOURT	**ALTEC INDUSTRIES, INC.**							**325 SOUTH CENTER DRIVE**				**NAICS Code**	**336211**
MANGANESE	N	3	0	3	0	0	3	0	0	0	0	0	54,700
Total for ALTEC INDUSTRIES, INC.		**3**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**54,700**
BOTETOURT	**CANATAL STEEL USA**							**459 INDUSTRIAL DR**				**NAICS Code**	**332312**

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COPPER	N	0	0	0	0	0	0	0	0	0	0	0	35,685
MANGANESE	N	10	0	10	0	0	10	0	0	0	0	0	47,580
NICKEL	N	1	0	1	0	0	1	0	0	0	0	0	47,580
Total for CANATAL STEEL USA		**11**	**0**	**11**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**130,845**
BOTETOURT	**DYNAX AMERICA CORP**							**568 E PARK DR**				**NAICS Code**	**336350**
HYDROCHLORIC ACID (ACID AERO	N	0	4,710	4,710	0	0	4,710	0	0	91,178	91,178	0	0
METHANOL	N	27,615	7,404	35,019	0	0	35,019	0	0	755,846	755,846	0	14,285
METHYL ISOBUTYL KETONE	N	494	144	638	0	0	638	0	0	12,722	12,722	0	25
PHENOL	N	3,264	763	4,027	0	0	4,027	0	0	85,647	85,647	8	1,790
Total for DYNAX AMERICA CORP		**31,373**	**13,021**	**44,394**	**0**	**0**	**44,394**	**0**	**0**	**945,393**	**945,393**	**8**	**16,100**
BOTETOURT	**GENERAL SHALE BRICK INC PLANT 35 & 36**							**2353 WEBSTER RD**				**NAICS Code**	**327120**
HYDROGEN FLUORIDE	N	0	640	640	0	0	640	0	0	128,723	128,723	0	0
MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GENERAL SHALE BRICK INC PLANT 35 &		**0**	**640**	**640**	**0**	**0**	**640**	**0**	**0**	**128,723**	**128,723**	**0**	**0**
BOTETOURT	**MAAG GALA, INC.**							**181 PAULEY ST**				**NAICS Code**	**333248**
CHROMIUM	N	4	0	5	0	0	5	0	0	0	0	0	38,915
COPPER	N	1	0	1	0	0	1	0	0	0	0	0	9,511
MANGANESE	N	3	0	3	0	0	3	0	0	0	0	0	29,287
NICKEL	N	6	0	6	0	0	6	0	0	0	0	0	76,466
Total for MAAG GALA, INC.		**14**	**0**	**15**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**154,179**

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BOTETOURT	**METALSA ROANOKE INC.**							**184 VISTA DR**				**NAICS Code**	**336390**
MANGANESE	N	5	1,053	1,058	0	0	1,058	0	0	0	0	6	1,037,655
NICKEL	N	5	121	126	0	5	131	0	0	0	0	1	120,255
Total for METALSA ROANOKE INC.		**10**	**1,174**	**1,184**	**0**	**5**	**1,189**	**0**	**0**	**0**	**0**	**6**	**1,157,910**
BOTETOURT	**MUNTERS CORP - DALEVILLE**							**158 SHOOTING STAR WAY**				**NAICS Code**	**333415**
CHROMIUM	N	5	0	5	0	0	5	0	0	0	0	0	16,745
MANGANESE	N	5	0	5	0	0	5	0	0	0	0	0	8,126
NICKEL	N	5	0	5	0	0	5	0	0	0	0	0	20,437
Total for MUNTERS CORP - DALEVILLE		**15**	**0**	**15**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**45,308**
BOTETOURT	**MUNTERS CORPORATION - DALEVILLE**							**158 SHOOTING STAR WAY**				**NAICS Code**	**333415**
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	6,387
Total for MUNTERS CORPORATION - DALEVILLE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6,387**
BOTETOURT	**ROANOKE CEMENT CO LLC**							**6071 CATAWBA RD**				**NAICS Code**	**327310**
CHROMIUM COMPOUNDS (EXCEPT	Y	0	0	0	0	0	0	0	0	0	0	0	0
HYDROCHLORIC ACID (ACID AERO	N	0	9,845	9,845	0	0	9,845	0	0	0	0	0	0
MANGANESE COMPOUNDS	N	381	134	515	936	20	1,471	0	0	0	0	0	0
SULFURIC ACID (ACID AEROSOLS I	N	0	35,043	35,043	0	0	35,043	0	0	0	0	0	0
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for ROANOKE CEMENT CO LLC		**381**	**45,022**	**45,403**	**936**	**20**	**46,359**	**0**	**0**	**0**	**0**	**0**	**0**

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BOTETOURT	**TREAD CORP**							**176 EASTPARK DR**				**NAICS Code**	**333924**
ALUMINUM (FUME OR DUST)	N	0	0	0	0	0	0	0	0	0	0	0	1,206
CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	77,276
MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	9,422
NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	41,333
Total for TREAD CORP		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**129,237**
Total for Above County : (30 reports)		**31,807**	**59,857**	**91,665**	**936**	**25**	**92,626**	**0**	**0**	**1,074,116**	**1,074,116**	**14**	**1,694,666**
BRISTOL (CITY)	**STRONGWELL CORP BRISTOL**							**400 COMMONWEALTH AVE**				**NAICS Code**	**326199**
ANTIMONY	N	0	139	139	0	0	139	0	0	0	0	0	0
STYRENE	N	22,544	0	22,544	0	0	22,544	0	0	120	120	0	3,940
Total for STRONGWELL CORP BRISTOL		**22,544**	**139**	**22,683**	**0**	**0**	**22,683**	**0**	**0**	**120**	**120**	**0**	**3,940**
Total for Above County : (2 reports)		**22,544**	**139**	**22,683**	**0**	**0**	**22,683**	**0**	**0**	**120**	**120**	**0**	**3,940**
BRUNSWICK	**GLEN-GERY CORPORATION - LAWRENCEVILLE PLANT**							**16024 GOVERNOR HARRISON PKWY**				**NAICS Code**	**327331**
HYDROGEN FLUORIDE	N	0	556	556	0	0	556	0	0	64,200	64,200	0	0
MANGANESE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GLEN-GERY CORPORATION - LAWRENC		**0**	**556**	**556**	**0**	**0**	**556**	**0**	**0**	**64,200**	**64,200**	**0**	**0**
Total for Above County : (2 reports)		**0**	**556**	**556**	**0**	**0**	**556**	**0**	**0**	**64,200**	**64,200**	**0**	**0**
BUCHANAN	**JEWELL COKE CO LP**							**1034 DISMAL RIVER RD**				**NAICS Code**	**324199**
HYDROCHLORIC ACID (ACID AERO	N	0	915,400	915,400	0	0	915,400	0	0	0	0	0	0

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	HYDROGEN FLUORIDE	N	0	28,506	28,506	0	0	28,506	0	0	0	0	0	0
	SULFURIC ACID (ACID AEROSOLS I	N	0	374,526	374,526	0	0	374,526	0	0	0	0	0	0
Total for JEWELL COKE CO LP			**0**	**1,318,432**	**1,318,432**	**0**	**0**	**1,318,432**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 reports)			**0**	**1,318,432**	**1,318,432**	**0**	**0**	**1,318,432**	**0**	**0**	**0**	**0**	**0**	**0**
BUCKINGHAM	**BEAR GARDEN GENERATING STATION**								**2608 C.G. WOODSON ROAD**				**NAICS Code**	**221112**
	AMMONIA	N	0	6,550	6,550	0	0	6,550	0	0	0	0	0	0
Total for BEAR GARDEN GENERATING STATION			**0**	**6,550**	**6,550**	**0**	**0**	**6,550**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)			**0**	**6,550**	**6,550**	**0**	**0**	**6,550**	**0**	**0**	**0**	**0**	**0**	**0**
CAMPBELL	**BANKER STEEL COMPANY, LLC**								**351 RANGOON ROAD**				**NAICS Code**	**332312**
	MANGANESE	N	86	0	86	0	0	86	0	0	0	0	0	41,021
	NICKEL	N	1	0	1	0	0	1	0	0	0	0	0	15,943
Total for BANKER STEEL COMPANY, LLC			**87**	**0**	**87**	**0**	**0**	**87**	**0**	**0**	**0**	**0**	**0**	**56,964**
CAMPBELL	**BWXT NUCLEAR OPERATIONS GROUP, INC.**								**1570 MOUNT ATHOS RD**				**NAICS Code**	**332410**
	CHROMIUM COMPOUNDS (EXCEPT	N	13	76	89	1	5	95	0	0	0	0	0	120
	COPPER COMPOUNDS	N	0	19	19	83	335	438	0	0	0	0	0	116,184
	HYDROGEN FLUORIDE	N	0	143	143	0	0	143	0	125	80,380	80,505	0	3,512
	NICKEL COMPOUNDS	N	3	156	159	14	57	230	0	0	0	0	0	50
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	477,367	477,367	0	0	938,729	938,729	0	226,753
	NITRIC ACID	N	16	2,409	2,425	0	0	2,425	0	1,117	953,870	954,987	0	630,327

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Total for BWXT NUCLEAR OPERATIONS GROUP, I		**32**	**2,804**	**2,836**	**98**	**477,765**	**480,699**	**0**	**1,243**	**1,972,979**	**1,974,221**	**0**	**976,947**
CAMPBELL	**GEORGIA-PACIFIC WOOD PRODUCTS LLC - BROOKNEAL OSB**							**11795 BROOKNEAL HIGHWAY**				**NAICS Code**	**321219**
ACETALDEHYDE	N	0	3,600	3,600	0	0	3,600	0	0	29,000	29,000	0	0
FORMALDEHYDE	N	0	9,600	9,600	0	0	9,600	0	0	72,000	72,000	0	0
METHANOL	N	0	36,000	36,000	0	0	36,000	0	0	190,000	190,000	0	0
Total for GEORGIA-PACIFIC WOOD PRODUCTS L		**0**	**49,200**	**49,200**	**0**	**0**	**49,200**	**0**	**0**	**291,000**	**291,000**	**0**	**0**
CAMPBELL	**SCHRADER-BRIDGEPORT INTERNATIONAL**							**205 FRAZIER RD**				**NAICS Code**	**336390**
COPPER	N	0	0	0	0	0	0	0	0	0	0	4	910,004
Total for SCHRADER-BRIDGEPORT INTERNATION		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**910,004**
Total for Above County : (12 reports)		**119**	**52,004**	**52,123**	**98**	**477,765**	**529,986**	**0**	**1,243**	**2,263,979**	**2,265,221**	**4**	**1,943,915**
CAROLINE	**HOOVER TREATED WOOD PRODUCTS, INC**							**18315 HOUSE DR**				**NAICS Code**	**321999**
ARSENIC COMPOUNDS	N	0	0	0	0	188	188	0	0	0	0	0	0
CHROMIUM COMPOUNDS (EXCEPT	N	0	0	0	0	113	113	0	0	0	0	0	0
COPPER COMPOUNDS	N	0	0	0	0	11	11	0	0	0	0	0	0
FORMALDEHYDE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for HOOVER TREATED WOOD PRODUCTS, I		**0**	**0**	**0**	**0**	**312**	**312**	**0**	**0**	**0**	**0**	**0**	**0**
CAROLINE	**JCI JONES CHEMICALS INC.**							**16248 INDUSTRIAL DR**				**NAICS Code**	**424690**
CHLORINE	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for JCI JONES CHEMICALS INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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CAROLINE	**LADYSMITH COMBUSTION TURBINE STATION**							**8063 CEDON RD**				**NAICS Code**	**221112**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for LADYSMITH COMBUSTION TURBINE STA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CAROLINE	**US ARMY FORT WALKER RANGES (PART)**							**19952 NORTH RANGE RD**				**NAICS Code**	**928110**
COPPER	N	0	0	0	30,336	1,520	31,855	0	0	0	0	0	0
Total for US ARMY FORT WALKER RANGES (PAR		**0**	**0**	**0**	**30,336**	**1,520**	**31,855**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (9 reports)		**0**	**0**	**0**	**30,336**	**1,832**	**32,167**	**0**	**0**	**0**	**0**	**0**	**0**
CARROLL	**VAUGHAN-BASSETT FURNITURE CO. GALAX**							**300 E GRAYSON ST**				**NAICS Code**	**337122**
N-BUTYL ALCOHOL	N	2,040	11,560	13,601	0	0	13,601	0	0	0	0	0	528
XYLENE (MIXED ISOMERS)	N	4,776	27,068	31,844	0	0	31,844	0	0	0	0	0	1,222
Total for VAUGHAN-BASSETT FURNITURE CO. GA		**6,816**	**38,628**	**45,444**	**0**	**0**	**45,444**	**0**	**0**	**0**	**0**	**0**	**1,750**
Total for Above County : (2 reports)		**6,816**	**38,628**	**45,444**	**0**	**0**	**45,444**	**0**	**0**	**0**	**0**	**0**	**1,750**
CHESAPEAKE (CITY)	**AMERICAN GFM CORP**							**1200 CAVALIER BLVD**				**NAICS Code**	**333517**
AMMONIA	N	0	9,580	9,580	0	0	9,580	0	0	0	0	0	0
Total for AMERICAN GFM CORP		**0**	**9,580**	**9,580**	**0**	**0**	**9,580**	**0**	**0**	**0**	**0**	**0**	**0**
CHESAPEAKE (CITY)	**ELIZABETH RIVER COMBUSTION TURBINE STATION**							**2837 S MILITARY HWY**				**NAICS Code**	**221112**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for ELIZABETH RIVER COMBUSTION TURBI		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESAPEAKE (CITY)	**FLOWSERVE US INC**							**3900 COOK BLVD**				**NAICS Code**	**333914**
CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	30,187
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	55,623
Total for FLOWSERVE US INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**85,810**
CHESAPEAKE (CITY)	**MITSUBISHI CHEMICAL AMERICA ALPOLIC DIVISION**							**401 VOLVO PKWY**				**NAICS Code**	**332323**
MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	10,231
Total for MITSUBISHI CHEMICAL AMERICA ALPOL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10,231**
CHESAPEAKE (CITY)	**PERDUE AGRIBUSINESS LLC - CHESAPEAKE VA**							**501A BARNES RD**				**NAICS Code**	**311224**
N-HEXANE	N	250,346	144,557	394,903	0	0	394,903	0	559,259,075	0	559,259,075	60	28
Total for PERDUE AGRIBUSINESS LLC - CHESAP		**250,346**	**144,557**	**394,903**	**0**	**0**	**394,903**	**0**	**559,259,075**	**0**	**559,259,075**	**60**	**28**
Total for Above County : (8 reports)		**250,346**	**154,137**	**404,483**	**0**	**0**	**404,483**	**0**	**559,259,075**	**0**	**559,259,075**	**60**	**96,069**
CHESTERFIELD	**BELLWOOD PRINTING PLANT**							**2001 REYMET RD**				**NAICS Code**	**323111**
AMMONIA	N	5,720	5,720	11,440	0	0	11,440	0	0	0	0	0	0
N-METHYL-2-PYRROLIDONE	N	2,494	2,494	4,988	0	0	4,988	0	0	0	0	0	0
Total for BELLWOOD PRINTING PLANT		**8,214**	**8,214**	**16,428**	**0**	**0**	**16,428**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**CHESTERFIELD POWER STATION**							**500 COXENDALE RD**				**NAICS Code**	**221112**

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1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
AMMONIA	N	0	60	60	0	1,210	1,270	0	0	0	0	0	100,709
BARIUM COMPOUNDS (EXCEPT FO	N	0	64	64	26,200	45	26,309	0	0	0	0	0	0
HYDROCHLORIC ACID (ACID AERO	N	0	40,600	40,600	0	0	40,600	0	0	0	0	0	0
HYDROGEN FLUORIDE	N	0	5,070	5,070	0	0	5,070	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
SULFURIC ACID (ACID AEROSOLS I	N	0	9,690	9,690	0	0	9,690	0	0	0	0	0	0
Total for CHESTERFIELD POWER STATION		**0**	**55,484**	**55,484**	**26,200**	**1,255**	**82,939**	**0**	**0**	**0**	**0**	**0**	**100,709**
CHESTERFIELD	**CHURCH & DWIGHT CO INC**							**1851 TOUCHSTONE RD**				**NAICS Code**	**326299**
AMMONIA	N	2,224	40,348	42,572	0	0	42,572	0	0	0	0	191	191
Total for CHURCH & DWIGHT CO INC		**2,224**	**40,348**	**42,572**	**0**	**0**	**42,572**	**0**	**0**	**0**	**0**	**191**	**191**
CHESTERFIELD	**COLONIAL CHEMICAL SOLUTIONS INC.**							**2540 BELLWOOD RD**				**NAICS Code**	**424690**
CYCLOHEXANOL	N	112	0	112	0	0	112	0	0	0	0	0	0
ETHYLENE GLYCOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
METHANOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for COLONIAL CHEMICAL SOLUTIONS INC.		**112**	**0**	**112**	**0**	**0**	**112**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**DUPONT SPECIALTY PRODUCTS USA, LLC - SPRUANCE PLANT**							**5401 ROUTE 1**				**NAICS Code**	**325220**
1,3-PHENYLENEDIAMINE	N	0	0	0	0	0	0	0	0	0	0	0	2,108
AMMONIA	N	20,981	0	20,981	0	9,870	30,851	0	0	3,129	3,129	0	0

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	CHLOROFORM	N	585	11,296	11,881	0	22	11,903	0	0	663	663	0	0
	DIMETHYLAMINE	N	15,933	0	15,933	0	26,230	42,163	0	0	118,930	118,930	0	0
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	36,387	36,387	0	0	0	0	0	0
	N-METHYL-2-PYRROLIDONE	N	0	35,384	35,384	0	4,769	40,153	0	0	46,565	46,565	0	1,116,912
	P-PHENYLENEDIAMINE	N	0	0	0	0	0	0	0	0	0	0	0	13,945
	TRICHLOROFLUOROMETHANE (CF	N	90,877	2,363	93,240	0	43	93,283	0	0	419	419	0	0
Total for DUPONT SPECIALTY PRODUCTS USA, L			**128,376**	**49,043**	**177,419**	**0**	**77,321**	**254,740**	**0**	**0**	**169,706**	**169,706**	**0**	**1,132,965**
CHESTERFIELD	**DUPONT TEIJIN FILMS SPRUANCE**								**5401A ROUTE 1**				**NAICS Code**	**325211**
	TOLUENE	N	45,523	49,317	94,840	0	40	94,880	0	0	40	40	0	6,717
Total for DUPONT TEIJIN FILMS SPRUANCE			**45,523**	**49,317**	**94,840**	**0**	**40**	**94,880**	**0**	**0**	**40**	**40**	**0**	**6,717**
CHESTERFIELD	**FUJIFILM WAKO CHEMICALS USA CORP**								**1600 BELLWOOD RD**				**NAICS Code**	**325199**
	CYANIDE COMPOUNDS	N	5	2	7	0	0	7	0	0	5,370	5,370	28	0
	HYDROCHLORIC ACID (ACID AERO	N	250	1,027	1,277	0	0	1,277	0	0	51,350	51,350	0	0
	METHANOL	N	2,000	7,675	9,675	0	0	9,675	0	1,467,476	38,375	1,505,851	0	18,975
Total for FUJIFILM WAKO CHEMICALS USA CORP			**2,255**	**8,704**	**10,959**	**0**	**0**	**10,959**	**0**	**1,467,476**	**95,095**	**1,562,571**	**28**	**18,975**
CHESTERFIELD	**FUJIFILM WAKO CHEMICALS USA CORPORATION**								**1600 BELLWOOD RD**				**NAICS Code**	**325199**
	AMMONIA	N	250	58	308	0	0	308	0	0	5,759	5,759	1,597	793
	TOLUENE	N	2,000	2,625	4,625	0	0	4,625	0	286,983	74,400	361,383	1	470
Total for FUJIFILM WAKO CHEMICALS USA CORP			**2,250**	**2,683**	**4,933**	**0**	**0**	**4,933**	**0**	**286,983**	**80,159**	**367,142**	**1,598**	**1,263**
CHESTERFIELD	**HILL PHOENIX, INC.**								**1925 RUFFIN MILL RD**				**NAICS Code**	**333415**

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CHROMIUM	Y	0	0	0	0	0	0	0	0	0	0	0	0
CHROMIUM	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NICKEL	Y	0	0	0	0	0	0	0	0	0	0	0	0
NICKEL	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for HILL PHOENIX, INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**HONEYWELL INTERNATIONAL COLONIAL HEIGHTS PLANT**							**15801 WOODS EDGE RD**				**NAICS Code**	**325220**
FREON 113 (CFC-113)	N	148,248	32,160	180,408	0	0	180,408	0	278,014,200	0	278,014,200	0	3,951
Total for HONEYWELL INTERNATIONAL COLONIA		**148,248**	**32,160**	**180,408**	**0**	**0**	**180,408**	**0**	**278,014,200**	**0**	**278,014,200**	**0**	**3,951**
CHESTERFIELD	**NOVELIS ALR ROLLED PRODUCTS INC**							**1701 REYMET RD**				**NAICS Code**	**331315**
ALUMINUM (FUME OR DUST)	N	47	93	140	0	0	140	0	0	0	0	0	29,987
Total for NOVELIS ALR ROLLED PRODUCTS INC		**47**	**93**	**140**	**0**	**0**	**140**	**0**	**0**	**0**	**0**	**0**	**29,987**
CHESTERFIELD	**PHILIP MORRIS USA PARK 500 SITE**							**4100 BERMUDA HUNDRED RD**				**NAICS Code**	**312230**
AMMONIA	N	1,767	176,657	178,424	0	82	178,506	0	0	2,327	2,327	0	188
NICOTINE AND SALTS	N	102	10,216	10,318	0	19	10,337	0	0	96,573	96,573	0	79,178
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	8,725	8,725	0	0	142,543	142,543	0	0

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Total for PHILIP MORRIS USA PARK 500 SITE		**1,869**	**186,873**	**188,742**	**0**	**8,826**	**197,568**	**0**	**0**	**241,443**	**241,443**	**0**	**79,366**
CHESTERFIELD	**SAFETY-KLEEN SYSTEMS CHESTER (CVA)**							**1200 W 100 RD**				**NAICS Code**	**562112**
ETHYLENE GLYCOL	N	0	2	2	0	0	2	0	0	0	0	0	32,392
Total for SAFETY-KLEEN SYSTEMS CHESTER (CV		**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**32,392**
CHESTERFIELD	**SUPER RADIATOR COILS**							**451 SOUTHLAKE BLVD**				**NAICS Code**	**333414**
CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	19,725
NICKEL	N	0	0	0	0	0	0	0	0	0	0	3	14,426
Total for SUPER RADIATOR COILS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**34,151**
CHESTERFIELD	**TRIDENT AMERICAS**							**833 LIBERTY WAY**				**NAICS Code**	**332813**
COPPER COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	44,950
Total for TRIDENT AMERICAS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44,950**
CHESTERFIELD	**US DEFENSE LOGISTICS AGENCY DEFENSE SUPPLY CENTER RICHM**							**6090 STRATHMORE RD**				**NAICS Code**	**425120**
BROMOCHLORODIFLUOROMETHA	N	493	0	493	0	0	493	0	0	0	0	0	0
BROMOTRIFLUOROMETHANE (HA	N	2,715	0	2,715	0	0	2,715	0	0	0	0	0	0
CHLORODIFLUOROMETHANE (HCF	N	149	0	149	0	0	149	0	0	0	0	0	0
DICHLORODIFLUOROMETHANE (C	N	72	0	72	0	0	72	0	0	0	0	0	0
DICHLOROTETRAFLUOROETHANE	N	356	0	356	0	0	356	0	0	0	0	0	0
TRICHLOROFLUOROMETHANE (CF	N	4	0	4	0	0	4	0	0	0	0	0	0
Total for US DEFENSE LOGISTICS AGENCY DEFE		**3,789**	**0**	**3,789**	**0**	**0**	**3,789**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**VEOLIA JAMES RIVER PLANT**							**1201 BELLWOOD RD**				**NAICS Code**	**325180**

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SULFURIC ACID (ACID AEROSOLS I	N	2,832	5,470	8,302	0	0	8,302	0	0	0	0	0	0
Total for VEOLIA JAMES RIVER PLANT		**2,832**	**5,470**	**8,302**	**0**	**0**	**8,302**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (53 reports)		**345,739**	**438,391**	**784,130**	**26,200**	**87,442**	**897,772**	**0**	**279,768,659**	**586,443**	**280,355,102**	**1,819**	**1,485,617**
CLARKE	**GRIFFITH ENERGY SERVICES INC-BERRYVILLE**							**618 E MAIN ST**				**NAICS Code**	**457210**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GRIFFITH ENERGY SERVICES INC-BERR		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CLARKE	**TRELLEBORG MARINE SYSTEMS NORTH AMERICA INC.**							**532 JACK ENDERS BLVD**				**NAICS Code**	**326199**
TOLUENE-2,4-DIISOCYANATE	N	0	250	250	0	0	250	0	0	0	0	0	1,266
Total for TRELLEBORG MARINE SYSTEMS NORT		**0**	**250**	**250**	**0**	**0**	**250**	**0**	**0**	**0**	**0**	**0**	**1,266**
Total for Above County : (4 reports)		**0**	**250**	**250**	**0**	**0**	**250**	**0**	**0**	**0**	**0**	**0**	**1,266**
COLONIAL HEIGHTS (CITY)	**ROSLYN CONVERTERS INC**							**1106 W ROSLYN RD**				**NAICS Code**	**323111**
ALUMINUM (FUME OR DUST)	N	0	55	55	0	0	55	0	670	0	670	0	7,199
COPPER	N	0	18	18	0	0	18	0	287	0	287	0	2,000
ZINC (FUME OR DUST)	N	0	8	8	0	0	8	0	70	0	70	0	1,701
Total for ROSLYN CONVERTERS INC		**0**	**81**	**81**	**0**	**0**	**81**	**0**	**1,027**	**0**	**1,027**	**0**	**10,900**
COLONIAL HEIGHTS (CITY)	**SUN CHEMICAL CORP**							**16000 CONTINENTAL BLVD**				**NAICS Code**	**325910**
BARIUM COMPOUNDS (EXCEPT FO	Y	0	0	0	0	0	0	0	0	0	0	0	0

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COPPER	N	4	3	7	0	0	7	0	0	0	0	0	0
Total for SUN CHEMICAL CORP		**4**	**3**	**7**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (5 reports)		**4**	**84**	**88**	**0**	**0**	**88**	**0**	**1,027**	**0**	**1,027**	**0**	**10,900**
COVINGTON (CITY)	**INGEVITY VIRGINIA CORPORATION**							**958 E RIVERSIDE ST**				**NAICS Code**	**325998**
ACETALDEHYDE	N	5	1,548	1,553	0	0	1,553	0	0	30,568	30,568	0	0
FORMALDEHYDE	N	23	2,392	2,415	0	0	2,415	0	0	90,519	90,519	0	0
FORMIC ACID	N	57	8,312	8,369	0	0	8,369	0	0	631,031	631,031	0	0
METHANOL	N	127	27,334	27,461	0	0	27,461	0	0	2,212,193	2,212,193	0	0
Total for INGEVITY VIRGINIA CORPORATION		**212**	**39,586**	**39,798**	**0**	**0**	**39,798**	**0**	**0**	**2,964,311**	**2,964,311**	**0**	**0**
COVINGTON (CITY)	**WESTROCK VIRGINIA CORPORATION (ENTIRE)**							**104 E. RIVERSIDE STREET**				**NAICS Code**	**322130**
ACETALDEHYDE	N	1,050	35,700	36,750	9	2,120	38,879	0	0	87,300	87,300	0	0
AMMONIA	N	1,020	165,000	166,020	0	2,440	168,460	0	0	312,000	312,000	0	0
BARIUM COMPOUNDS (EXCEPT FO	N	0	993	993	50,400	0	51,393	0	0	0	0	0	0
CATECHOL	N	0	0	0	0	15	16	0	0	407	407	0	0
CHLORINE	N	5	396	401	0	0	401	0	0	43,000	43,000	0	0
CHLORINE DIOXIDE	N	5	3,070	3,075	0	0	3,075	0	0	299,000	299,000	0	0
CRESOL (MIXED ISOMERS)	N	7	6,090	6,097	3	3	6,103	0	0	17,300	17,300	0	0
FORMALDEHYDE	N	17	11,100	11,117	8	677	11,802	0	0	11,500	11,500	0	0
FORMIC ACID	N	0	0	0	2	759	761	0	0	385	385	0	0
HYDROCHLORIC ACID (ACID AERO	N	0	170,000	170,000	0	0	170,000	0	0	169,000	169,000	0	0

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HYDROGEN SULFIDE	N	7,170	64,600	71,770	344	374	72,488	0	0	575,000	575,000	0	0
MANGANESE COMPOUNDS	N	0	302	302	202,000	45,300	247,602	0	0	0	0	0	0
METHANOL	N	44,300	1,140,000	1,184,300	6,730	2,120	1,193,150	0	0	15,200,000	15,200,000	0	0
PHENOL	N	8	26,300	26,308	4	423	26,734	0	0	10,200	10,200	0	0
SULFURIC ACID (ACID AEROSOLS I	N	0	46,100	46,100	0	0	46,100	0	0	59,600	59,600	0	0
VANADIUM COMPOUNDS	N	0	13	13	1,830	1,240	3,083	0	0	0	0	0	0
ZINC COMPOUNDS	N	0	444	444	29,700	846	30,990	0	0	0	0	0	0
Total for WESTROCK VIRGINIA CORPORATION (E		**53,581**	**1,670,108**	**1,723,689**	**291,030**	**56,318**	**2,071,036**	**0**	**0**	**16,784,692**	**16,784,692**	**0**	**0**
Total for Above County : (21 reports)		**53,793**	**1,709,694**	**1,763,487**	**291,030**	**56,318**	**2,110,834**	**0**	**0**	**19,749,003**	**19,749,003**	**0**	**0**
CULPEPER	**ARDENT MILLS, LLC**							**1900 INDUSTRY DR**				**NAICS Code**	**311211**
CHLORINE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for ARDENT MILLS, LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CULPEPER	**CABINETWORKS GROUP - CULPEPER PLANT**							**641 MADDOX DR**				**NAICS Code**	**337110**
N-METHYL-2-PYRROLIDONE	N	0	33,863	33,863	0	0	33,863	0	0	0	0	0	1,930
XYLENE (MIXED ISOMERS)	N	0	17,744	17,744	0	0	17,744	0	0	0	0	0	1,887
Total for CABINETWORKS GROUP - CULPEPER P		**0**	**51,607**	**51,607**	**0**	**0**	**51,607**	**0**	**0**	**0**	**0**	**0**	**3,817**
CULPEPER	**CULPEPER WOOD PRESERVERS**							**15487 BRAGGS CORNER RD**				**NAICS Code**	**321114**
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CULPEPER WOOD PRESERVERS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CULPEPER	**HEXATRONIC ROCHESTER CABLE INC.**							**751 OLD BRANDY RD**				**NAICS Code**	**331491**

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	MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	30,813
	NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	5,849
Total for HEXATRONIC ROCHESTER CABLE INC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36,662**
CULPEPER	**HEXATRONIC ROCHESTER CABLE, INC.**								**751 OLD BRANDY RD**				**NAICS Code**	**331491**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	11,547
	COPPER	N	0	0	0	0	0	0	0	0	0	0	0	160,725
Total for HEXATRONIC ROCHESTER CABLE, INC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**172,272**
Total for Above County : (8 reports)			**0**	**51,607**	**51,607**	**0**	**0**	**51,607**	**0**	**0**	**0**	**0**	**0**	**212,751**
CUMBERLAND	**GEMINI-FARMVILLE**								**102 HAUSCHILD DR**				**NAICS Code**	**339950**
	COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GEMINI-FARMVILLE			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
DANVILLE (CITY)	**AMERICAN PHOENIX INC**								**121 MARTHA ST**				**NAICS Code**	**325998**
	COBALT COMPOUNDS	N	5	5	10	0	0	10	0	0	0	0	0	0
	ZINC COMPOUNDS	N	5	5	10	0	0	10	0	0	0	0	0	0
Total for AMERICAN PHOENIX INC			**10**	**10**	**20**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**
DANVILLE (CITY)	**THE GOODYEAR TIRE & RUBBER CO.**								**1901 GOODYEAR BLVD**				**NAICS Code**	**326211**
	COBALT COMPOUNDS	N	0	1	1	0	0	1	0	0	0	0	0	4,040
	ZINC COMPOUNDS	N	0	243	243	0	116	359	0	0	0	0	533	185,872

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Total for THE GOODYEAR TIRE & RUBBER CO.		**0**	**244**	**244**	**0**	**116**	**360**	**0**	**0**	**0**	**0**	**533**	**189,912**
Total for Above County : (4 reports)		**10**	**254**	**264**	**0**	**116**	**380**	**0**	**0**	**0**	**0**	**533**	**189,912**
DINWIDDIE	**CHAPARRAL (VA) INC**							**25801 HOFHEIMER WAY**				**NAICS Code**	**331110**
CHROMIUM COMPOUNDS (EXCEPT	N	1,669	24	1,693	0	0	1,693	0	0	0	0	0	63,277
COPPER COMPOUNDS	N	0	0	0	0	1	1	0	0	0	0	0	37,502
MANGANESE COMPOUNDS	N	101	111	212	0	0	212	0	0	0	0	0	367,456
ZINC COMPOUNDS	N	0	0	0	0	1,777	1,777	0	0	0	0	0	3,079,177
Total for CHAPARRAL (VA) INC		**1,770**	**135**	**1,905**	**0**	**1,778**	**3,683**	**0**	**0**	**0**	**0**	**0**	**3,547,412**
Total for Above County : (4 reports)		**1,770**	**135**	**1,905**	**0**	**1,778**	**3,683**	**0**	**0**	**0**	**0**	**0**	**3,547,412**
FAIRFAX	**GEORGE BUSH CENTER FOR INTELLIGENCE (CIA)**							**1000 COLONIAL FARM RD**				**NAICS Code**	**928110**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
CUMENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
ETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GEORGE BUSH CENTER FOR INTELLIGE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FAIRFAX	**SICPA SECURINK CORP**							**8000 RESEARCH WAY**				**NAICS Code**	**325910**
CERTAIN GLYCOL ETHERS	N	250	0	250	0	0	250	0	0	0	0	0	750
PHTHALIC ANHYDRIDE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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TOLUENE DIISOCYANATE (MIXED	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for SICPA SECURINK CORP		**250**	**0**	**250**	**0**	**0**	**250**	**0**	**0**	**0**	**0**	**0**	**750**
FAIRFAX	**VIRGINIA CONCRETE EDSALL ROAD PLANT**							**5412 INDUSTRIAL DR**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	295	295	0	0	0	0	0	0
Total for VIRGINIA CONCRETE EDSALL ROAD PL		**0**	**0**	**0**	**0**	**295**	**295**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (9 reports)		**250**	**0**	**250**	**0**	**295**	**545**	**0**	**0**	**0**	**0**	**0**	**750**
FAIRFAX (CITY)	**GLOBAL FAIRFAX TERMINAL**							**3800 PICKETT RD**				**NAICS Code**	**424710**
1,2,4-TRIMETHYLBENZENE	N	38	25	63	0	0	63	0	0	0	0	0	0
BENZENE	N	79	130	209	0	0	209	0	0	0	0	0	0
CUMENE	N	3	9	12	0	0	12	0	0	0	0	0	0
ETHYLBENZENE	N	31	19	50	0	0	50	0	0	0	0	0	0
NAPHTHALENE	N	4	1	5	0	0	5	0	0	0	0	0	0
N-HEXANE	N	137	230	367	0	0	367	0	0	0	0	0	0
STYRENE	N	2	1	3	0	0	3	0	0	0	0	0	0
TOLUENE	N	191	230	421	0	0	421	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	N	159	85	244	0	0	244	0	0	0	0	0	0
Total for GLOBAL FAIRFAX TERMINAL		**644**	**730**	**1,374**	**0**	**0**	**1,374**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (9 reports)		**644**	**730**	**1,374**	**0**	**0**	**1,374**	**0**	**0**	**0**	**0**	**0**	**0**
FALLS CHURCH (CITY)	**VIRGINIA CONCRETE FALLS CHURCH PLANT**							**7103 GORDON RD**				**NAICS Code**	**327320**

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	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	260	260	0	0	0	0	0	0
	Total for VIRGINIA CONCRETE FALLS CHURCH PL		**0**	**0**	**0**	**0**	**260**	**260**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**260**	**260**	**0**	**0**	**0**	**0**	**0**	**0**
FAUQUIER	**REMINGTON POWER STATION**								**12025 LUCKY HILL ROAD**				**NAICS Code**	**221112**
	1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	Total for REMINGTON POWER STATION		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FAUQUIER	**US DOD, WARRENTON TRAINING CENTER STATION B RANGE**								**7471 BEAR WALLOW ROAD**				**NAICS Code**	**928110**
	1,2,4-TRIMETHYLBENZENE	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for US DOD, WARRENTON TRAINING CENT		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (4 reports)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FLUVANNA	**TENASKA VIRGINIA PARTNERS LP**								**2300 BRANCH ROAD**				**NAICS Code**	**221112**
	AMMONIA	N	0	11,420	11,420	0	0	11,420	0	0	0	0	0	0
	Total for TENASKA VIRGINIA PARTNERS LP		**0**	**11,420**	**11,420**	**0**	**0**	**11,420**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (1 record)		**0**	**11,420**	**11,420**	**0**	**0**	**11,420**	**0**	**0**	**0**	**0**	**0**	**0**
FRANKLIN	**BLUE RIDGE SOLVENTS & COATINGS**								**3800 ORIGINAL HENRY RD**				**NAICS Code**	**325510**
	METHANOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
	N-BUTYL ALCOHOL	N	120	0	120	0	0	120	0	79,856	0	79,856	0	50,227

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	N-METHYL-2-PYRROLIDONE	N	93	0	93	0	0	93	0	201,475	0	201,475	0	93,311
	TOLUENE	N	61	0	61	0	0	61	0	0	0	0	0	8,371
	XYLENE (MIXED ISOMERS)	N	24	0	24	0	0	24	0	22,543	0	22,543	0	15,068
Total for BLUE RIDGE SOLVENTS & COATINGS			**298**	**0**	**298**	**0**	**0**	**298**	**0**	**303,874**	**0**	**303,874**	**0**	**166,977**
FRANKLIN	**GREAT SOUTHERN WOOD - VA, INC.**								**1050 N MAIN ST**				**NAICS Code**	**321114**
	ARSENIC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
	CHROMIUM COMPOUNDS (EXCEPT	Y	0	0	0	0	0	0	0	0	0	0	0	0
	COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GREAT SOUTHERN WOOD - VA, INC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FRANKLIN	**LINEAL TECHNOLOGIES INC**								**350 STATE ST**				**NAICS Code**	**326199**
	ANTIMONY COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	453
	CHROMIUM COMPOUNDS (EXCEPT	N	0	0	0	0	0	0	0	0	0	0	0	1,208
Total for LINEAL TECHNOLOGIES INC			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,661**
Total for Above County : (10 reports)			**298**	**0**	**298**	**0**	**0**	**298**	**0**	**303,874**	**0**	**303,874**	**0**	**168,638**
FREDERICK	**DARLING INGREDIENTS INC-WINCHESTER FACILITY**								**1635 INDIAN HOLLOW RD**				**NAICS Code**	**311613**
	AMMONIA	N	0	718	718	389	0	1,107	0	0	25,156	25,156	0	26
	CHLORINE DIOXIDE	N	0	0	0	15,160	0	15,160	0	0	0	0	0	0
Total for DARLING INGREDIENTS INC-WINCHEST			**0**	**718**	**718**	**15,549**	**0**	**16,267**	**0**	**0**	**25,156**	**25,156**	**0**	**26**
FREDERICK	**EVOLVE STONE LLC**								**200 LENOIR DRIVE**				**NAICS Code**	**326199**
	STYRENE	N	0	33,084	33,084	0	0	33,084	0	0	0	0	0	0

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Total for EVOLVE STONE LLC		**0**	**33,084**	**33,084**	**0**	**0**	**33,084**	**0**	**0**	**0**	**0**	**0**	**0**
FREDERICK	**FISHER DIAGNOSTICS, A DIVISION OF FISHER SCIENTIFIC COMPAN**							**8365 VALLEY PIKE**				**NAICS Code**	**325413**
CERTAIN GLYCOL ETHERS	N	0	0	0	0	0	0	0	0	0	0	0	17,393
METHANOL	N	0	65	65	0	0	65	0	0	0	0	0	43,853
Total for FISHER DIAGNOSTICS, A DIVISION OF FI		**0**	**65**	**65**	**0**	**0**	**65**	**0**	**0**	**0**	**0**	**0**	**61,246**
FREDERICK	**HP HOOD LLC**							**160 HOOD WAY**				**NAICS Code**	**311511**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	88,102	79,291
NITRIC ACID	N	0	0	0	0	0	0	0	0	89,506	89,506	0	0
PERACETIC ACID	N	0	600	600	0	0	600	0	0	37,553	37,553	0	0
Total for HP HOOD LLC		**0**	**600**	**600**	**0**	**0**	**600**	**0**	**0**	**127,059**	**127,059**	**88,102**	**79,291**
FREDERICK	**KINGSPAN INSULATION LLC**							**200 KINGSPAN WAY**				**NAICS Code**	**326140**
METHANOL	N	42,997	0	42,997	0	0	42,997	0	0	0	0	0	0
Total for KINGSPAN INSULATION LLC		**42,997**	**0**	**42,997**	**0**	**0**	**42,997**	**0**	**0**	**0**	**0**	**0**	**0**
FREDERICK	**TREX - VIRGINIA MANUFACTURING OPERATIONS**							**3229 SHAWNEE DRIVE**				**NAICS Code**	**326199**
CHROMIUM COMPOUNDS (EXCEPT	N	10	0	10	0	0	10	0	0	0	0	0	1,407
MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
NICKEL COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	893
Total for TREX - VIRGINIA MANUFACTURING OPE		**10**	**0**	**11**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**2,299**
FREDERICK	**VIRGINIA CONCRETE - STEPHENS CITY**							**339 ESTEP ROAD**				**NAICS Code**	**327320**

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NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	39	0	39	0	0
Total for VIRGINIA CONCRETE - STEPHENS CITY		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39**	**0**	**39**	**0**	**0**
Total for Above County : (14 reports)		**43,007**	**34,468**	**77,475**	**15,549**	**0**	**93,024**	**0**	**39**	**152,215**	**152,254**	**88,102**	**142,863**
GALAX (CITY)	**GUARDIAN FABRICATION, LLC - PLANT 2**							**110 JACK GUYNN DR**				**NAICS Code**	**327215**
XYLENE (MIXED ISOMERS)	N	1,333	4,644	5,977	0	0	5,977	0	0	0	0	0	4,370
Total for GUARDIAN FABRICATION, LLC - PLANT 2		**1,333**	**4,644**	**5,977**	**0**	**0**	**5,977**	**0**	**0**	**0**	**0**	**0**	**4,370**
Total for Above County : (1 record)		**1,333**	**4,644**	**5,977**	**0**	**0**	**5,977**	**0**	**0**	**0**	**0**	**0**	**4,370**
GILES	**CELANESE ACETATE LLC - CELCO PLANT**							**3520 VIRGINIA AVE**				**NAICS Code**	**325220**
1,3-BUTADIENE	N	161	30	191	0	0	191	30,404	0	0	30,404	0	0
ACETAMIDE	N	0	0	0	0	191	191	0	0	191,047	191,047	0	0
ACETONITRILE	N	3,282	75	3,357	0	54	3,411	25,848	0	52,750	78,598	0	20
AMMONIA	N	0	27,148	27,148	0	338	27,486	0	0	16,660	16,660	0	0
CHLORINE	Y	0	0	0	0	0	0	0	0	0	0	0	0
CYCLOHEXANE	N	111,484	2,242	113,726	0	0	113,726	3,931	0	0	3,931	0	20
DICHLOROMETHANE	N	35,728	0	35,728	0	0	35,728	0	0	0	0	0	26
ETHYLENE	N	2,274	723	2,997	0	0	2,997	721,625	0	0	721,625	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	59,985	59,985	0	0	0	0	0	0
Total for CELANESE ACETATE LLC - CELCO PLAN		**152,929**	**30,218**	**183,147**	**0**	**60,568**	**243,715**	**781,808**	**0**	**260,457**	**1,042,265**	**0**	**65**
Total for Above County : (9 reports)		**152,929**	**30,218**	**183,147**	**0**	**60,568**	**243,715**	**781,808**	**0**	**260,457**	**1,042,265**	**0**	**65**

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GREENSVILLE	**BOAR'S HEAD PROVISIONS CO INC. - JARRATT**								**2230 WYATTS MILL RD**				**NAICS Code**	**311612**
	AMMONIA	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for BOAR'S HEAD PROVISIONS CO INC. - JA			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GREENSVILLE	**CREATIVE PLAYTHINGS LTD.**								**859 INDUSTRIAL DR**				**NAICS Code**	**321999**
	COPPER COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for CREATIVE PLAYTHINGS LTD.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GREENSVILLE	**GEORGIA PACIFIC WOOD PRODUCTS LLC EMPORIA PLYWOOD**								**634 DAVIS ST**				**NAICS Code**	**321212**
	METHANOL	N	2,600	22,000	24,600	0	0	24,600	0	0	8,300	8,300	0	0
Total for GEORGIA PACIFIC WOOD PRODUCTS			**2,600**	**22,000**	**24,600**	**0**	**0**	**24,600**	**0**	**0**	**8,300**	**8,300**	**0**	**0**
GREENSVILLE	**STEELFAB INC, OF VIRGINIA**								**1510 REESE ST**				**NAICS Code**	**332312**
	CHROMIUM	N	10	1	11	0	0	11	0	0	0	0	0	43,449
	COPPER	N	11	2	13	0	0	14	0	0	0	0	0	64,850
	MANGANESE	N	226	58	284	0	0	284	0	0	0	0	0	47,556
	NICKEL	N	61	2	62	0	0	62	0	0	0	0	0	75,874
	PROPYLENE	N	19	0	19	0	0	19	0	0	0	0	0	0
	XYLENE (MIXED ISOMERS)	N	732	0	732	0	0	732	0	0	0	0	0	0
Total for STEELFAB INC, OF VIRGINIA			**1,059**	**63**	**1,122**	**0**	**0**	**1,122**	**0**	**0**	**0**	**0**	**0**	**231,729**
Total for Above County : (9 reports)			**3,659**	**22,063**	**25,722**	**0**	**0**	**25,722**	**0**	**0**	**8,300**	**8,300**	**0**	**231,729**
HALIFAX	**AQUATIC CO**								**1100 INDUSTRIAL PARK RD HALIFAX INDUSTRIAL**				**NAICS Code**	**326191**

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	STYRENE	N	9,731	106,077	115,808	0	0	115,808	0	0	8,730	8,730	0	4,628
Total for AQUATIC CO			**9,731**	**106,077**	**115,808**	**0**	**0**	**115,808**	**0**	**0**	**8,730**	**8,730**	**0**	**4,628**
HALIFAX	**CLOVER POWER STATION**								**4091 CLOVER RD**				**NAICS Code**	**221112**
	1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	HYDROCHLORIC ACID (ACID AERO	N	0	1,030	1,030	0	0	1,030	0	0	139,000	139,000	0	0
	NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	SULFURIC ACID (ACID AEROSOLS I	N	0	15,700	15,700	0	0	15,700	0	0	38,000	38,000	0	0
Total for CLOVER POWER STATION			**0**	**16,730**	**16,730**	**0**	**0**	**16,730**	**0**	**0**	**177,000**	**177,000**	**0**	**0**
HALIFAX	**HITACHI ENERGY USA INC.**								**2135 PHILPOTT RD**				**NAICS Code**	**335311**
	CHROMIUM	N	4	0	4	0	0	4	0	0	0	0	0	133,873
	COPPER	N	100	0	100	0	0	100	0	0	0	0	0	508,359
	MANGANESE	N	68	0	68	0	0	68	0	0	0	0	0	214,176
	NICKEL	N	3	0	3	0	0	3	0	0	0	0	0	65,853
Total for HITACHI ENERGY USA INC.			**175**	**0**	**175**	**0**	**0**	**175**	**0**	**0**	**0**	**0**	**0**	**922,261**
HALIFAX	**HUBER ENGINEERED WOODS LLC**								**1000 CHANEY LN**				**NAICS Code**	**321219**
	ACETALDEHYDE	N	201	5,721	5,922	0	0	5,922	0	0	64,469	64,469	0	0
	ACROLEIN	N	180	17,087	17,267	0	0	17,267	0	0	21,229	21,229	0	0
	DIISOCYANATES	N	0	54	54	0	0	54	0	0	1,006	1,006	0	0
	FORMALDEHYDE	N	159	9,714	9,873	0	0	9,873	0	0	215,402	215,402	0	0

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	METHANOL	N	582	39,122	39,704	0	0	39,704	0	0	106,955	106,955	0	0
	PHENOL	N	370	18,437	18,807	0	0	18,807	0	0	66,090	66,090	0	0
Total for HUBER ENGINEERED WOODS LLC			**1,492**	**90,135**	**91,627**	**0**	**0**	**91,627**	**0**	**0**	**475,151**	**475,151**	**0**	**0**
HALIFAX	**VOESTALPINE HIGH PERFORMANCE METALS - SOUTH BOSTON PL**								**2306 EASTOVER DR**				**NAICS Code**	**331222**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	18,783
	COBALT	N	0	0	0	0	0	0	0	0	0	0	0	9,578
	METHANOL	N	5	5	10	0	0	10	0	0	0	0	0	0
	NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	29,695
Total for VOESTALPINE HIGH PERFORMANCE ME			**5**	**5**	**10**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**58,056**
Total for Above County : (20 reports)			**11,403**	**212,947**	**224,350**	**0**	**0**	**224,350**	**0**	**0**	**660,881**	**660,881**	**0**	**984,945**
HAMPTON (CITY)	**CATALINA CYLINDERS INC**								**2400 ALUMINUM AVE**				**NAICS Code**	**331318**
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	9,571	18,141
	NITRIC ACID	N	0	0	0	0	0	0	0	0	19,409	19,409	0	0
Total for CATALINA CYLINDERS INC			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19,409**	**19,409**	**9,571**	**18,141**
HAMPTON (CITY)	**HOWMET CASTINGS & SERVICES INC**								**ONE HOWMET DR**				**NAICS Code**	**331529**
	4,4'-ISOPROPYLIDENEDIPHENOL	N	58	0	58	0	0	58	0	0	1,349	1,349	69	136,182
	ALUMINUM (FUME OR DUST)	N	0	212	212	0	0	212	0	0	0	0	0	2,480
	CHROMIUM	N	0	168	168	0	0	168	0	0	0	0	5	46,324
	COBALT	N	0	150	150	0	0	150	0	0	0	0	2	43,541
	HYDROGEN FLUORIDE	N	0	404	404	0	0	404	0	0	10,102	10,102	0	45,222

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	NICKEL	N	0	861	861	0	0	861	0	0	0	0	12	224,185
	NITRIC ACID	N	0	15	15	0	0	15	0	0	1,166	1,166	0	4,882
Total for HOWMET CASTINGS & SERVICES INC			**58**	**1,810**	**1,868**	**0**	**0**	**1,868**	**0**	**0**	**12,617**	**12,617**	**88**	**502,816**
HAMPTON (CITY)	**PROWOOD, LLC HAMPTON**								**5604 CITY LINE RD**				**NAICS Code**	**321114**
	COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for PROWOOD, LLC HAMPTON			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HAMPTON (CITY)	**TCS MATERIALS HAMPTON 58TH ST. READY-MIX**								**2510 58TH ST**				**NAICS Code**	**327320**
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	45	0	45	0	0
Total for TCS MATERIALS HAMPTON 58TH ST. RE			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**45**	**0**	**0**
HAMPTON (CITY)	**U.S. DOD, USAF, JOINT BASE LANGLEY EUSTIS - LANGLEY AFB**								**633 CES/CEIE 37 SWEENEY BLVD**				**NAICS Code**	**928110**
	NAPHTHALENE	N	1	6	7	0	0	8	0	0	0	0	0	1,267
Total for U.S. DOD, USAF, JOINT BASE LANGLEY			**1**	**6**	**7**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**1,267**
Total for Above County : (12 reports)			**59**	**1,816**	**1,875**	**0**	**0**	**1,876**	**0**	**45**	**32,026**	**32,071**	**9,659**	**522,223**
HANOVER	**CASCADES BEAR ISLAND MILL**								**10026 OLD RIDGE RD**				**NAICS Code**	**322130**
	PROPYLENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CASCADES BEAR ISLAND MILL			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HANOVER	**CHEMTREAT INC**								**10040 LICKINGHOLE RD**				**NAICS Code**	**325998**
	NITRATE COMPOUNDS (WATER DI	Y	0	0	0	0	0	0	0	0	0	0	0	0
	SODIUM NITRITE	N	0	0	0	0	0	0	0	0	0	0	0	3,065

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	ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for CHEMTREAT INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,065**
HANOVER	**COMMONWEALTH GALVANIZING**								**10988 LEADBETTER RD**				**NAICS Code**	**332812**
	ZINC COMPOUNDS	N	0	0	0	0	113	113	0	0	0	0	0	42,523
	Total for COMMONWEALTH GALVANIZING		**0**	**0**	**0**	**0**	**113**	**113**	**0**	**0**	**0**	**0**	**0**	**42,523**
HANOVER	**DOSWELL LP**								**10098 OLD RIDGE RD**				**NAICS Code**	**221112**
	1,2,4-TRIMETHYLBENZENE	N	5	10,600	10,605	0	0	10,605	0	0	0	0	0	0
	AMMONIA	N	5	335,940	335,945	0	0	335,945	0	0	0	0	0	0
	N-HEXANE	N	5	10,600	10,605	0	0	10,605	0	0	0	0	0	0
	Total for DOSWELL LP		**15**	**357,140**	**357,155**	**0**	**0**	**357,155**	**0**	**0**	**0**	**0**	**0**	**0**
HANOVER	**SOUTH ATLANTIC GALVANIZING LLC**								**11022 LEWISTOWN RD**				**NAICS Code**	**332812**
	ZINC COMPOUNDS	N	5,886	0	5,886	0	63	5,949	0	0	0	0	0	281,081
	Total for SOUTH ATLANTIC GALVANIZING LLC		**5,886**	**0**	**5,886**	**0**	**63**	**5,949**	**0**	**0**	**0**	**0**	**0**	**281,081**
HANOVER	**TYSON FARMS INC. - PROCESSING FACILITY**								**13264 MOUNTAIN RD**				**NAICS Code**	**311615**
	PERACETIC ACID	N	20	0	20	0	0	20	0	0	20,340	20,340	0	0
	Total for TYSON FARMS INC. - PROCESSING FACI		**20**	**0**	**20**	**0**	**0**	**20**	**0**	**0**	**20,340**	**20,340**	**0**	**0**
	Total for Above County : (10 reports)		**5,921**	**357,140**	**363,061**	**0**	**176**	**363,237**	**0**	**0**	**20,340**	**20,340**	**0**	**326,669**
HARRISONBURG (CITY)	**CARGILL TURKEY PRODUCTION LLC**								**1 KRATZER AVE**				**NAICS Code**	**311119**
	COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0

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MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CARGILL TURKEY PRODUCTION LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HARRISONBURG (CITY)	**GEORGE'S FOODS LLC FEED MILL**							**61 KRATZER RD**				**NAICS Code**	**311119**
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GEORGE'S FOODS LLC FEED MILL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HARRISONBURG (CITY)	**PILGRIM'S PRIDE CORP HARRISONBURG FEEDMILL**							**590 MT CLINTON PIKE**				**NAICS Code**	**311119**
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for PILGRIM'S PRIDE CORP HARRISONBUR		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (9 reports)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**DARBYTOWN POWER STATION**							**6001 FERGUS BLVD**				**NAICS Code**	**221112**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for DARBYTOWN POWER STATION		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**ENNIS-FLINT RICHMOND**							**4400 VAWTER AVE**				**NAICS Code**	**325510**

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	METHANOL	N	0	4,700	4,700	0	0	4,700	0	0	0	0	0	0
Total for ENNIS-FLINT RICHMOND			**0**	**4,700**	**4,700**	**0**	**0**	**4,700**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**IR ENGRAVING LLC**								**5901 LEWIS RD**				**NAICS Code**	**323111**
	COPPER	N	1	1	2	0	0	2	0	0	0	0	0	0
	NITRIC ACID	N	5	250	255	0	0	255	0	0	0	0	0	0
Total for IR ENGRAVING LLC			**6**	**251**	**257**	**0**	**0**	**257**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**JOHNS MANVILLE CORP HAMILTON PLANT**								**7400 RANCO RD**				**NAICS Code**	**322220**
	ANTIMONY COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for JOHNS MANVILLE CORP HAMILTON PLA			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**POWER DISTRIBUTION INC.**								**5250 KLOCKNER DR**				**NAICS Code**	**335999**
	COPPER	N	0	0	0	0	0	0	0	0	0	0	0	92
Total for POWER DISTRIBUTION INC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**92**
HENRICO	**SOUTHERN GRAPHIC SYSTEMS LLC**								**5301 LEWIS RD**				**NAICS Code**	**323120**
	COPPER COMPOUNDS	N	17	154	171	0	0	171	0	0	0	0	0	28,096
Total for SOUTHERN GRAPHIC SYSTEMS LLC			**17**	**154**	**171**	**0**	**0**	**171**	**0**	**0**	**0**	**0**	**0**	**28,096**
HENRICO	**STERILIZATION SERVICES OF VIRGINIA**								**5674 EASTPORT BLVD**				**NAICS Code**	**339112**
	ETHYLENE GLYCOL	N	0	0	0	0	0	0	0	0	0	0	0	1,509,816
	ETHYLENE OXIDE	N	3,425	5,633	9,059	0	0	9,059	0	0	516,514	516,514	0	0
Total for STERILIZATION SERVICES OF VIRGINIA			**3,425**	**5,633**	**9,059**	**0**	**0**	**9,059**	**0**	**0**	**516,514**	**516,514**	**0**	**1,509,816**

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Total for Above County : (11 reports)			**3,448**	**10,738**	**14,187**	**0**	**0**	**14,187**	**0**	**0**	**516,514**	**516,514**	**0**	**1,538,004**
HENRY	**CPFILMS, INC.**								**345 BEAVER CREEK DR**				**NAICS Code**	**326112**
	DIISOCYANATES	N	5	5	10	0	0	10	0	0	0	0	0	82,852
	ETHYLENE GLYCOL	N	5	1,835	1,840	0	0	1,840	0	574,649	0	574,649	0	11,377
	METHYL ISOBUTYL KETONE	N	5	206	211	0	0	211	0	0	20,425	20,425	0	206
	N-HEXANE	N	5	502	507	0	0	507	0	0	49,733	49,733	0	21,677
	N-METHYL-2-PYRROLIDONE	N	5	5	10	0	0	10	0	0	0	0	0	6,185
	TOLUENE	N	5	5,507	5,512	0	0	5,512	0	0	179,800	179,800	0	550,704
Total for CPFILMS, INC.			**30**	**8,060**	**8,090**	**0**	**0**	**8,090**	**0**	**574,649**	**249,958**	**824,607**	**0**	**673,001**
HENRY	**CROWN BEVERAGE PACKAGING**								**202 SUTAINABLE WAY**				**NAICS Code**	**332431**
	CERTAIN GLYCOL ETHERS	N	31,747	2,441	34,188	0	0	34,188	0	0	200,976	200,976	0	0
	HYDROGEN FLUORIDE	N	0	0	0	0	0	0	0	0	10,676	10,676	0	0
	MANGANESE COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	85
	N-BUTYL ALCOHOL	N	19,139	2,453	21,592	0	0	21,592	0	0	120,181	120,181	0	0
Total for CROWN BEVERAGE PACKAGING			**50,886**	**4,894**	**55,780**	**0**	**0**	**55,780**	**0**	**0**	**331,833**	**331,833**	**0**	**85**
HENRY	**EASTMAN PERFORMANCE FILMS, LLC - PLANT II**								**4129 THE GREAT RD**				**NAICS Code**	**326130**
	ACRYLIC ACID	N	13	255	268	0	0	268	0	0	25,039	25,039	0	3,895
	ETHYLENE GLYCOL	N	70,583	2,959	73,542	0	0	73,542	0	0	1,054,794	1,054,794	117,199	170,510
	METHANOL	N	6	113	119	0	0	119	0	0	11,162	11,162	0	0
	METHYL ISOBUTYL KETONE	N	41	783	824	0	0	824	0	0	63,661	63,661	0	63

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N-HEXANE	N	41	783	824	0	0	824	0	0	71,825	71,825	0	7
N-METHYL-2-PYRROLIDONE	N	82,407	355	82,762	0	0	82,762	0	0	511,319	511,319	56,813	440,710
TOLUENE	N	396	7,527	7,923	0	0	7,923	0	0	652,046	652,046	0	150,630
Total for EASTMAN PERFORMANCE FILMS, LLC -		**153,487**	**12,775**	**166,262**	**0**	**0**	**166,262**	**0**	**0**	**2,389,846**	**2,389,846**	**174,012**	**765,815**
HENRY	**EASTMAN PERFORMANCE FILMS, LLC-AXTON FACILITY**							**47 BRENDA DR**				**NAICS Code**	**326130**
ETHYLENE GLYCOL	N	28,990	1,887	30,877	0	0	30,877	0	0	0	0	0	83,005
N-METHYL-2-PYRROLIDONE	N	40,120	94	40,214	0	0	40,214	0	0	0	0	0	179,985
Total for EASTMAN PERFORMANCE FILMS, LLC-A		**69,110**	**1,981**	**71,091**	**0**	**0**	**71,091**	**0**	**0**	**0**	**0**	**0**	**262,990**
HENRY	**EASTMAN PERFORMANCE FILMS, LLC-PLANT 1**							**4210 THE GREAT RD**				**NAICS Code**	**326130**
TOLUENE	N	50	946	996	0	0	996	0	0	128,319	128,319	0	54,372
Total for EASTMAN PERFORMANCE FILMS, LLC-P		**50**	**946**	**996**	**0**	**0**	**996**	**0**	**0**	**128,319**	**128,319**	**0**	**54,372**
HENRY	**MEHLER ENGINEERED PRODUCTS**							**175 MEHLER LN**				**NAICS Code**	**314994**
DIISOCYANATES	N	0	0	0	0	0	0	0	0	0	0	0	620
TOLUENE	N	218	5	223	0	0	223	493,455	0	0	493,455	0	11,997
XYLENE (MIXED ISOMERS)	N	5	0	5	0	0	5	20,200	0	0	20,200	0	235
Total for MEHLER ENGINEERED PRODUCTS		**223**	**5**	**228**	**0**	**0**	**228**	**513,655**	**0**	**0**	**513,655**	**0**	**12,852**
HENRY	**NATIONWIDE HOMES INC.**							**1100 RIVES RD**				**NAICS Code**	**321991**
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for NATIONWIDE HOMES INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRY	**RTI MARTINSVILLE INC**							**101 RTI WAY**				**NAICS Code**	**332112**

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ALUMINUM (FUME OR DUST)	N	11	1,067	1,078	0	0	1,078	0	0	0	0	0	60,908
Total for RTI MARTINSVILLE INC		**11**	**1,067**	**1,078**	**0**	**0**	**1,078**	**0**	**0**	**0**	**0**	**0**	**60,908**
Total for Above County : (25 reports)		**273,797**	**29,728**	**303,525**	**0**	**0**	**303,525**	**513,655**	**574,649**	**3,099,956**	**4,188,260**	**174,012**	**1,830,023**
HOPEWELL (CITY)	**ADVANSIX INC HOPEWELL PLANT**							**905 E RANDOLPH RD**				**NAICS Code**	**325199**
ACETALDEHYDE	N	394	659	1,053	0	0	1,053	0	0	6,439	6,439	11,145	10,142
AMMONIA	N	21,819	667,589	689,408	0	34,926	724,334	0	0	0	0	93,288	56,003
BENZENE	N	170	6,141	6,311	0	1,423	7,734	0	66,638	300,000	366,638	135	104
COBALT COMPOUNDS	N	0	6	6	0	1,673	1,679	0	0	0	0	102	33
CYCLOHEXANOL	N	504	2,905	3,409	0	28,465	31,874	0	0	21,222	21,222	21,771	19,812
ETHYLENE GLYCOL	N	0	0	0	0	0	0	0	0	0	0	9,786	9,003
METHANOL	N	183	2,650	2,833	0	0	2,833	1,112,030	0	0	1,112,030	4,557	4,192
NITRATE COMPOUNDS (WATER DI	N	0	3,405	3,405	0	63,678	67,083	0	0	0	0	340,151	306,136
NITRIC ACID	N	0	0	0	0	0	0	0	0	0	0	0	0
PHENOL	N	1,136	19,769	20,905	0	1,423	22,328	154	0	43,300	43,454	3,564	706,787
SULFURIC ACID (ACID AEROSOLS I	N	963	24,543	25,506	0	0	25,506	0	1,535,084	0	1,535,084	0	0
TOLUENE	N	1,979	7,258	9,237	0	1,359	10,596	0	60,040	0	60,040	76	69
VANADIUM COMPOUNDS	N	0	0	0	0	2,038	2,038	0	0	0	0	93	30
ZINC COMPOUNDS	N	0	0	0	0	13,615	13,615	0	0	0	0	1,505	3,917
Total for ADVANSIX INC HOPEWELL PLANT		**27,148**	**734,925**	**762,073**	**0**	**148,600**	**910,673**	**1,112,184**	**1,661,762**	**370,961**	**3,144,907**	**486,173**	**1,116,227**
HOPEWELL (CITY)	**ASHLAND SPECIALTY INGREDIENTS GP**							**1111 HERCULES RD**				**NAICS Code**	**325199**

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CERTAIN GLYCOL ETHERS	N	23	0	23	0	0	23	0	0	0	0	185,493	170,654
CHLOROACETIC ACID	N	822	2	824	0	0	824	0	0	0	0	0	0
CHLOROETHANE	N	46,489	909	47,398	0	0	47,398	0	0	0	0	4	41
ETHYLENE	N	3,909	29,746	33,655	0	0	33,655	0	0	0	0	0	0
ETHYLENE GLYCOL	N	186	0	186	0	0	186	0	0	0	0	1,499,781	1,231,395
ETHYLENE OXIDE	N	923	0	923	0	0	923	0	0	53	53	0	0
METHANOL	N	28,623	2,506	31,129	0	0	31,129	0	0	0	0	215,819	216,298
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	3,596,027	2,694,738
NITRIC ACID	N	1,439	5	1,444	0	0	1,444	0	0	0	0	0	0
PROPYLENE OXIDE	N	2,560	132	2,692	0	0	2,692	0	0	100	100	6	5
TERT-BUTYL ALCOHOL	N	31,858	6,599	38,457	0	0	38,457	0	0	0	0	50,072	46,186
Total for ASHLAND SPECIALTY INGREDIENTS GP		**116,832**	**39,899**	**156,731**	**0**	**0**	**156,731**	**0**	**0**	**153**	**153**	**5,547,202**	**4,359,317**
HOPEWELL (CITY)	**EVONIK INDUSTRIES**							**914 E RANDOLPH RD**				**NAICS Code**	**325613**
ACRYLIC ACID	N	0	564	564	0	0	564	0	0	0	0	0	1,481
ALLYL ALCOHOL	N	419	110	529	0	0	529	0	0	2,198	2,198	0	0
ETHYLENE GLYCOL	N	5	400	405	0	0	405	0	0	0	0	15,033	13,830
ETHYLENE OXIDE	N	77	16	93	0	0	93	0	0	15,701	15,701	0	0
N-BUTYL ALCOHOL	N	236	18	254	0	0	254	0	0	351	351	0	5,842
PROPYLENE OXIDE	N	96	16	112	0	0	112	0	0	15,704	15,704	0	0
Total for EVONIK INDUSTRIES		**834**	**1,123**	**1,957**	**0**	**0**	**1,957**	**0**	**0**	**33,954**	**33,954**	**15,033**	**21,154**
HOPEWELL (CITY)	**KENSING LLC**							**914 E RANDOLPH RD**				**NAICS Code**	**325613**

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CHLOROACETIC ACID	N	5	4	8	0	0	8	0	0	67	67	0	0
ETHYLENE GLYCOL	N	3	36	39	0	0	39	0	0	358	358	69,580	64,014
Total for KENSING LLC		**8**	**39**	**47**	**0**	**0**	**47**	**0**	**0**	**425**	**425**	**69,580**	**64,014**
HOPEWELL (CITY)	**WESTROCK CP LLC**							**910 INDUSTRIAL ST**				**NAICS Code**	**322130**
AMMONIA	N	0	55,046	55,046	0	0	55,046	0	0	0	0	5,246	3,148
BARIUM COMPOUNDS (EXCEPT FO	N	0	681	681	0	0	681	0	0	0	0	0	15,430
CATECHOL	N	0	0	0	0	0	0	0	0	0	0	329	303
FORMALDEHYDE	N	0	5,533	5,533	0	0	5,533	0	0	2,030	2,030	4,883	4,493
HYDROCHLORIC ACID (ACID AERO	N	0	41,567	41,567	0	0	41,567	0	0	0	0	0	0
HYDROGEN SULFIDE	N	0	19,208	19,208	0	0	19,208	0	0	49,363	49,363	166,441	166,441
MANGANESE COMPOUNDS	N	0	131	131	0	0	131	0	0	0	0	6,390	83,441
METHANOL	N	0	208,826	208,826	0	0	208,826	0	0	242,422	242,422	6,414,716	5,901,538
PHENOL	N	0	5,511	5,511	0	0	5,511	0	0	1,450	1,450	4,800	4,416
Total for WESTROCK CP LLC		**0**	**336,503**	**336,503**	**0**	**0**	**336,503**	**0**	**0**	**295,264**	**295,264**	**6,602,805**	**6,179,210**
HOPEWELL (CITY)	**WESTROCK CP, LLC**							**910 INDUSTRIAL ST**				**NAICS Code**	**322130**
ACETALDEHYDE	N	0	10,571	10,571	0	0	10,571	0	0	2,794	2,794	142,405	129,589
Total for WESTROCK CP, LLC		**0**	**10,571**	**10,571**	**0**	**0**	**10,571**	**0**	**0**	**2,794**	**2,794**	**142,405**	**129,589**
Total for Above County : (43 reports)		**144,821**	**1,123,061**	**1,267,882**	**0**	**148,600**	**1,416,482**	**1,112,184**	**1,661,762**	**703,552**	**3,477,498**	**12,863,198**	**11,869,510**
ISLE OF WIGHT	**INTERNATIONAL PAPER FRANKLIN MILL**							**34040 UNION CAMP DR**				**NAICS Code**	**322110**
ACETALDEHYDE	N	5,056	14,976	20,032	0	380	20,412	0	0	32,549	32,549	0	3

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	AMMONIA	N	0	82,036	82,036	0	1,430	83,466	0	0	122,036	122,036	0	9
	BARIUM COMPOUNDS (EXCEPT FO	N	0	16	16	0	459	476	0	0	0	0	0	2,919
	CATECHOL	N	0	0	0	0	39	39	0	0	755	755	0	1
	CHLORINE	N	5	3,909	3,914	0	0	3,914	0	0	193,005	193,005	0	0
	CHLORINE DIOXIDE	N	5	1,254	1,259	0	0	1,259	0	0	6,292,746	6,292,746	0	0
	CRESOL (MIXED ISOMERS)	N	10,060	1,924	11,984	0	5	11,990	0	0	7,188	7,188	0	2
	FORMALDEHYDE	N	581	6,640	7,221	0	1,119	8,340	0	0	27,003	27,003	0	9
	FORMIC ACID	N	0	0	0	0	41	41	0	0	0	0	0	0
	HYDROCHLORIC ACID (ACID AERO	N	0	38,336	38,336	0	0	38,336	0	0	0	0	0	0
	HYDROGEN SULFIDE	N	90,331	37,372	127,703	0	171	127,874	0	0	460,544	460,544	0	229
	MANGANESE COMPOUNDS	N	0	44	44	0	6,176	6,220	0	0	0	0	0	45,952
	METHANOL	N	221,221	339,391	560,612	0	0	560,612	0	0	5,558,177	5,558,177	0	3,175
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	17,861	17,861	0	0	0	0	0	14
	PHENOL	N	460	12,177	12,637	0	6	12,643	0	0	2,356	2,356	0	2
Total for INTERNATIONAL PAPER FRANKLIN MILL			**327,720**	**538,075**	**865,794**	**0**	**27,688**	**893,482**	**0**	**0**	**12,696,359**	**12,696,359**	**0**	**52,315**
ISLE OF WIGHT	**SMITHFIELD FRESH MEATS CORP SMITHFIELD, VA FACILITY**								**601 N CHURCH ST**				**NAICS Code**	**311612**
	HYDROGEN SULFIDE	N	11,657	0	11,657	0	0	11,657	0	0	0	0	1,414	1,414
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	70	70	0	0	0	0	198,381	178,543
Total for SMITHFIELD FRESH MEATS CORP SMIT			**11,657**	**0**	**11,657**	**0**	**70**	**11,727**	**0**	**0**	**0**	**0**	**199,795**	**179,957**
Total for Above County : (17 reports)			**339,377**	**538,075**	**877,451**	**0**	**27,758**	**905,209**	**0**	**0**	**12,696,359**	**12,696,359**	**199,795**	**232,272**

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JAMES CITY	**ANHEUSER-BUSCH LLC**							**7801 POCAHONTAS TRAIL**				**NAICS Code**	**312120**
AMMONIA	N	890	15,228	16,118	0	0	16,118	0	0	0	0	1,699	1,042
Total for ANHEUSER-BUSCH LLC		**890**	**15,228**	**16,118**	**0**	**0**	**16,118**	**0**	**0**	**0**	**0**	**1,699**	**1,042**
JAMES CITY	**BALL METAL BEVERAGE CONTAINER CORP**							**8935 POCAHONTAS TRAIL JAMES RIVER COMMERCE**				**NAICS Code**	**332431**
CERTAIN GLYCOL ETHERS	N	52,347	326,982	379,329	0	0	379,329	0	0	0	0	0	695
N-BUTYL ALCOHOL	N	24,229	151,346	175,575	0	0	175,575	0	0	0	0	0	286
SULFURIC ACID (ACID AEROSOLS I	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for BALL METAL BEVERAGE CONTAINER C		**76,577**	**478,328**	**554,905**	**0**	**0**	**554,905**	**0**	**0**	**0**	**0**	**0**	**981**
JAMES CITY	**GREYSTONE OF VIRGINIA INC**							**7992 RICHMOND RD**				**NAICS Code**	**332813**
CHROMIUM COMPOUNDS (EXCEPT	N	0	0	0	0	0	0	0	0	0	0	10	17,202
Total for GREYSTONE OF VIRGINIA INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**17,202**
Total for Above County : (5 reports)		**77,467**	**493,556**	**571,023**	**0**	**0**	**571,023**	**0**	**0**	**0**	**0**	**1,709**	**19,225**
KING GEORGE	**CMC REBAR VA KING GEORGE**							**10924 DENNIS W KERNS PKWY**				**NAICS Code**	**332312**
NICKEL COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CMC REBAR VA KING GEORGE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
KING WILLIAM	**WESTROCK CP, LLC**							**1901 MAIN ST**				**NAICS Code**	**322110**
ACETALDEHYDE	N	38	26,014	26,053	0	1,502	27,555	0	0	27,655	27,655	0	0
AMMONIA	N	238	116,984	117,222	0	823	118,045	0	0	11,867	11,867	0	0

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BARIUM COMPOUNDS (EXCEPT FO	N	0	724	724	0	0	724	0	0	0	0	0	21,915
CATECHOL	N	0	0	0	0	63	63	0	0	390	390	0	0
CHLORINE	N	5	7	12	0	0	12	0	0	6,848	6,848	0	0
CHLORINE DIOXIDE	N	5	72	77	0	0	77	0	0	7,133	7,133	0	0
FORMALDEHYDE	N	10	10,466	10,475	0	601	11,076	0	0	11,171	11,171	0	0
FORMIC ACID	N	0	0	0	0	824	824	0	0	0	0	0	0
HYDROCHLORIC ACID (ACID AERO	N	0	53,303	53,303	0	0	53,303	0	0	45,015	45,015	0	0
HYDROGEN SULFIDE	N	5,422	40,817	46,239	0	212	46,451	0	0	244,016	244,016	0	3
MANGANESE COMPOUNDS	N	0	328	328	0	44,067	44,395	0	0	0	0	0	115,950
METHANOL	N	9,334	502,056	511,390	0	9,000	520,390	0	0	4,875,408	4,875,408	0	22
PHENOL	N	16	16,250	16,266	0	1,831	18,096	0	0	7,667	7,667	0	0
ZINC COMPOUNDS	N	0	189	189	0	523	712	0	0	0	0	0	15,961
Total for WESTROCK CP, LLC		**15,068**	**767,209**	**782,277**	**0**	**59,445**	**841,722**	**0**	**0**	**5,237,171**	**5,237,171**	**0**	**153,851**
Total for Above County : (14 reports)		**15,068**	**767,209**	**782,277**	**0**	**59,445**	**841,722**	**0**	**0**	**5,237,171**	**5,237,171**	**0**	**153,851**
LOUDOUN	**CHANTILLY READY MIX CONCRETE**							**25232 WILLARD ROAD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CHANTILLY READY MIX CONCRETE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**MENZIES AVIATION FUELING OPERATIONS WASH DULLES INTERN**							**TANK FARM RD BUILDING 2**				**NAICS Code**	**424710**
1,2,4-TRIMETHYLBENZENE	N	127	0	127	0	0	127	0	0	0	0	0	0
ARSENIC	N	0	0	0	0	0	0	0	0	0	0	0	0

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	BENZENE	N	81	0	81	0	0	81	0	0	0	0	0	0
	BERYLLIUM	N	0	0	0	0	0	0	0	0	0	0	0	0
	CADMIUM	N	0	0	0	0	0	0	0	0	0	0	0	0
	CHROMIUM	N	1	0	1	0	0	1	0	0	0	0	0	0
	ETHYLBENZENE	N	81	0	81	0	0	81	0	0	0	0	0	0
	METHYL TERT-BUTYL ETHER	N	759	0	759	0	0	759	0	0	0	0	0	0
	NAPHTHALENE	N	174	0	174	0	0	174	0	7,725	0	7,725	0	1,290
	N-HEXANE	N	51	0	51	0	0	51	0	0	0	0	0	0
	TOLUENE	N	365	0	365	0	0	365	0	0	0	0	0	0
	XYLENE (MIXED ISOMERS)	N	363	0	363	0	0	363	0	0	0	0	0	0
Total for MENZIES AVIATION FUELING OPERATIO			**2,002**	**0**	**2,002**	**0**	**0**	**2,002**	**0**	**7,725**	**0**	**7,725**	**0**	**1,290**
LOUDOUN	**SUPERIOR CONCRETE MATERIALS INC. - DULLES**								**44146 WADE DR**				**NAICS Code**	**327320**
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	288	288	0	0	0	0	0	0
Total for SUPERIOR CONCRETE MATERIALS INC.			**0**	**0**	**0**	**0**	**288**	**288**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**TTM TECHNOLOGIES N.A. LLC.**								**1200 SEVERN WAY**				**NAICS Code**	**334412**
	FORMALDEHYDE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	32,203	29,116
	NITRIC ACID	N	0	0	0	0	0	0	0	0	32,731	32,731	0	809
Total for TTM TECHNOLOGIES N.A. LLC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32,731**	**32,731**	**32,203**	**29,925**
LOUDOUN	**TTM TECHNOLOGIES NORTH AMERICA, LLC.**								**1200 SEVERN WAY**				**NAICS Code**	**334412**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
COPPER COMPOUNDS	N	0	2	2	0	0	2	0	0	0	0	0	111,123
Total for TTM TECHNOLOGIES NORTH AMERICA,		**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**111,123**
LOUDOUN	**VIRGINIA CONCRETE CO INC-CHANTILLY**							**25086 TANNER LN**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	92	92	0	0	0	0	0	0
Total for VIRGINIA CONCRETE CO INC-CHANTILL		**0**	**0**	**0**	**0**	**92**	**92**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**VIRGINIA CONCRETE COCHRAN MILL**							**42574 COCHRAN MILL RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	145	145	0	0	0	0	0	0
Total for VIRGINIA CONCRETE COCHRAN MILL		**0**	**0**	**0**	**0**	**145**	**145**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**VIRGINIA CONCRETE DULLES PLANT**							**44866 OLD OX RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	296	296	0	0	0	0	0	0
Total for VIRGINIA CONCRETE DULLES PLANT		**0**	**0**	**0**	**0**	**296**	**296**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (21 reports)		**2,002**	**2**	**2,004**	**0**	**821**	**2,825**	**0**	**7,725**	**32,731**	**40,456**	**32,203**	**142,338**
LOUISA	**GORDONSVILLE POWER STATION**							**819 HILL RD**				**NAICS Code**	**221112**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GORDONSVILLE POWER STATION		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 reports)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LUNENBURG	**VIRGINIA MARBLE MANUFACTURERS INC**							**1201 5TH AVE**				**NAICS Code**	**326191**
STYRENE	N	0	17,902	17,902	0	0	17,902	0	0	0	0	0	0

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	STYRENE	N	0	37,734	37,734	0	0	37,734	0	0	0	0	0	0
Total for VIRGINIA MARBLE MANUFACTURERS IN			**0**	**55,636**	**55,636**	**0**	**0**	**55,636**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 reports)			**0**	**55,636**	**55,636**	**0**	**0**	**55,636**	**0**	**0**	**0**	**0**	**0**	**0**
LYNCHBURG (CITY)	**BANKER STEEL COMPANY, LLC**								**1619 WYTHE RD**				**NAICS Code**	**332312**
	MANGANESE	N	76	0	76	0	0	76	0	0	0	0	0	13,326
	NICKEL	N	1	0	1	0	0	1	0	0	0	0	0	14,523
Total for BANKER STEEL COMPANY, LLC			**77**	**0**	**77**	**0**	**0**	**77**	**0**	**0**	**0**	**0**	**0**	**27,849**
LYNCHBURG (CITY)	**BELVAC PRODUCTION MACHINERY**								**237 GRAVES MILL RD**				**NAICS Code**	**333514**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	62
	COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
	MANGANESE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	NICKEL	N	0	0	0	0	0	0	0	0	0	0	16	6
Total for BELVAC PRODUCTION MACHINERY			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**68**
LYNCHBURG (CITY)	**DAVIS-FROST INC**								**3416 CANDLERS MOUNTAIN RD**				**NAICS Code**	**325510**
	CERTAIN GLYCOL ETHERS	N	158	0	158	0	0	158	0	0	0	0	0	0
	XYLENE (MIXED ISOMERS)	N	1,366	0	1,366	0	0	1,366	0	0	0	0	0	28,233
	ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for DAVIS-FROST INC			**1,524**	**0**	**1,524**	**0**	**0**	**1,524**	**0**	**0**	**0**	**0**	**0**	**28,233**
LYNCHBURG (CITY)	**FLOWSERVE CORP LYNCHBURG VA**								**5114 WOODALL RD**				**NAICS Code**	**333995**
	COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Chemical Name	form A*	Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for FLOWSERVE CORP LYNCHBURG VA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LYNCHBURG (CITY)	**GRIFFIN PIPE PRODUCTS CO**							**10 ADAMS ST**				**NAICS Code**	**331511**
DIISOCYANATES	N	0	0	0	0	0	0	0	0	0	0	0	5
MANGANESE COMPOUNDS	N	10	1,448	1,458	0	30	1,488	0	0	0	0	0	66,414
ZINC COMPOUNDS	N	42	113,458	113,500	0	139	113,639	0	0	0	0	745	1,061,535
Total for GRIFFIN PIPE PRODUCTS CO		**52**	**114,906**	**114,958**	**0**	**169**	**115,127**	**0**	**0**	**0**	**0**	**745**	**1,127,953**
LYNCHBURG (CITY)	**SLOCUM ADHESIVES CORP.**							**2500 CARROLL AVE**				**NAICS Code**	**325520**
DICHLOROMETHANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for SLOCUM ADHESIVES CORP.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LYNCHBURG (CITY)	**SLOCUM ADHESIVES CORPORATION**							**1409 BUCHANAN ST**				**NAICS Code**	**325520**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
1-BROMOPROPANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
CYCLOHEXANE	N	54	487	541	0	0	541	0	0	0	0	0	0
DICHLOROMETHANE	N	0	13,690	13,690	0	0	13,690	0	0	0	0	0	78,000
ETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	N	365	3,285	3,650	0	0	3,650	0	0	0	0	0	0
TOLUENE	N	109	982	1,091	0	0	1,091	0	0	0	0	0	0
TRICHLOROETHYLENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for SLOCUM ADHESIVES CORPORATION		**528**	**18,444**	**18,972**	**0**	**0**	**18,972**	**0**	**0**	**0**	**0**	**0**	**78,000**
LYNCHBURG (CITY)	**VIRGINIA METAL TREATING, INC.**							**111 LYNCHPIN LN**				**NAICS Code**	**332811**
METHANOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA METAL TREATING, INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LYNCHBURG (CITY)	**WESTOVER DAIRY**							**2801 FORT AVE**				**NAICS Code**	**311511**
NITRIC ACID	N	0	0	0	0	0	0	0	0	12,904	12,904	41	41
Total for WESTOVER DAIRY		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12,904**	**12,904**	**41**	**41**
Total for Above County : (26 reports)		**2,181**	**133,350**	**135,531**	**0**	**169**	**135,700**	**0**	**0**	**12,904**	**12,904**	**802**	**1,262,144**
MADISON	**MADISON WOOD PRESERVERS INC.**							**216 OAK PARK RD**				**NAICS Code**	**321114**
ARSENIC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
CHROMIUM COMPOUNDS (EXCEPT	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for MADISON WOOD PRESERVERS INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 reports)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
MECKLENBURG	**AMERICAN BUILDINGS COMPANY-LA CROSSE**							**501 GOLDEN EAGLE DR**				**NAICS Code**	**332311**
MANGANESE	N	5	0	5	0	0	5	0	0	0	0	0	6,501
Total for AMERICAN BUILDINGS COMPANY-LA CR		**5**	**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**6,501**
Total for Above County : (1 record)		**5**	**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**6,501**

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MONTGOMERY	**BAE SYSTEMS ORDNANCE SYSTEMS INC**							**RADFORD ARMY AMMUNITION PLANT 4050 PAIGE**				**NAICS Code**	**325920**
2,4-DINITROTOLUENE	N	0	0	0	0	7	7	0	0	8,651	8,651	0	0
AMMONIA	N	19,133	85	19,218	0	1,296	20,514	0	0	0	0	0	325
CHLORINE	N	0	0	0	0	0	0	0	0	6,933	6,933	0	203
COPPER COMPOUNDS	N	79	2,478	2,557	0	65	2,622	0	0	0	0	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	11,914,987	11,914,987	0	0	9,204	9,204	0	0
NITRIC ACID	N	915	823	1,738	3,376	0	5,114	0	38,115,978	11,914,987	50,030,965	0	39
NITROGLYCERIN	N	0	35,814	35,814	0	606	36,420	0	0	222,793	222,793	0	3,906
Total for BAE SYSTEMS ORDNANCE SYSTEMS IN		**20,127**	**39,200**	**59,327**	**3,376**	**11,916,962**	**11,979,665**	**0**	**38,115,978**	**12,162,568**	**50,278,546**	**0**	**4,472**
MONTGOMERY	**FEDERAL MOGUL POWERTRAIN LLC.**							**300 INDUSTRIAL PARK RD SE**				**NAICS Code**	**336350**
ALUMINUM (FUME OR DUST)	N	60	5,974	6,033	0	0	6,033	0	0	0	0	0	158,077
AMMONIA	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER	N	1	53	53	0	0	53	0	0	0	0	0	7,193
Total for FEDERAL MOGUL POWERTRAIN LLC.		**60**	**6,026**	**6,086**	**0**	**0**	**6,086**	**0**	**0**	**0**	**0**	**0**	**165,270**
MONTGOMERY	**NORTHROP GRUMMAN SYSTEMS CORPORATION (NEW RIVER ENE**							**RT 114 RADFORD ARMY AMMUNITION PLANT**				**NAICS Code**	**325920**
DIPHENYLAMINE	N	0	177	177	0	0	177	0	894	0	894	0	443
NITRATE COMPOUNDS (WATER DI	N	0	89	89	0	0	89	0	731	0	731	0	130,819
NITROGLYCERIN	N	0	18,843	18,843	0	0	18,843	0	72,612	0	72,612	0	105,339
Total for NORTHROP GRUMMAN SYSTEMS CORP		**0**	**19,109**	**19,109**	**0**	**0**	**19,109**	**0**	**74,237**	**0**	**74,237**	**0**	**236,601**
MONTGOMERY	**PROCHEM, INC**							**5100 ENTERPRISE DR**				**NAICS Code**	**325998**

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	BARIUM COMPOUNDS (EXCEPT FO	N	0	0	0	0	0	0	0	0	0	0	0	0
	MANGANESE COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	SODIUM DIMETHYLDITHIOCARBA	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for PROCHEM, INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
MONTGOMERY	**WOLVERINE ADVANCED MATERIALS**								**201 INDUSTRIAL PARK RD**				**NAICS Code**	**332812**
	METHYL ISOBUTYL KETONE	N	0	1,694	1,694	0	0	1,694	0	0	142,904	142,904	0	469
	METHYL ISOBUTYL KETONE	N	0	6,346	6,346	0	0	6,346	0	0	455,509	455,509	0	37,059
	TOLUENE	N	0	8,795	8,795	0	0	8,795	0	0	745,933	745,933	0	32,281
	TOLUENE	N	0	23,641	23,641	0	0	23,641	0	0	1,616,281	1,616,281	0	56,656
	ZINC COMPOUNDS	N	0	2	2	0	1	3	0	0	0	0	0	0
	ZINC COMPOUNDS	N	0	4	4	0	1	5	0	0	0	0	0	685
	Total for WOLVERINE ADVANCED MATERIALS		**0**	**40,482**	**40,482**	**0**	**1**	**40,483**	**0**	**0**	**2,960,627**	**2,960,627**	**0**	**127,150**
	Total for Above County : (22 reports)		**20,187**	**104,817**	**125,004**	**3,376**	**11,916,964**	**12,045,344**	**0**	**38,190,215**	**15,123,195**	**53,313,410**	**0**	**533,493**
NEWPORT NEWS (CITY)	**CANON VIRGINIA INC**								**12000 CANON BLVD**				**NAICS Code**	**334419**
	METHANOL	N	590	714	1,304	0	0	1,304	0	9,250	0	9,250	0	5,045
	O-XYLENE	N	346	411	757	0	0	757	0	10,658	0	10,658	0	4,985
	Total for CANON VIRGINIA INC		**936**	**1,125**	**2,061**	**0**	**0**	**2,061**	**0**	**19,908**	**0**	**19,908**	**0**	**10,030**
NEWPORT NEWS (CITY)	**HUNTINGTON INGALLS INC**								**4101 WASHINGTON AVE**				**NAICS Code**	**336611**
	CHROMIUM COMPOUNDS (EXCEPT	N	52	1	53	0	150	203	0	0	0	0	11	23,935
	COPPER COMPOUNDS	N	942	2	944	0	200	1,144	0	0	0	0	280	45,614

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DIISOCYANATES	N	2	0	2	0	0	2	0	0	0	0	0	43,890
MANGANESE	N	1,090	7	1,097	0	105	1,201	0	0	0	0	35	65,337
N-BUTYL ALCOHOL	N	46,479	159	46,638	0	0	46,638	0	0	0	0	18	19,928
NICKEL	N	433	1	434	0	150	584	0	0	0	0	64	8,627
XYLENE (MIXED ISOMERS)	N	24,942	168	25,110	0	0	25,110	0	0	0	0	18	18,744
ZINC COMPOUNDS	N	30	0	30	0	2,869	2,899	0	0	0	0	4,552	13,703
Total for HUNTINGTON INGALLS INC		**73,970**	**338**	**74,308**	**0**	**3,473**	**77,781**	**0**	**0**	**0**	**0**	**4,980**	**239,777**
NEWPORT NEWS (CITY)	**HUNTINGTON INGALLS INCORPORATED**							**4101 WASHINGTON AVE**				**NAICS Code**	**336611**
1,2,4-TRIMETHYLBENZENE	N	22,421	10	22,432	0	0	22,432	0	0	0	0	0	6,604
Total for HUNTINGTON INGALLS INCORPORATED		**22,421**	**10**	**22,432**	**0**	**0**	**22,432**	**0**	**0**	**0**	**0**	**0**	**6,604**
NEWPORT NEWS (CITY)	**MARVA MAID DAIRY**							**5500 CHESTNUT AVE**				**NAICS Code**	**311511**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	28,626	25,763
NITRIC ACID	N	0	0	0	0	0	0	0	0	29,082	29,082	0	0
Total for MARVA MAID DAIRY		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29,082**	**29,082**	**28,626**	**25,763**
NEWPORT NEWS (CITY)	**MICA CO OF CANADA INC**							**900 JEFFERSON AVE**				**NAICS Code**	**327999**
METHANOL	N	250	10,355	10,605	0	0	10,605	0	0	0	0	0	0
TOLUENE	N	250	10,114	10,364	0	0	10,364	0	0	0	0	0	0
Total for MICA CO OF CANADA INC		**500**	**20,469**	**20,969**	**0**	**0**	**20,969**	**0**	**0**	**0**	**0**	**0**	**0**
NEWPORT NEWS (CITY)	**PAPCO OIL COMPANY**							**407 JEFFERSON AVENUE**				**NAICS Code**	**424710**
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for PAPCO OIL COMPANY		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NEWPORT NEWS (CITY)	**TCS MATERIALS NEWPORT NEWS**							**700 SHIELDS RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	79	0	79	0	0
Total for TCS MATERIALS NEWPORT NEWS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**79**	**0**	**79**	**0**	**0**
Total for Above County : (17 reports)		**97,828**	**21,942**	**119,770**	**0**	**3,473**	**123,243**	**0**	**19,987**	**29,082**	**49,069**	**33,606**	**282,175**
NORFOLK (CITY)	**BAE SYSTEMS NORFOLK SHIP REPAIR**							**750 W BERKLEY AVE**				**NAICS Code**	**336611**
CHROMIUM COMPOUNDS (EXCEPT	N	26	0	26	0	0	26	0	0	0	0	4	17,431
COPPER COMPOUNDS	N	1,133	0	1,133	0	255	1,388	0	0	0	0	93	159,530
N-BUTYL ALCOHOL	N	10,886	0	10,886	0	0	10,886	0	0	0	0	0	3,194
NICKEL COMPOUNDS	N	5	0	5	0	0	5	0	0	0	0	14	31,441
ZINC COMPOUNDS	N	364	0	364	0	389	753	0	0	0	0	88	17,972
Total for BAE SYSTEMS NORFOLK SHIP REPAIR		**12,414**	**0**	**12,414**	**0**	**644**	**13,058**	**0**	**0**	**0**	**0**	**199**	**229,568**
NORFOLK (CITY)	**CAPITAL CONCRETE INC.**							**400 STAPLETON ST**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	214	214	0	0	0	0	0	0
Total for CAPITAL CONCRETE INC.		**0**	**0**	**0**	**0**	**214**	**214**	**0**	**0**	**0**	**0**	**0**	**0**
NORFOLK (CITY)	**COLONNA'S SHIPYARD INC**							**400 E INDIAN RIVER RD**				**NAICS Code**	**336611**
COPPER	N	1,311	0	1,311	0	1,770	3,081	0	0	0	0	0	0
N-BUTYL ALCOHOL	N	10,794	0	10,794	0	0	10,794	0	0	0	0	0	2,390
XYLENE (MIXED ISOMERS)	N	11,812	0	11,812	0	0	11,812	0	0	0	0	0	2,578
Total for COLONNA'S SHIPYARD INC		**23,917**	**0**	**23,917**	**0**	**1,770**	**25,687**	**0**	**0**	**0**	**0**	**0**	**4,968**

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NORFOLK (CITY)	**US NAVY NAVAL STATION NORFOLK**							**1530 GILBERT STREET SUITE 2000**				**NAICS Code**	**928110**
NAPHTHALENE	N	78	6	85	0	513	597	0	0	0	0	0	1,692
Total for US NAVY NAVAL STATION NORFOLK		**78**	**6**	**85**	**0**	**513**	**597**	**0**	**0**	**0**	**0**	**0**	**1,692**
Total for Above County : (10 reports)		**36,409**	**6**	**36,416**	**0**	**3,141**	**39,556**	**0**	**0**	**0**	**0**	**199**	**236,228**
NORTHUMBERLAND	**OMEGA PROTEIN CORPORATION**							**610 MENHADEN RD**				**NAICS Code**	**311710**
AMMONIA	N	0	49,863	49,863	0	93	49,956	0	0	0	0	0	0
Total for OMEGA PROTEIN CORPORATION		**0**	**49,863**	**49,863**	**0**	**93**	**49,956**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**49,863**	**49,863**	**0**	**93**	**49,956**	**0**	**0**	**0**	**0**	**0**	**0**
NOTTOWAY	**US ARMY NATIONAL GUARD FORT BARFOOT (RANGES)**							**US PFO BUILDING 561 FORT BARFOOT**				**NAICS Code**	**928110**
COPPER	N	0	0	0	65,674	0	65,674	0	0	0	0	0	0
Total for US ARMY NATIONAL GUARD FORT BARF		**0**	**0**	**0**	**65,674**	**0**	**65,674**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**0**	**0**	**65,674**	**0**	**65,674**	**0**	**0**	**0**	**0**	**0**	**0**
PAGE	**MASONITE CORP**							**280 DONOVAN DR**				**NAICS Code**	**321911**
CERTAIN GLYCOL ETHERS	N	0	0	0	0	0	0	0	0	0	0	5,082	4,676
Total for MASONITE CORP		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5,082**	**4,676**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5,082**	**4,676**
PATRICK	**MICROMETRICS SYSTEM**							**225 JEB STUART HWY**				**NAICS Code**	**333514**
CHLORINE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for MICROMETRICS SYSTEM			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PETERSBURG (CITY)	**AMPAC FINE CHEMICALS VIRGINIA, LLC**								**2820 N NORMANDY DRIVE**				**NAICS Code**	**325411**
	METHANOL	N	0	1,166	1,166	0	0	1,166	0	0	0	0	0	18,273
	METHYL ISOBUTYL KETONE	N	0	5	5	0	0	5	0	0	0	0	0	12,735
	N,N-DIMETHYLFORMAMIDE	N	0	1	1	0	0	1	0	0	0	0	0	14,320
Total for AMPAC FINE CHEMICALS VIRGINIA, LLC			**1**	**1,171**	**1,171**	**0**	**0**	**1,171**	**0**	**0**	**0**	**0**	**0**	**45,328**
PETERSBURG (CITY)	**AMSTED RAIL CO INC**								**2580 FRONTAGE RD**				**NAICS Code**	**332111**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	92,075
	COPPER	N	0	0	0	0	5	5	0	0	0	0	16	40,270
	MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	128,113
	NICKEL	N	0	1	1	0	0	1	0	0	0	0	26	92,711
Total for AMSTED RAIL CO INC			**0**	**1**	**1**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**43**	**353,169**
PETERSBURG (CITY)	**BLEACHTECH LLC**								**2020 BESSEMER RD**				**NAICS Code**	**325180**
	CHLORINE	N	5	0	5	0	0	5	0	0	0	0	0	0
	HYDROCHLORIC ACID (ACID AERO	N	5	0	5	0	0	5	0	0	0	0	0	0
Total for BLEACHTECH LLC			**10**	**0**	**10**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**
PETERSBURG (CITY)	**BOAR'S HEAD PROVISIONS CO., INC.**								**1950 INDUSTRY PLACE**				**NAICS Code**	**311612**
	AMMONIA	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for BOAR'S HEAD PROVISIONS CO., INC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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PETERSBURG (CITY)	**DOMINION CHEMICAL CO INC**								**2050 PUDDLEDOCK RD**				**NAICS Code**	**325998**
	METHANOL	N	250	250	500	0	0	500	0	0	0	0	0	0
Total for DOMINION CHEMICAL CO INC			**250**	**250**	**500**	**0**	**0**	**500**	**0**	**0**	**0**	**0**	**0**	**0**
PETERSBURG (CITY)	**PRE CON INC**								**220 S PERRY ST**				**NAICS Code**	**313320**
	CYCLOHEXANE	N	2	465	468	0	0	468	0	0	6,708	6,708	0	39,581
Total for PRE CON INC			**2**	**465**	**468**	**0**	**0**	**468**	**0**	**0**	**6,708**	**6,708**	**0**	**39,581**
PETERSBURG (CITY)	**VALMONT-VIRGINIA GALVANIZING INC**								**3535 HALIFAX RD**				**NAICS Code**	**332812**
	ZINC COMPOUNDS	N	26	5	31	0	3,374	3,405	0	0	0	0	0	22,259
Total for VALMONT-VIRGINIA GALVANIZING INC			**26**	**5**	**31**	**0**	**3,374**	**3,405**	**0**	**0**	**0**	**0**	**0**	**22,259**
Total for Above County : (13 reports)			**289**	**1,892**	**2,181**	**0**	**3,379**	**5,560**	**0**	**0**	**6,708**	**6,708**	**43**	**460,337**
PITTSYLVANIA	**ARKEMA INC**								**601 TIGHTSQUEEZE IND US TRIAL RD**				**NAICS Code**	**325211**
	ACRYLIC ACID	N	1,330	250	1,580	0	0	1,580	0	0	253,000	253,000	0	0
	BUTYL ACRYLATE	N	250	250	500	0	0	500	0	0	340	340	0	250
	CERTAIN GLYCOL ETHERS	N	5	5	10	0	0	10	0	0	5,400	5,400	750	500
	DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
	HYDROQUINONE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	METHYL METHACRYLATE	N	250	250	500	0	0	500	0	0	230	230	0	500
	PHTHALIC ANHYDRIDE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	TOLUENE	N	2,200	250	2,450	0	0	2,450	0	688,000	26,100	714,100	0	262,010
	TOLUENE DIISOCYANATE (MIXED	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for ARKEMA INC		**4,035**	**1,005**	**5,040**	**0**	**0**	**5,040**	**0**	**688,000**	**285,070**	**973,070**	**750**	**263,260**
PITTSYLVANIA	**ASCENT CHEMICALS - DANVILLE**							**1975 OLD RICHMOND RD**				**NAICS Code**	**325199**
BUTYL ACRYLATE	Y	0	0	0	0	0	0	0	0	0	0	0	0
CERTAIN GLYCOL ETHERS	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
CYCLOHEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
DICAMBA	Y	0	0	0	0	0	0	0	0	0	0	0	0
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
MALEIC ANHYDRIDE	N	1	149	150	0	0	150	0	0	0	0	0	0
METHANOL	N	0	3	3	0	0	3	0	0	0	0	0	41,788
METHYL ISOBUTYL KETONE	N	5	5	10	0	0	10	0	0	0	0	0	511
N-BUTYL ALCOHOL	N	4,367	44	4,411	0	0	4,411	0	837,290	0	837,290	0	81,862
PHENOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
SODIUM DICAMBA	Y	0	0	0	0	0	0	0	0	0	0	0	0
TOLUENE	N	1,918	344	2,262	0	0	2,262	0	0	17,195	17,195	0	123,941
XYLENE (MIXED ISOMERS)	N	5	805	810	0	0	810	0	0	0	0	0	42,178
Total for ASCENT CHEMICALS - DANVILLE		**6,296**	**1,350**	**7,645**	**0**	**0**	**7,645**	**0**	**837,290**	**17,195**	**854,485**	**0**	**290,280**
PITTSYLVANIA	**COLUMBIA FOREST PRODUCTS**							**100 PAUL RD SW**				**NAICS Code**	**321211**
CERTAIN GLYCOL ETHERS	N	8,541	0	8,541	0	0	8,541	0	0	0	0	0	0
Total for COLUMBIA FOREST PRODUCTS		**8,541**	**0**	**8,541**	**0**	**0**	**8,541**	**0**	**0**	**0**	**0**	**0**	**0**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
PITTSYLVANIA	**INTERTAPE POLYMER CORP**							**1101 EAGLE SPRINGS RD**				**NAICS Code**	**326113**
TOLUENE	N	4,161	47,849	52,010	0	0	52,010	0	1,763,096	0	1,763,096	0	0
Total for INTERTAPE POLYMER CORP		**4,161**	**47,849**	**52,010**	**0**	**0**	**52,010**	**0**	**1,763,096**	**0**	**1,763,096**	**0**	**0**
PITTSYLVANIA	**JTI LEAF SERVICES (US) LLC**							**202 STINSON DRIVE**				**NAICS Code**	**312230**
AMMONIA	N	862	3,484	4,346	0	0	4,346	0	0	0	0	936	1,213
NICOTINE AND SALTS	N	15,736	33,881	49,617	0	0	49,617	0	0	0	0	3,128	2,239
Total for JTI LEAF SERVICES (US) LLC		**16,598**	**37,365**	**53,963**	**0**	**0**	**53,963**	**0**	**0**	**0**	**0**	**4,064**	**3,451**
PITTSYLVANIA	**POLYNT COMPOSITES USA INC.**							**920 TIGHTSQUEEZE IND US TRIAL RD**				**NAICS Code**	**325211**
1,2,4-TRIMETHYLBENZENE	N	0	0	0	0	0	0	0	0	0	0	0	2,294
DICYCLOPENTADIENE	N	154	278	433	0	0	433	0	0	0	0	0	2,299
ETHYLBENZENE	N	0	0	0	0	0	0	0	0	0	0	0	4,587
ETHYLENE GLYCOL	N	40	73	113	0	0	113	0	0	0	0	0	22,942
MALEIC ANHYDRIDE	N	236	796	1,032	0	0	1,032	0	0	0	0	0	115
METHANOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
METHYL METHACRYLATE	Y	0	0	0	0	0	0	0	0	0	0	0	0
PHTHALIC ANHYDRIDE	N	97	271	368	0	0	368	0	0	0	0	0	115
STYRENE	N	528	750	1,278	0	0	1,278	0	0	0	0	137	22,620
Total for POLYNT COMPOSITES USA INC.		**1,056**	**2,168**	**3,224**	**0**	**0**	**3,224**	**0**	**0**	**0**	**0**	**137**	**54,972**
PITTSYLVANIA	**TYSON FARMS, INC**							**1725 CANE CREEK PKWY**				**NAICS Code**	**311615**
AMMONIA	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Chemical Name	form A*	Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for TYSON FARMS, INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (37 reports)		**40,687**	**89,737**	**130,424**	**0**	**0**	**130,424**	**0**	**3,288,386**	**302,265**	**3,590,651**	**4,951**	**611,963**
PORTSMOUTH (CITY)	**U.S. AMINES (PORTSMOUTH) LLC**							**3230 W NORFOLK RD**				**NAICS Code**	**325199**
3-CHLORO-2-METHYL-1-PROPENE	N	26	0	26	0	0	26	0	0	13	13	0	0
ALLYL CHLORIDE	N	85	2	87	0	0	87	0	0	114	114	0	0
ALLYLAMINE	N	83	1,100	1,183	0	0	1,183	0	0	53,900	53,900	0	0
AMMONIA	N	59	0	59	0	0	59	0	0	0	0	0	2
Total for U.S. AMINES (PORTSMOUTH) LLC		**253**	**1,102**	**1,355**	**0**	**0**	**1,355**	**0**	**0**	**54,027**	**54,027**	**0**	**2**
PORTSMOUTH (CITY)	**U.S. NAVY NORFOLK NAVAL SHIPYARD**							**INTERSECTION OF EFFINGHAM ST & GEORGIA**				**NAICS Code**	**928110**
ETHYLBENZENE	N	87	20	107	0	0	107	0	0	0	0	0	30,577
TOLUENE	N	13	3	16	0	0	16	0	0	0	0	0	30,934
XYLENE (MIXED ISOMERS)	N	804	58	862	0	0	862	0	0	0	0	0	59,371
Total for U.S. NAVY NORFOLK NAVAL SHIPYARD		**904**	**81**	**986**	**0**	**0**	**986**	**0**	**0**	**0**	**0**	**0**	**120,882**
PORTSMOUTH (CITY)	**US NAVY DEFENSE FUEL SUPPORT POINT CRANEY ISLAND**							**4501 CEDAR LN BLDG 288**				**NAICS Code**	**928110**
NAPHTHALENE	N	691	0	691	0	0	692	0	128,296	0	128,296	0	33
Total for US NAVY DEFENSE FUEL SUPPORT POI		**691**	**0**	**691**	**0**	**0**	**692**	**0**	**128,296**	**0**	**128,296**	**0**	**33**
Total for Above County : (8 reports)		**1,849**	**1,184**	**3,032**	**0**	**0**	**3,033**	**0**	**128,296**	**54,027**	**182,323**	**0**	**120,917**
PRINCE GEORGE	**NOBLE OIL SERVICES, INC.**							**229 HUMMEL ROSS ROAD**				**NAICS Code**	**424710**
ETHYLENE GLYCOL	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for NOBLE OIL SERVICES, INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE GEORGE	**NUCOR INSULATED PANEL GROUP**							**6001 QUALITY WAY**				**NAICS Code**	**332311**
DIISOCYANATES	N	2,277	0	2,277	0	0	2,277	0	0	0	0	0	0
NONYLPHENOL ETHOXYLATES	N	3,714	0	3,714	0	0	3,714	0	0	0	0	0	0
Total for NUCOR INSULATED PANEL GROUP		**5,991**	**0**	**5,991**	**0**	**0**	**5,991**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 reports)		**5,991**	**0**	**5,991**	**0**	**0**	**5,991**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**MANASSAS READY MIX CONCRETE**							**7310 OLD COMPTON RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for MANASSAS READY MIX CONCRETE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**MICRON TECHNOLOGY INC.**							**9600 GODWIN DR**				**NAICS Code**	**334413**
AMMONIA	N	460	25,000	25,460	0	86	25,546	0	0	7,700	7,700	40,000	40,006
FLUORINE	N	0	11,000	11,000	0	0	11,000	0	0	140,000	140,000	0	0
HYDROGEN FLUORIDE	N	0	7,300	7,300	0	0	7,300	0	0	1,100,000	1,100,000	0	270
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	100,000	100,048
NITRIC ACID	N	0	100	100	0	0	100	0	0	100,000	100,000	0	680
N-METHYL-2-PYRROLIDONE	N	0	120	120	0	0	120	0	0	5,000	5,000	0	20,000
OZONE	N	0	140	140	0	0	140	0	0	140,000	140,000	0	0
SULFURIC ACID (ACID AEROSOLS I	N	0	680	680	0	0	680	0	0	110,000	110,000	0	3,500
Total for MICRON TECHNOLOGY INC.		**460**	**44,340**	**44,800**	**0**	**86**	**44,886**	**0**	**0**	**1,602,700**	**1,602,700**	**140,000**	**164,504**
PRINCE WILLIAM	**POSSUM POINT POWER STATION**							**19000 POSSUM POINT RD**				**NAICS Code**	**221112**

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AMMONIA	N	0	400	400	0	2,120	2,520	0	0	0	0	0	0
Total for POSSUM POINT POWER STATION		**0**	**400**	**400**	**0**	**2,120**	**2,520**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**SAFETY-KLEEN SYSTEMS MANASSAS (MAN)**							**11520 BALLS FORD RD**				**NAICS Code**	**562112**
ETHYLENE GLYCOL	N	5	0	5	0	0	5	0	0	0	0	0	127,160
Total for SAFETY-KLEEN SYSTEMS MANASSAS (		**5**	**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**127,160**
PRINCE WILLIAM	**US MARINE CORPS BASE QUANTICO**							**3250 CATLIN AVE**				**NAICS Code**	**928110**
1,2,4-TRIMETHYLBENZENE	N	0	0	0	0	0	0	0	0	0	0	0	0
BENZENE	N	1	0	1	0	0	1	0	0	0	0	0	0
COPPER	N	0	0	0	47,682	0	47,682	0	0	0	0	0	0
ETHYLBENZENE	N	25	5	30	0	0	30	0	0	0	0	0	0
NAPHTHALENE	N	1	0	2	0	0	2	0	0	0	0	0	0
N-HEXANE	N	9	430	439	0	0	439	0	0	0	0	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	25,385	25,385	0	0	0	0	0	0
TOLUENE	N	970	74	1,044	0	0	1,044	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	N	280	26	306	0	0	306	0	0	0	0	0	0
Total for US MARINE CORPS BASE QUANTICO		**1,286**	**535**	**1,821**	**47,682**	**25,385**	**74,889**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**VIRGINIA CONCRETE DUMFRIES PLANT**							**217 CANAL RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	168	168	0	0	0	0	0	0
Total for VIRGINIA CONCRETE DUMFRIES PLANT		**0**	**0**	**0**	**0**	**168**	**168**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**VIRGINIA CONCRETE GAINESVILLE PLANT**							**7300 RAIL LINE CT**				**NAICS Code**	**327320**

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	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	209	209	0	0	0	0	0	0
	Total for VIRGINIA CONCRETE GAINESVILLE PLA		**0**	**0**	**0**	**0**	**209**	**209**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**VIRGINIA CONCRETE WOODBRIDGE PLANT**								**936 ANNAPOLIS WAY**				**NAICS Code**	**327320**
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	54	54	0	0	54	54	0	0
	Total for VIRGINIA CONCRETE WOODBRIDGE PL		**0**	**0**	**0**	**0**	**54**	**54**	**0**	**0**	**54**	**54**	**0**	**0**
	Total for Above County : (23 reports)		**1,751**	**45,275**	**47,026**	**47,682**	**28,022**	**122,731**	**0**	**0**	**1,602,754**	**1,602,754**	**140,000**	**291,664**
PULASKI	**HEYTEX-USA**								**509 BURGIS AVE**				**NAICS Code**	**313320**
	ANTIMONY COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	7,486
	ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	25
	Total for HEYTEX-USA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7,511**
PULASKI	**IMPERIAL GROUP MANUFACTURING INC**								**4969 STEPP PLACE**				**NAICS Code**	**332322**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	0
	MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	0
	NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for IMPERIAL GROUP MANUFACTURING INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PULASKI	**JAMES HARDIE BUILDING PRODUCTS PULASKI**								**1000 JAMES HARDIE WAY**				**NAICS Code**	**327390**
	CERTAIN GLYCOL ETHERS	N	0	0	0	0	0	0	0	0	0	0	0	0
	COPPER COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	MANGANESE COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for JAMES HARDIE BUILDING PRODUCTS P		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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PULASKI	**MAR-BAL, INC.**								**5400 RESERVE WAY**				**NAICS Code**	**326199**
	STYRENE	N	0	4,285	4,285	0	0	4,285	0	0	0	0	0	458
Total for MAR-BAL, INC.			**0**	**4,285**	**4,285**	**0**	**0**	**4,285**	**0**	**0**	**0**	**0**	**0**	**458**
PULASKI	**VOLVO GROUP N.A. LLC**								**4881 COUGAR TRAIL ROAD**				**NAICS Code**	**336120**
	DIISOCYANATES	N	127	2	129	0	0	129	0	0	113	113	4	1,257
	ETHYLBENZENE	N	740	1,231	1,971	0	0	1,971	0	0	20,886	20,886	0	80,209
	ETHYLENE GLYCOL	N	0	0	0	0	0	0	0	0	0	0	0	32,775
	NITRIC ACID	N	0	4	4	0	0	4	0	0	10,990	10,990	0	0
Total for VOLVO GROUP N.A. LLC			**867**	**1,237**	**2,104**	**0**	**0**	**2,104**	**0**	**0**	**31,989**	**31,989**	**4**	**114,241**
PULASKI	**VOLVO GROUP NORTH AMERICA, LLC**								**4881 COUGAR TRAIL ROAD**				**NAICS Code**	**336120**
	CERTAIN GLYCOL ETHERS	N	3,255	19,574	22,829	0	0	22,829	0	0	485	485	3,721	3,423
	METHANOL	N	37	140	177	0	0	177	0	0	1	1	0	10,290
	N-BUTYL ALCOHOL	N	59	8,114	8,173	0	0	8,173	0	0	137,314	137,314	0	534,688
	XYLENE (MIXED ISOMERS)	N	1,968	8,111	10,079	0	0	10,079	0	0	137,188	137,188	0	534,816
	ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	3
Total for VOLVO GROUP NORTH AMERICA, LLC			**5,319**	**35,939**	**41,258**	**0**	**0**	**41,258**	**0**	**0**	**274,988**	**274,988**	**3,721**	**1,083,220**
Total for Above County : (18 reports)			**6,186**	**41,461**	**47,647**	**0**	**0**	**47,647**	**0**	**0**	**306,977**	**306,977**	**3,725**	**1,205,430**
RICHMOND	**DOMINION - NORTHERN NECK COMBUSTION TURBINE STATIO**								**819 INDIANFIELD RD**				**NAICS Code**	**221112**
	1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
	N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for DOMINION - NORTHERN NECK COMBUS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
RICHMOND	**MONDELEZ GLOBAL LLC**							**6002 S LABURNUM AVE**				**NAICS Code**	**311821**
AMMONIA	N	0	109,296	109,296	0	0	109,296	0	0	0	0	0	0
Total for MONDELEZ GLOBAL LLC		**0**	**109,296**	**109,296**	**0**	**0**	**109,296**	**0**	**0**	**0**	**0**	**0**	**0**
RICHMOND	**STELLA-JONES CORP**							**15939 HISTORY LAND HWY**				**NAICS Code**	**321114**
ARSENIC COMPOUNDS	N	0	4	4	0	16	20	0	0	0	0	0	0
CHROMIUM COMPOUNDS (EXCEPT	N	0	4	4	0	35	39	0	0	0	0	0	0
COPPER COMPOUNDS	N	0	8	8	0	14	22	0	0	0	0	0	0
Total for STELLA-JONES CORP		**0**	**16**	**16**	**0**	**65**	**81**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (6 reports)		**0**	**109,312**	**109,312**	**0**	**65**	**109,377**	**0**	**0**	**0**	**0**	**0**	**0**
RICHMOND (CITY)	**BRENNTAG MID-SOUTH, INC.**							**738 GOODES ST**				**NAICS Code**	**424690**
METHANOL	N	1,783	0	1,783	0	0	1,783	0	0	0	0	0	0
Total for BRENNTAG MID-SOUTH, INC.		**1,783**	**0**	**1,783**	**0**	**0**	**1,783**	**0**	**0**	**0**	**0**	**0**	**0**
RICHMOND (CITY)	**CARPENTER CO RICHMOND PLANT**							**2400 RICHMOND HWY**				**NAICS Code**	**326150**
DIETHANOLAMINE	N	8	3	11	0	0	11	0	0	0	0	0	0
DIISOCYANATES	N	793	42	835	0	0	835	0	0	0	0	0	39,094
ETHYLENE GLYCOL	N	21	0	22	0	0	22	0	0	0	0	0	0
TOLUENE DIISOCYANATE (MIXED	N	17	539	556	0	0	556	0	0	0	0	0	1,569
Total for CARPENTER CO RICHMOND PLANT		**839**	**584**	**1,423**	**0**	**0**	**1,423**	**0**	**0**	**0**	**0**	**0**	**40,663**

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RICHMOND (CITY)	**KINDER MORGAN TRANSMIX COMPANY, LLC**							**3302 DEEPWATER TERMINAL RD**				**NAICS Code**	**424710**
1,2,4-TRIMETHYLBENZENE	N	114	0	115	0	0	115	0	0	2	2	0	0
BENZENE	N	106	5	110	0	0	111	0	0	59	59	0	0
CUMENE	N	8	0	8	0	0	8	0	0	1	1	0	0
ETHYLBENZENE	N	30	0	30	0	0	31	0	0	4	4	0	0
N-HEXANE	N	87	2	89	0	0	89	0	0	54	54	0	0
TOLUENE	N	223	6	230	0	1	231	0	0	66	66	0	0
XYLENE (MIXED ISOMERS)	N	267	1	268	0	1	269	0	0	28	28	0	0
Total for KINDER MORGAN TRANSMIX COMPANY,		**835**	**14**	**850**	**0**	**3**	**853**	**0**	**0**	**214**	**214**	**0**	**0**
RICHMOND (CITY)	**PHILIP MORRIS USA COMMERCE ROAD SITE**							**3601 COMMERCE RD**				**NAICS Code**	**312230**
NICOTINE AND SALTS	N	188	7,674	7,862	0	0	7,862	0	0	72,966	72,966	13,546	207,789
Total for PHILIP MORRIS USA COMMERCE ROAD		**188**	**7,674**	**7,862**	**0**	**0**	**7,862**	**0**	**0**	**72,966**	**72,966**	**13,546**	**207,789**
RICHMOND (CITY)	**RECO BIODIESEL, LLC**							**710 HOSPITAL ST**				**NAICS Code**	**325199**
METHANOL	N	5	5	10	0	0	10	0	0	0	0	0	0
Total for RECO BIODIESEL, LLC		**5**	**5**	**10**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**
RICHMOND (CITY)	**UPACO ADHESIVES INC**							**4105 CASTLEWOOD RD**				**NAICS Code**	**325520**
TOLUENE	N	2,642	2,642	5,284	0	0	5,284	0	0	0	0	0	1,483
XYLENE (MIXED ISOMERS)	N	1,962	1,962	3,924	0	0	3,924	0	0	0	0	0	1,101
Total for UPACO ADHESIVES INC		**4,604**	**4,604**	**9,208**	**0**	**0**	**9,208**	**0**	**0**	**0**	**0**	**0**	**2,584**
Total for Above County : (16 reports)		**8,255**	**12,882**	**21,136**	**0**	**3**	**21,139**	**0**	**0**	**73,180**	**73,180**	**13,546**	**251,036**

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ROANOKE	**CARDINAL GLASS**								**2132 CARDINAL PARK DR**				**NAICS Code**	**327215**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	25,977
	MANGANESE	N	0	0	0	0	0	0	0	0	0	0	0	9,837
	NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	6,864
Total for CARDINAL GLASS			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42,678**
ROANOKE	**CARGILL FEED & NUTRITION ROANOKE**								**1003 WALNUT AVE**				**NAICS Code**	**311119**
	COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
	MANGANESE COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
	ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CARGILL FEED & NUTRITION ROANOKE			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE	**GRAHAM-WHITE MANUFACTURING CO.**								**1242 COLORADO ST**				**NAICS Code**	**336510**
	COPPER	N	21	0	21	0	0	21	0	0	0	0	0	17,334
Total for GRAHAM-WHITE MANUFACTURING CO.			**21**	**0**	**21**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**17,334**
ROANOKE	**KIK (VIRGINIA) LLC**								**27 MILL LN**				**NAICS Code**	**325612**
	AMMONIA	Y	0	0	0	0	0	0	0	0	0	0	0	0
	CHLORINE	N	1	0	1	0	0	1	0	0	0	0	0	0
Total for KIK (VIRGINIA) LLC			**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE	**KOPPERS INC (ROANOKE)**								**4020 KOPPERS RD**				**NAICS Code**	**321114**
	CREOSOTE	N	1,700	1,700	3,400	0	1	3,401	0	370,000	50	370,050	0	15,600
Total for KOPPERS INC (ROANOKE)			**1,700**	**1,700**	**3,400**	**0**	**1**	**3,401**	**0**	**370,000**	**50**	**370,050**	**0**	**15,600**

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ROANOKE	**MARVIN COMPOSITES**							**5415 CORPORATE CIR**				**NAICS Code**	**326199**
STYRENE	N	0	1,033	1,033	0	0	1,033	0	0	52,899	52,899	0	93
Total for MARVIN COMPOSITES		**0**	**1,033**	**1,033**	**0**	**0**	**1,033**	**0**	**0**	**52,899**	**52,899**	**0**	**93**
ROANOKE	**MEDECO SECURITY LOCKS INC.**							**3625 ALLEGHENY DR**				**NAICS Code**	**332510**
COPPER	N	0	0	0	0	0	0	0	0	0	0	0	509,276
ZINC (FUME OR DUST)	N	0	1	1	0	0	1	0	0	0	0	0	27,824
Total for MEDECO SECURITY LOCKS INC.		**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**537,100**
ROANOKE	**MENNEL MILLING CO OF VIRGINIA**							**5185 BENOIS RD**				**NAICS Code**	**311211**
CHLORINE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for MENNEL MILLING CO OF VIRGINIA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE	**NEW MILLENNIUM BUILDING SYSTEMS**							**100 DIUGUIDS LANE**				**NAICS Code**	**332312**
CERTAIN GLYCOL ETHERS	N	39,539	0	39,539	0	0	39,539	0	0	0	0	0	0
MANGANESE	N	162	0	162	0	0	162	0	0	0	0	0	19,583
NICKEL	N	1	0	1	0	0	1	0	0	0	0	0	1,286
Total for NEW MILLENNIUM BUILDING SYSTEMS		**39,702**	**0**	**39,702**	**0**	**0**	**39,702**	**0**	**0**	**0**	**0**	**0**	**20,869**
ROANOKE	**NOVOZYMES**							**420 KESLER MILL RD**				**NAICS Code**	**325414**
NITRATE COMPOUNDS (WATER DI	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for NOVOZYMES		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE	**SAFETY-KLEEN SYSTEMS VINTON (ROA)**							**16090 STEWARTSVILLE RD**				**NAICS Code**	**562112**
ETHYLENE GLYCOL	N	0	2	2	0	0	2	0	0	0	0	0	18,821

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Total for SAFETY-KLEEN SYSTEMS VINTON (ROA		**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**18,821**
ROANOKE	**YOKOHAMA TIRE MANUFACTURING VIRGINIA LLC**							**1500 INDIANA ST**				**NAICS Code**	**326211**
ZINC COMPOUNDS	N	2,811	0	2,811	0	0	2,811	0	0	0	0	13	9,219
Total for YOKOHAMA TIRE MANUFACTURING VIR		**2,811**	**0**	**2,811**	**0**	**0**	**2,811**	**0**	**0**	**0**	**0**	**13**	**9,219**
Total for Above County : (20 reports)		**44,235**	**2,735**	**46,970**	**0**	**1**	**46,971**	**0**	**370,000**	**52,949**	**422,949**	**13**	**661,714**
ROANOKE (CITY)	**AKZO NOBEL COATINGS INC**							**2837 ROANOKE AVE SW**				**NAICS Code**	**325510**
1,2,4-TRIMETHYLBENZENE	N	936	0	936	0	0	936	0	0	0	0	0	2,827
ETHYLBENZENE	N	1,112	14	1,126	0	0	1,126	0	0	0	0	0	1,696
METHANOL	N	440	47	487	0	0	487	0	0	0	0	0	6,339
METHYL ISOBUTYL KETONE	N	5,175	0	5,175	0	0	5,175	0	0	0	0	0	2,827
N-BUTYL ALCOHOL	N	1,548	0	1,548	0	0	1,548	0	0	0	0	0	7,348
TOLUENE	N	1,030	35	1,065	0	0	1,065	0	0	0	0	0	11,869
XYLENE (MIXED ISOMERS)	N	5,364	32	5,396	0	0	5,396	0	0	0	0	0	17,520
Total for AKZO NOBEL COATINGS INC		**15,605**	**128**	**15,733**	**0**	**0**	**15,733**	**0**	**0**	**0**	**0**	**0**	**50,426**
ROANOKE (CITY)	**CHEMSOLV INC**							**1140 INDUSTRY AVE SE**				**NAICS Code**	**424690**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
ACRYLIC ACID	Y	0	0	0	0	0	0	0	0	0	0	0	0
AMMONIA	Y	0	0	0	0	0	0	0	0	0	0	0	0
CERTAIN GLYCOL ETHERS	Y	0	0	0	0	0	0	0	0	0	0	0	0
DICHLOROMETHANE	N	1,764	0	1,764	0	0	1,764	0	0	0	0	0	0

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ETHYLENE GLYCOL	N	13	1	14	0	0	14	0	0	0	0	0	0
FORMALDEHYDE	Y	0	0	0	0	0	0	0	0	0	0	0	0
FORMIC ACID	Y	0	0	0	0	0	0	0	0	0	0	0	0
METHANOL	N	591	538	1,129	0	0	1,129	0	0	0	0	0	0
METHYL ISOBUTYL KETONE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-BUTYL ALCOHOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	N	179	1,233	1,412	0	0	1,412	0	0	0	0	0	0
NITRIC ACID	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-METHYL-2-PYRROLIDONE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NONYLPHENOL ETHOXYLATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
TOLUENE	N	127	328	455	0	0	455	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CHEMSOLV INC		**2,674**	**2,100**	**4,774**	**0**	**0**	**4,774**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE (CITY)	**STEEL DYNAMICS INC ROANOKE BAR DIV**							**102 WESTSIDE BLVD**				**NAICS Code**	**331110**
CHROMIUM COMPOUNDS (EXCEPT	N	11	33	44	0	0	44	0	0	0	0	0	55,295
COPPER COMPOUNDS	N	2	34	36	0	210	246	0	0	0	0	0	39,383
MANGANESE COMPOUNDS	N	106	1,027	1,133	0	0	1,133	0	0	0	0	0	373,664
NICKEL COMPOUNDS	N	1	3	4	0	0	4	0	0	0	0	0	1,965
ZINC COMPOUNDS	N	29	2,036	2,065	0	326	2,391	0	0	0	0	0	3,357,985
Total for STEEL DYNAMICS INC ROANOKE BAR DI		**149**	**3,133**	**3,282**	**0**	**536**	**3,818**	**0**	**0**	**0**	**0**	**0**	**3,828,292**
ROANOKE (CITY)	**TRIVIUM PACKAGING USA, INC**							**5022 HOLLINS RD**				**NAICS Code**	**332431**

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CERTAIN GLYCOL ETHERS	N	115	3,054	3,169	0	0	3,169	0	0	166,611	166,611	0	5,363
CHROMIUM	Y	0	0	0	0	0	0	0	0	0	0	0	0
COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-BUTYL ALCOHOL	N	25	16,846	16,871	0	0	16,871	0	0	919,021	919,021	0	32,376
NICKEL COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for TRIVIUM PACKAGING USA, INC		**140**	**19,900**	**20,040**	**0**	**0**	**20,040**	**0**	**0**	**1,085,632**	**1,085,632**	**0**	**37,738**
Total for Above County : (35 reports)		**18,568**	**25,261**	**43,829**	**0**	**536**	**44,365**	**0**	**0**	**1,085,632**	**1,085,632**	**0**	**3,916,456**
ROCKBRIDGE	**MODINE MANUFACTURING CO**							**1221 MAGNOLIA AVE**				**NAICS Code**	**333414**
CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	11,349
COPPER	N	9	38	47	0	1	48	0	0	0	0	0	378
Total for MODINE MANUFACTURING CO		**9**	**38**	**47**	**0**	**1**	**48**	**0**	**0**	**0**	**0**	**0**	**11,727**
ROCKBRIDGE	**STELLA JONES CORP-GOSHEN FACILITY**							**9223 MAURY RIVER RD**				**NAICS Code**	**321114**
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
CREOSOTE	N	3,958	2,342	6,300	0	13	6,313	0	0	0	0	0	1,227
Total for STELLA JONES CORP-GOSHEN FACILIT		**3,958**	**2,342**	**6,300**	**0**	**13**	**6,313**	**0**	**0**	**0**	**0**	**0**	**1,227**
Total for Above County : (4 reports)		**3,967**	**2,380**	**6,347**	**0**	**14**	**6,361**	**0**	**0**	**0**	**0**	**0**	**12,954**
ROCKINGHAM	**CARGILL MEAT SOLUTIONS INC**							**135 HUFFMAN DR**				**NAICS Code**	**311615**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	0	0	60,369	0

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	NITRIC ACID	N	0	0	0	0	0	0	0	0	0	0	47,734	0
	PERACETIC ACID	N	0	0	0	0	0	0	0	0	29,118	29,118	0	0
Total for CARGILL MEAT SOLUTIONS INC			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29,118**	**29,118**	**108,103**	**0**
ROCKINGHAM	**DARLING INGREDIENTS INC LINVILLE FACILITY**								**6230 KRATZER RD**				**NAICS Code**	**311613**
	CHLORINE DIOXIDE	N	0	0	0	29,945	0	29,945	0	0	0	0	0	0
Total for DARLING INGREDIENTS INC LINVILLE FA			**0**	**0**	**0**	**29,945**	**0**	**29,945**	**0**	**0**	**0**	**0**	**0**	**0**
ROCKINGHAM	**GEORGE'S FOODS, LLC. PROCESSING PLANT**								**501 N LIBERTY ST**				**NAICS Code**	**311615**
	PERACETIC ACID	N	1,213	0	1,213	0	0	1,213	0	0	241,318	241,318	0	121
Total for GEORGE'S FOODS, LLC. PROCESSING P			**1,213**	**0**	**1,213**	**0**	**0**	**1,213**	**0**	**0**	**241,318**	**241,318**	**0**	**121**
ROCKINGHAM	**MERCK SHARP & DOHME LLC**								**2778 SE SIDE HWY**				**NAICS Code**	**325412**
	METHANOL	N	2,701	649	3,350	0	0	3,350	0	0	27,314	27,314	0	408
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	66,382	66,382	0	0
Total for MERCK SHARP & DOHME LLC			**2,701**	**649**	**3,350**	**0**	**0**	**3,350**	**0**	**0**	**93,696**	**93,696**	**0**	**408**
ROCKINGHAM	**MOLSON COORS SHENANDOAH BREWERY**								**5135 S EASTSIDE HWY**				**NAICS Code**	**312120**
	AMMONIA	N	192	1,260	1,452	7,997	541	9,990	0	0	7,997	7,997	0	0
	NITRIC ACID	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for MOLSON COORS SHENANDOAH BREWE			**192**	**1,260**	**1,452**	**7,997**	**541**	**9,990**	**0**	**0**	**7,997**	**7,997**	**0**	**0**
ROCKINGHAM	**PILGRIM'S PRIDE CORP BROADWAY FACILITY**								**330 CO-OP DR**				**NAICS Code**	**311615**
	AMMONIA	N	10,771	0	10,771	0	0	10,771	0	0	0	0	42,837	25,702
	PERACETIC ACID	N	3,212	0	3,212	0	0	3,212	0	0	155,788	155,788	1,606	1,606

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Total for PILGRIM'S PRIDE CORP BROADWAY FA		**13,983**	**0**	**13,983**	**0**	**0**	**13,983**	**0**	**0**	**155,788**	**155,788**	**44,443**	**27,308**
ROCKINGHAM	**VPGC LLC BROADWAY FEEDMIL**							**410 S MAIN ST**				**NAICS Code**	**311119**
COPPER COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for VPGC LLC BROADWAY FEEDMIL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROCKINGHAM	**VPGC LLC HINTON FACILITY**							**6349 RAWLEY PIKE HWY 33 WE**				**NAICS Code**	**311615**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	94,884	94,884	0	0	524,795	524,795	0	0
Total for VPGC LLC HINTON FACILITY		**0**	**0**	**0**	**0**	**94,884**	**94,884**	**0**	**0**	**524,795**	**524,795**	**0**	**0**
ROCKINGHAM	**WWF OPERATING CO**							**6364 S VALLEY PIKE**				**NAICS Code**	**311511**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
AMMONIA	N	16,391	0	16,391	0	0	16,391	0	0	0	0	1,035	1,035
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	N	0	855	855	0	0	855	0	0	0	0	0	0
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	485,825	485,825	23,210	20,889
NITRIC ACID	N	5	0	5	0	0	5	0	0	507,379	507,379	0	0
PERACETIC ACID	N	5	0	5	0	0	5	0	0	22,431	22,431	1,950	1,794
Total for WWF OPERATING CO		**16,401**	**855**	**17,256**	**0**	**0**	**17,256**	**0**	**0**	**1,015,635**	**1,015,635**	**26,195**	**23,718**
Total for Above County : (21 reports)		**34,490**	**2,764**	**37,254**	**37,942**	**95,425**	**170,621**	**0**	**0**	**2,068,347**	**2,068,347**	**178,741**	**51,555**
RUSSELL	**SAMUEL SON & COMPANY (USA) INC.**							**58 SAMUEL WAY**				**NAICS Code**	**332420**
MANGANESE	N	68	0	68	0	13	81	0	0	0	0	0	17,270

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NICKEL	N	2	0	2	0	5	7	0	0	0	0	0	2,131
Total for SAMUEL SON & COMPANY (USA) INC.		**70**	**0**	**70**	**0**	**18**	**88**	**0**	**0**	**0**	**0**	**0**	**19,401**
Total for Above County : (2 reports)		**70**	**0**	**70**	**0**	**18**	**88**	**0**	**0**	**0**	**0**	**0**	**19,401**
SALEM (CITY)	**LAKE REGION MEDICAL, INC**							**200 S YORKSHIRE ST**				**NAICS Code**	**332996**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	0	2,143	2,143	26,839	26,839
NITRIC ACID	N	0	0	0	0	0	0	0	0	12,544	12,544	0	0
NITRIC ACID	N	0	0	0	0	0	0	0	0	21,224	21,224	0	0
TRICHLOROETHYLENE	N	2,904	0	2,904	0	0	2,904	0	0	0	0	0	5,755
Total for LAKE REGION MEDICAL, INC		**2,904**	**0**	**2,904**	**0**	**0**	**2,904**	**0**	**0**	**35,911**	**35,911**	**26,839**	**32,594**
SALEM (CITY)	**NOVOZYMES BIOLOGICALS INC**							**528 CHAPMAN ST**				**NAICS Code**	**325414**
NITRATE COMPOUNDS (WATER DI	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for NOVOZYMES BIOLOGICALS INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SALEM (CITY)	**QUALICHEM, INC PLANT 1**							**2003 SALEM INDUSTRIAL DR**				**NAICS Code**	**325998**
2-PHENYLPHENOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
3-IODO-2-PROPYNYL BUTYLCARB	Y	0	0	0	0	0	0	0	0	0	0	0	0
CERTAIN GLYCOL ETHERS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for QUALICHEM, INC PLANT 1		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SALEM (CITY)	**QUALICHEM, INC. PLANT 2**							**510 BRANCH DR**				**NAICS Code**	**325998**
ETHYLENE GLYCOL	Y	0	0	0	0	0	0	0	0	0	0	0	0
SODIUM NITRITE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Total for QUALICHEM, INC. PLANT 2			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (10 reports)			**2,904**	**0**	**2,904**	**0**	**0**	**2,904**	**0**	**0**	**35,911**	**35,911**	**26,839**	**32,594**
SCOTT	**JOY GLOBAL UNDERGROUND MINING, LLC**								**811 BOONE TRAIL RD**				**NAICS Code**	**811310**
	CHROMIUM	N	250	0	250	0	0	250	0	0	0	0	0	31,900
	MANGANESE	N	250	0	250	0	0	250	0	0	0	0	0	53,472
	NICKEL	N	5	0	5	0	0	5	0	0	0	0	0	12,124
Total for JOY GLOBAL UNDERGROUND MINING, L			**505**	**0**	**505**	**0**	**0**	**505**	**0**	**0**	**0**	**0**	**0**	**97,496**
SCOTT	**TEMPUR PRODUCTION USA INC**								**203 TEMPURPEDIC DR**				**NAICS Code**	**337910**
	DIISOCYANATES	N	5	5	10	0	0	10	0	0	0	0	0	5,749
Total for TEMPUR PRODUCTION USA INC			**5**	**5**	**10**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**5,749**
Total for Above County : (4 reports)			**510**	**5**	**515**	**0**	**0**	**515**	**0**	**0**	**0**	**0**	**0**	**103,245**
SHENANDOAH	**CABINETWORKS GROUP - MOUNT JACKSON PLANT**								**1325 INDUSTRIAL PARK RD**				**NAICS Code**	**337110**
	ETHYLBENZENE	N	460	3,264	3,724	0	0	3,724	0	0	8,300	8,300	0	3,875
	N-BUTYL ALCOHOL	N	127	64,581	64,708	0	0	64,708	0	0	2,287	2,287	0	142,971
	TOLUENE	N	636	871	1,507	0	0	1,507	0	0	11,471	11,471	0	2,761
	XYLENE (MIXED ISOMERS)	N	1,903	14,483	16,386	0	0	16,386	0	0	34,345	34,345	0	16,472
Total for CABINETWORKS GROUP - MOUNT JACK			**3,125**	**83,199**	**86,324**	**0**	**0**	**86,324**	**0**	**0**	**56,403**	**56,403**	**0**	**166,078**
SHENANDOAH	**GEORGE'S CHICKEN LLC**								**19992 SENEDO RD**				**NAICS Code**	**311615**
	AMMONIA	N	8,835	0	8,835	0	52	8,887	0	0	530,958	530,958	0	2,610

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NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	42,298	42,298	0	0	1,915,130	1,915,130	0	40,277
PERACETIC ACID	N	1,956	0	1,956	0	0	1,956	0	0	389,023	389,023	0	190
Total for GEORGE'S CHICKEN LLC		**10,791**	**0**	**10,791**	**0**	**42,350**	**53,141**	**0**	**0**	**2,835,111**	**2,835,111**	**0**	**43,077**
SHENANDOAH	**GEORGES FAMILY FARMS, LLC MT JACKSON FEED MILL**							**560 CAVERNS RD**				**NAICS Code**	**311119**
ZINC COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for GEORGES FAMILY FARMS, LLC MT JACK		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SHENANDOAH	**HOWELL METAL CO**							**574 DEPOT RD**				**NAICS Code**	**331420**
COPPER	N	0	0	0	0	0	0	0	0	0	0	0	1,002,376
Total for HOWELL METAL CO		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,002,376**
SHENANDOAH	**NEW MARKET POULTRY LLC**							**145 OLD EAST CROSS ROAD**				**NAICS Code**	**311615**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	201,800	201,800	0	0	91,100	91,100	0	2,870
Total for NEW MARKET POULTRY LLC		**0**	**0**	**0**	**0**	**201,800**	**201,800**	**0**	**0**	**91,100**	**91,100**	**0**	**2,870**
Total for Above County : (10 reports)		**13,916**	**83,199**	**97,115**	**0**	**244,150**	**341,265**	**0**	**0**	**2,982,614**	**2,982,614**	**0**	**1,214,401**
SMYTH	**UTILITY TRAILER MANUFACTURING**							**124 MOUNTAIN EMPIRE RD**				**NAICS Code**	**336212**
CHROMIUM	N	0	3	3	0	0	3	0	0	0	0	0	150,764
DIISOCYANATES	N	0	0	0	0	0	0	0	0	0	0	0	0
FORMIC ACID	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE	N	0	11	11	0	0	11	0	0	0	0	0	83,668
NICKEL	N	0	1	1	0	0	1	0	0	0	0	0	48,245
TRIETHYLAMINE	Y	0	0	0	0	0	0	0	0	0	0	0	0

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for UTILITY TRAILER MANUFACTURING		**0**	**15**	**15**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**282,677**
Total for Above County : (6 reports)		**0**	**15**	**15**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**282,677**
SOUTHAMPTON	**ARKEMA INC FRANKLIN PLANT**							**27047 SHADY BROOK TRAIL**				**NAICS Code**	**325199**
TERT-BUTYL ALCOHOL	N	250	250	500	0	0	500	0	0	0	0	0	95,326
Total for ARKEMA INC FRANKLIN PLANT		**250**	**250**	**500**	**0**	**0**	**500**	**0**	**0**	**0**	**0**	**0**	**95,326**
SOUTHAMPTON	**ATLANTIC POLE & PILING - NEWSOMS**							**21366 GENERAL THOMAS HWY**				**NAICS Code**	**321114**
ARSENIC COMPOUNDS	N	0	0	0	0	27	27	0	0	0	0	0	182
CHROMIUM COMPOUNDS (EXCEPT	N	0	0	0	0	40	40	0	0	0	0	0	202
COPPER COMPOUNDS	N	0	0	0	0	16	16	0	0	0	0	0	120
Total for ATLANTIC POLE & PILING - NEWSOMS		**0**	**0**	**0**	**0**	**83**	**83**	**0**	**0**	**0**	**0**	**0**	**504**
SOUTHAMPTON	**SOLENIS LLC**							**27123 SHADY BROOK TRAIL**				**NAICS Code**	**325199**
1,2-DICHLOROPROPANE	N	3,043	503	3,546	0	60	3,606	0	0	0	0	0	325
HYDROCHLORIC ACID (ACID AERO	N	4,330	0	4,330	0	0	4,330	0	0	0	0	0	0
TRIETHYLAMINE	N	3,883	628	4,511	0	7	4,518	0	0	0	0	0	325
Total for SOLENIS LLC		**11,256**	**1,131**	**12,387**	**0**	**67**	**12,454**	**0**	**0**	**0**	**0**	**0**	**650**
Total for Above County : (7 reports)		**11,506**	**1,381**	**12,887**	**0**	**150**	**13,037**	**0**	**0**	**0**	**0**	**0**	**96,480**
SPOTSYLVANIA	**CMC REBAR**							**9434 CROSSROADS PKWY**				**NAICS Code**	**332312**
NICKEL COMPOUNDS	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CMC REBAR		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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SPOTSYLVANIA	**OLDCASTLE PRECAST INC**							**5115 MASSAPONAX CHURCH RD**				**NAICS Code**	**327390**
MANGANESE COMPOUNDS	N	0	2	2	145	0	147	0	0	0	0	0	0
Total for OLDCASTLE PRECAST INC		**0**	**2**	**2**	**145**	**0**	**147**	**0**	**0**	**0**	**0**	**0**	**0**
SPOTSYLVANIA	**RUFFIN CREEK PROPERTIES LLC**							**10229 TIDEWATER TRAIL**				**NAICS Code**	**321114**
COPPER COMPOUNDS	N	0	0	0	0	3	3	0	0	0	0	0	0
Total for RUFFIN CREEK PROPERTIES LLC		**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
SPOTSYLVANIA	**VIRGINIA CONCRETE SPOTSYLVANIA PLANT**							**6110 SMITH STATION ROAD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	71	71	0	0	0	0	0	0
Total for VIRGINIA CONCRETE SPOTSYLVANIA PL		**0**	**0**	**0**	**0**	**71**	**71**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (4 reports)		**0**	**2**	**2**	**145**	**74**	**221**	**0**	**0**	**0**	**0**	**0**	**0**
STAFFORD	**FTG CORP.**							**1026 WARRENTON RD**				**NAICS Code**	**334412**
COPPER	N	0	0	0	0	0	0	0	0	0	0	0	750
Total for FTG CORP.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**750**
STAFFORD	**MAPEI CORP**							**300 NELMS CIR**				**NAICS Code**	**325520**
LITHIUM CARBONATE	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for MAPEI CORP		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
STAFFORD	**U.S. DOJ FBI TRAINING ACADEMY**							**MCB-4 BUILDING 15-FMU**				**NAICS Code**	**921110**
COPPER COMPOUNDS	N	38	3	41	0	0	41	0	0	0	0	0	13,955
Total for U.S. DOJ FBI TRAINING ACADEMY		**38**	**3**	**41**	**0**	**0**	**41**	**0**	**0**	**0**	**0**	**0**	**13,955**

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STAFFORD	**VIRGINIA CONCRETE-STAFFORD PLANT**							**32 WYCHE RD**				**NAICS Code**	**327320**
NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	30	30	0	0	0	0	0	0
Total for VIRGINIA CONCRETE-STAFFORD PLANT		**0**	**0**	**0**	**0**	**30**	**30**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (4 reports)		**38**	**3**	**41**	**0**	**30**	**71**	**0**	**0**	**0**	**0**	**0**	**14,705**
SUFFOLK (CITY)	**AIRGAS SPECIALTY PRODUCTS INC., SUFFOLK, VA**							**105 DILL RD**				**NAICS Code**	**424690**
AMMONIA	N	425	42	467	0	0	467	0	0	0	0	0	0
Total for AIRGAS SPECIALTY PRODUCTS INC., SU		**425**	**42**	**467**	**0**	**0**	**467**	**0**	**0**	**0**	**0**	**0**	**0**
SUFFOLK (CITY)	**CAMERON CHEMICAL INC.**							**830 OLD DILL RD.**				**NAICS Code**	**325314**
COPPER COMPOUNDS	N	250	250	500	0	5	505	0	0	0	0	0	0
MANGANESE COMPOUNDS	N	250	250	500	0	5	505	0	0	0	0	0	0
ZINC COMPOUNDS	N	250	250	500	0	5	505	0	0	0	0	0	0
Total for CAMERON CHEMICAL INC.		**750**	**750**	**1,500**	**0**	**15**	**1,515**	**0**	**0**	**0**	**0**	**0**	**0**
SUFFOLK (CITY)	**SOLENIS LLC**							**2301 WILROY RD**				**NAICS Code**	**325199**
ACRYLAMIDE	N	35	43	78	0	0	78	0	0	2,134	2,134	523	237
ACRYLIC ACID	N	11	116	127	0	0	127	0	0	2,914	2,914	113	10
ACRYLONITRILE	N	51	1,423	1,474	0	0	1,474	0	0	14,606	14,606	0	3
AMMONIA	N	22	370	392	0	0	392	0	0	0	0	92	78
METHANOL	N	921	7,262	8,183	0	0	8,183	0	3,713,780	58,919	3,772,699	1,056	640
Total for SOLENIS LLC		**1,040**	**9,214**	**10,254**	**0**	**0**	**10,254**	**0**	**3,713,780**	**78,573**	**3,792,353**	**1,784**	**968**

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Total for Above County : (9 reports)		**2,215**	**10,006**	**12,221**	**0**	**15**	**12,236**	**0**	**3,713,780**	**78,573**	**3,792,353**	**1,784**	**968**
SUSSEX	**MURPHY-BROWN LLC WAVERLY FEED MILL**							**27404 CABIN POINT RD**				**NAICS Code**	**311119**
COPPER COMPOUNDS	N	0	2	2	0	0	2	0	0	0	0	0	3
MANGANESE	N	0	1	1	0	0	1	0	0	0	0	0	2
ZINC (FUME OR DUST)	N	0	5	5	0	0	5	0	0	0	0	0	8
Total for MURPHY-BROWN LLC WAVERLY FEED		**0**	**8**	**8**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**12**
Total for Above County : (3 reports)		**0**	**8**	**8**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**12**
VIRGINIA BEACH (CITY)	**PAPCO INC**							**4920 SOUTHERN BLVD**				**NAICS Code**	**424710**
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
BENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
ETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
TOLUENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
XYLENE (MIXED ISOMERS)	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for PAPCO INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VIRGINIA BEACH (CITY)	**STIHL INC**							**536 VIKING DR**				**NAICS Code**	**333112**
N-HEXANE	N	50	5,354	5,404	0	0	5,404	0	0	0	0	0	0
TOLUENE	N	25	2,677	2,702	0	0	2,702	0	0	0	0	0	0

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Total for STIHL INC		**75**	**8,031**	**8,106**	**0**	**0**	**8,106**	**0**	**0**	**0**	**0**	**0**	**0**
VIRGINIA BEACH (CITY)	**US NAVY NAVAL AIR STATION OCEANA BASE**							**1750 TOMCAT BLVD**				**NAICS Code**	**928110**
NAPHTHALENE	N	99	4	103	0	36	139	0	0	0	0	0	9
Total for US NAVY NAVAL AIR STATION OCEANA		**99**	**4**	**103**	**0**	**36**	**139**	**0**	**0**	**0**	**0**	**0**	**9**
Total for Above County : (10 reports)		**174**	**8,035**	**8,209**	**0**	**36**	**8,245**	**0**	**0**	**0**	**0**	**0**	**9**
WARREN	**AXALTA COATING SYSTEMS USA LLC-FRONT ROYAL PLANT**							**7961 WINCHESTER RD**				**NAICS Code**	**325510**
1,2,4-TRIMETHYLBENZENE	N	0	257	257	0	0	257	0	0	67	67	0	12,873
1,2-BUTYLENE OXIDE	N	0	80	80	0	0	80	0	0	0	0	0	0
ACRYLIC ACID	N	0	994	994	0	0	994	0	0	0	0	0	0
BUTYL ACRYLATE	N	0	431	431	0	0	431	0	0	0	0	0	1,911
CERTAIN GLYCOL ETHERS	N	0	2	2	0	0	2	0	0	3	3	0	1,350
CYCLOHEXANOL	N	0	13	13	0	0	13	0	0	0	0	0	0
DIISOCYANATES	N	0	0	0	0	0	0	0	0	0	0	0	1,679
ETHYLBENZENE	N	1	3,162	3,163	0	0	3,163	0	0	358	358	0	41,290
METHANOL	N	20	929	949	0	0	949	0	0	0	0	0	0
METHYL ACRYLATE	N	0	1,140	1,140	0	0	1,140	0	0	0	0	0	3
METHYL ISOBUTYL KETONE	N	0	313	313	0	0	313	0	0	468	468	0	715
METHYL METHACRYLATE	N	0	8,137	8,137	0	0	8,137	0	0	0	0	0	5,089
NAPHTHALENE	N	0	60	60	0	0	60	0	0	0	0	0	57
N-BUTYL ALCOHOL	N	0	161	161	0	0	161	0	0	0	0	0	2,501

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	PHTHALIC ANHYDRIDE	N	0	55	55	0	0	55	0	0	0	0	0	2,719
	STYRENE	N	0	610	610	0	0	610	0	0	0	0	0	1,021
	TOLUENE	N	63	8,077	8,140	0	0	8,140	0	3,970,782	5,703	3,976,485	0	136,349
	VANADIUM COMPOUNDS	N	0	2	2	0	0	2	0	0	0	0	0	8,045
	XYLENE (MIXED ISOMERS)	N	25	7,614	7,639	0	0	7,639	0	2,927,044	1,428	2,928,472	0	182,978
	ZINC COMPOUNDS	N	0	18	18	0	0	18	0	0	0	0	0	9,260
Total for AXALTA COATING SYSTEMS USA LLC-F			**109**	**32,055**	**32,164**	**0**	**0**	**32,164**	**0**	**6,897,826**	**8,027**	**6,905,853**	**0**	**407,840**
WARREN	**RPS COMPOSITES VIRGINIA, INC.**								**211 E 4TH ST**				**NAICS Code**	**326199**
	STYRENE	N	1,849	5,546	7,395	0	0	7,395	0	0	0	0	0	0
Total for RPS COMPOSITES VIRGINIA, INC.			**1,849**	**5,546**	**7,395**	**0**	**0**	**7,395**	**0**	**0**	**0**	**0**	**0**	**0**
WARREN	**TORAY PLASTICS (AMERICA) INC**								**500 TORAY DR**				**NAICS Code**	**326150**
	NITRATE COMPOUNDS (WATER DI	N	0	0	0	0	0	0	0	133,102	0	133,102	0	7,292
	SODIUM NITRITE	N	0	0	0	0	0	0	0	249,262	0	249,262	0	11,471
Total for TORAY PLASTICS (AMERICA) INC			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**382,364**	**0**	**382,364**	**0**	**18,763**
Total for Above County : (23 reports)			**1,958**	**37,601**	**39,559**	**0**	**0**	**39,559**	**0**	**7,280,190**	**8,027**	**7,288,217**	**0**	**426,603**
WASHINGTON	**APPALACHIAN PLASTICS INC.**								**34001 GLOVE DR**				**NAICS Code**	**326199**
	METHYL METHACRYLATE	N	1,172	3,517	4,689	0	0	4,689	0	0	0	0	0	0
	STYRENE	N	9,307	27,922	37,229	0	0	37,229	0	0	0	0	0	0
Total for APPALACHIAN PLASTICS INC.			**10,479**	**31,439**	**41,918**	**0**	**0**	**41,918**	**0**	**0**	**0**	**0**	**0**	**0**
WASHINGTON	**AZZ GALVANIZING-BRISTOL**								**14781 INDUSTRIAL PARK RD**				**NAICS Code**	**332812**

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ZINC COMPOUNDS	N	743	0	743	0	86	828	0	0	0	0	0	159,936
Total for AZZ GALVANIZING-BRISTOL		**743**	**0**	**743**	**0**	**86**	**828**	**0**	**0**	**0**	**0**	**0**	**159,936**
WASHINGTON	**CARDINAL CG ABINGDON**							**18370 OAK PARK DR**				**NAICS Code**	**327215**
SILVER	N	0	0	0	0	0	0	0	0	0	0	0	30,120
ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	8,920
Total for CARDINAL CG ABINGDON		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39,040**
WASHINGTON	**HAPCO**							**26252 HILLMAN HIGHWAY**				**NAICS Code**	**332312**
ALUMINUM (FUME OR DUST)	N	6,468	12,937	19,405	0	0	19,405	0	0	0	0	0	390,127
ZINC (FUME OR DUST)	N	1,836	3,673	5,509	0	0	5,509	0	0	0	0	0	154,099
ZINC COMPOUNDS	N	0	0	0	0	1	1	0	0	0	0	1	0
Total for HAPCO		**8,304**	**16,610**	**24,914**	**0**	**1**	**24,915**	**0**	**0**	**0**	**0**	**1**	**544,226**
WASHINGTON	**SHEARERS FOOD LLC**							**1445 PITTSTOWN ROAD**				**NAICS Code**	**311919**
NITRIC ACID	N	10	0	10	0	0	10	0	0	25,180	25,180	0	0
Total for SHEARERS FOOD LLC		**10**	**0**	**10**	**0**	**0**	**10**	**0**	**0**	**25,180**	**25,180**	**0**	**0**
WASHINGTON	**STRONGWELL CORP HIGHLANDS DIV**							**26770 NEWBANKS RD**				**NAICS Code**	**326199**
ANTIMONY COMPOUNDS	N	0	6	6	0	0	6	0	0	0	0	0	0
STYRENE	N	6,586	0	6,586	0	0	6,586	0	0	26	26	0	912
Total for STRONGWELL CORP HIGHLANDS DIV		**6,586**	**6**	**6,592**	**0**	**0**	**6,592**	**0**	**0**	**26**	**26**	**0**	**912**
WASHINGTON	**UTILITY TRAILER MANUFACTURING**							**13160 MONROE RD**				**NAICS Code**	**336212**
CHROMIUM	N	0	3	3	0	0	3	0	0	0	0	0	41,499

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
DIISOCYANATES	Y	0	0	0	0	0	0	0	0	0	0	0	0
MANGANESE	N	0	12	12	0	0	12	0	0	0	0	0	29,516
NICKEL	N	0	1	1	0	0	1	0	0	0	0	0	10,994
Total for UTILITY TRAILER MANUFACTURING		**0**	**16**	**16**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**82,009**
WASHINGTON	**W&W-AFCO STEEL LLC**							**15083 INDUSTRIAL PARK RD**				**NAICS Code**	**332312**
MANGANESE	N	0	2	2	0	0	2	0	0	0	0	0	23,412
Total for W&W-AFCO STEEL LLC		**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**23,412**
WASHINGTON	**ZENITH FUEL SYSTEMS LLC**							**14570 INDUSTRIAL PARK RD**				**NAICS Code**	**336310**
ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	198
Total for ZENITH FUEL SYSTEMS LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**198**
Total for Above County : (17 reports)		**26,122**	**48,073**	**74,195**	**0**	**87**	**74,282**	**0**	**0**	**25,206**	**25,206**	**1**	**849,733**
WESTMORELAND	**CARRY-ON TRAILER CORP**							**159 INDUSTRIAL PARK RD**				**NAICS Code**	**336212**
MANGANESE	N	23	0	23	0	0	23	0	0	0	0	0	3,151
Total for CARRY-ON TRAILER CORP		**23**	**0**	**23**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**3,151**
Total for Above County : (1 record)		**23**	**0**	**23**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**3,151**
WINCHESTER (CITY)	**O'SULLIVAN FILMS INC**							**1944 VALLEY AVE**				**NAICS Code**	**326113**
ANTIMONY COMPOUNDS	N	8	47	55	0	0	55	0	0	0	0	0	3,547
BARIUM COMPOUNDS (EXCEPT FO	N	4	21	24	0	0	24	0	0	0	0	7	43
DI(2-ETHYLHEXYL) PHTHALATE	N	31	174	205	0	0	205	0	0	0	0	0	468

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METHYL ISOBUTYL KETONE	N	0	2,713	2,713	0	0	2,713	0	0	142,997	142,997	0	35,768
TOLUENE	N	1	198	199	0	0	199	0	0	15,354	15,354	0	3,846
TRIETHYLAMINE	N	0	201	201	0	0	201	0	0	0	0	0	2,737
XYLENE (MIXED ISOMERS)	N	0	198	198	0	0	198	0	0	10,241	10,241	0	2,563
ZINC COMPOUNDS	N	3	20	23	0	0	23	0	0	0	0	9	543
Total for O'SULLIVAN FILMS INC		**47**	**3,572**	**3,619**	**0**	**0**	**3,619**	**0**	**0**	**168,592**	**168,592**	**16**	**49,516**
Total for Above County : (8 reports)		**47**	**3,572**	**3,619**	**0**	**0**	**3,619**	**0**	**0**	**168,592**	**168,592**	**16**	**49,516**
WISE **VIRGINIA CITY HYBRID ENERGY CENTER** **3425 RUSSELL CREEK RD** **NAICS Code 221112**													
1,2,4-TRIMETHYLBENZENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
AMMONIA	N	0	44,600	44,600	0	21	44,621	0	0	0	0	0	0
BARIUM COMPOUNDS (EXCEPT FO	N	0	214	214	72,100	23	72,337	0	0	0	0	0	0
HYDROCHLORIC ACID (ACID AERO	N	0	24,200	24,200	0	0	24,200	0	0	587,000	587,000	0	0
HYDROGEN FLUORIDE	N	0	86	86	0	0	86	0	0	73,400	73,400	0	0
MANGANESE COMPOUNDS	N	0	2,030	2,030	22,000	17	24,047	0	0	0	0	0	0
NAPHTHALENE	Y	0	0	0	0	0	0	0	0	0	0	0	0
N-HEXANE	Y	0	0	0	0	0	0	0	0	0	0	0	0
SULFURIC ACID (ACID AEROSOLS I	N	0	1,870	1,870	0	0	1,870	0	0	190,000	190,000	0	0
VANADIUM COMPOUNDS	N	0	1	1	27,800	0	27,801	0	0	0	0	0	0
Total for VIRGINIA CITY HYBRID ENERGY CENTE		**0**	**73,001**	**73,001**	**121,900**	**61**	**194,962**	**0**	**0**	**850,400**	**850,400**	**0**	**0**
Total for Above County : (10 reports)		**0**	**73,001**	**73,001**	**121,900**	**61**	**194,962**	**0**	**0**	**850,400**	**850,400**	**0**	**0**

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WYTHE	**HUTCHINSON SEALING SYSTEMS INC**								**1150 S THIRD ST**				**NAICS Code**	**326291**
	ZINC COMPOUNDS	N	40	829	869	0	0	869	0	0	0	0	1	134
Total for HUTCHINSON SEALING SYSTEMS INC			**40**	**829**	**869**	**0**	**0**	**869**	**0**	**0**	**0**	**0**	**1**	**134**
WYTHE	**WABTEC COMPONENTS**								**655 FAIRVIEW RD**				**NAICS Code**	**326291**
	TOLUENE	N	97	9,576	9,673	0	0	9,673	0	0	0	0	0	1,735
	ZINC COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	2,533
Total for WABTEC COMPONENTS			**97**	**9,576**	**9,673**	**0**	**0**	**9,673**	**0**	**0**	**0**	**0**	**0**	**4,268**
Total for Above County : (3 reports)			**137**	**10,405**	**10,542**	**0**	**0**	**10,542**	**0**	**0**	**0**	**0**	**1**	**4,402**
YORK	**AFETA CAMP PEARY**								**1100 EXECUTIVE DRIVE**				**NAICS Code**	**928110**
	COPPER	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for AFETA CAMP PEARY			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
YORK	**EATON CORPORATION - WILLIAMSBURG MANUFACTURING**								**149 WARWICK COURT**				**NAICS Code**	**335999**
	CHROMIUM	N	0	0	0	0	0	0	0	0	0	0	0	15,708
	NICKEL	N	0	0	0	0	0	0	0	0	0	0	0	8,504
Total for EATON CORPORATION - WILLIAMSBUR			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24,212**
Total for Above County : (3 reports)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24,212**

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Appendix G - 2023 Summary of Facilities, Chemical Releases, Transfers and Management (PBT)

Appendix G: 2023 Summary of Facilities, Chemical Releases, Transfers, and Management (PBT)
Alphabetical Listing by Facility
Within Each County/Independent City

2023 Toxics Release Inventory

Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
ACCOMACK	**U.S. NASA GSFC WALLOPS FLIGHT FACILITY**							**34200 FULTON STREET**				**NAICS Code**	**927110**
LEAD COMPOUNDS	N	0	44	44	0	1	46	0	0	0	0	0	0
Total for U.S. NASA GSFC WALLOPS FLIGHT F		**0**	**44**	**44**	**0**	**1**	**46**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**44**	**44**	**0**	**1**	**46**	**0**	**0**	**0**	**0**	**0**	**0**
ALBEMARLE	**NORTHROP GRUMMAN SYSTEMS CORPORATION**							**1070 SEMINOLE TRAIL**				**NAICS Code**	**334511**
LEAD	N	0	0	0	0	0	0	0	0	0	0	1	847
Total for NORTHROP GRUMMAN SYSTEMS CO		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**847**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**847**
ALEXANDRIA (CITY)	**VIRGINIA PAVING ALEXANDRIA PLANT**							**5601 COURTNEY AVENUE**				**NAICS Code**	**324121**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	1	0	1	0	0	1	0	0	0	0	0	0
Total for VIRGINIA PAVING ALEXANDRIA PLANT		**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 records)		**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
AMHERST	**COOPER STEEL OF VIRGINIA**							**275 FRANCIS AVE**				**NAICS Code**	**332312**
LEAD	N	0	0	0	0	1	1	0	0	0	0	0	0
Total for COOPER STEEL OF VIRGINIA		**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
AMHERST	**GREIF PACKAGING LLC**							**861 FIBRE PLANT RD**				**NAICS Code**	**322110**
DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD	N	0	5	5	0	0	5	0	0	0	0	0	0
Total for GREIF PACKAGING LLC		**0**	**6**	**6**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**6**	**6**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**

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ARLINGTON	**PENTAGON RESERVATION**							**2 N ROTARY RD**				**NAICS Code**	**928110**
LEAD COMPOUNDS	N	0	168	168	0	0	168	0	0	0	0	0	2
Total for PENTAGON RESERVATION		**0**	**168**	**168**	**0**	**0**	**168**	**0**	**0**	**0**	**0**	**0**	**2**
ARLINGTON	**US ARMY JOINT BASE MYER-HENDERSON HALL GARRISON OPS (PA**							**204 LEE AVE**				**NAICS Code**	**928110**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for US ARMY JOINT BASE MYER-HENDER		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ARLINGTON	**VIRGINIA CONCRETE SHIRLINGTON PLANT**							**2651 SHIRLINGTON RD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE SHIRLINGTON P		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**168**	**168**	**0**	**0**	**168**	**0**	**0**	**0**	**0**	**0**	**2**
AUGUSTA	**BALL ADVANCED ALUMINUM TECHNOLOGIES CORP**							**56 DUNSMORE RD**				**NAICS Code**	**331524**
LEAD	N	0	3	3	0	0	3	0	0	0	0	0	52
Total for BALL ADVANCED ALUMINUM TECHNO		**0**	**3**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**52**
AUGUSTA	**NIBCO OF VIRGINIA INC.**							**131 JOHNSON DRIVE**				**NAICS Code**	**332112**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	210
Total for NIBCO OF VIRGINIA INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**210**
AUGUSTA	**TAYLOR & BOODY INC.**							**8 HEWITT RD**				**NAICS Code**	**339992**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TAYLOR & BOODY INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**3**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**262**
BEDFORD	**CUSTOM TRUCK ONE SOURCE**							**12660 E LYNCHBURG SALEM TPKE**				**NAICS Code**	**333120**
LEAD	Y	0	0	0	0	0	0	0	0	0	0	0	0
Total for CUSTOM TRUCK ONE SOURCE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
BEDFORD	**GP BIG ISLAND, LLC**							**9909 LEE JACKSON HWY**				**NAICS Code**	**322120**

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LEAD COMPOUNDS	N	0	357	358	0	154	1,191	0	0	0	0	0	0
MERCURY COMPOUNDS	N	0	2	2	0	15	20	0	0	0	0	0	0
Total for GP BIG ISLAND, LLC		**0**	**359**	**359**	**0**	**170**	**1,212**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**359**	**359**	**0**	**170**	**1,212**	**0**	**0**	**0**	**0**	**0**	**0**
BOTETOURT	**GENERAL SHALE BRICK INC PLANT 35 & 36**							**2353 WEBSTER RD**				**NAICS Code**	**327120**
LEAD	N	0	12	12	0	0	12	0	0	0	0	0	0
Total for GENERAL SHALE BRICK INC PLANT 35		**0**	**12**	**12**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**
BOTETOURT	**ROANOKE CEMENT CO LLC**							**6071 CATAWBA RD**				**NAICS Code**	**327310**
LEAD COMPOUNDS	N	4	44	48	0	0	690	0	0	0	0	0	0
MERCURY COMPOUNDS	N	0	39	39	0	0	39	0	0	0	0	0	0
Total for ROANOKE CEMENT CO LLC		**4**	**83**	**87**	**0**	**0**	**729**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**4**	**95**	**99**	**0**	**0**	**741**	**0**	**0**	**0**	**0**	**0**	**0**
BRISTOL (CITY)	**ASSOCIATED ASPHALT BRISTOL, LLC**							**140 SPURGEON LN**				**NAICS Code**	**424710**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for ASSOCIATED ASPHALT BRISTOL, LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
BUCHANAN	**JEWELL COKE CO LP**							**1034 DISMAL RIVER RD**				**NAICS Code**	**324199**
DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	N	0	4,200	4,200	0	0	4,200	0	0	0	0	0	0
MERCURY COMPOUNDS	N	0	78	78	0	0	78	0	0	0	0	0	0
Total for JEWELL COKE CO LP		**0**	**4,278**	**4,278**	**0**	**0**	**4,278**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**4,278**	**4,278**	**0**	**0**	**4,278**	**0**	**0**	**0**	**0**	**0**	**0**
BUCKINGHAM	**KYANITE MINING CORP MULLITE PLANT**							**5836 BUFFALO ROAD**				**NAICS Code**	**212323**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
POLYCYCLIC AROMATIC COMPOU	N	28	0	28	0	0	28	0	0	0	0	0	0
Total for KYANITE MINING CORP MULLITE PLA		**28**	**0**	**28**	**0**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**28**	**0**	**28**	**0**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**0**
BUENA VISTA (CITY)	**EVERBRITE LLC**							**627 E 30TH ST**				**NAICS Code**	**339950**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	125
Total for EVERBRITE LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**125**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**125**
CAMPBELL	**BANKER STEEL COMPANY, LLC**							**351 RANGOON ROAD**				**NAICS Code**	**332312**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	2,236
Total for BANKER STEEL COMPANY, LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,236**
CAMPBELL	**BWXT NUCLEAR OPERATIONS GROUP, INC.**							**1570 MOUNT ATHOS RD**				**NAICS Code**	**332410**
LEAD COMPOUNDS	N	0	0	0	2,237	2	2,239	0	0	0	0	0	3
Total for BWXT NUCLEAR OPERATIONS GROU		**0**	**0**	**0**	**2,237**	**2**	**2,239**	**0**	**0**	**0**	**0**	**0**	**3**
CAMPBELL	**GEORGIA-PACIFIC WOOD PRODUCTS LLC - BROOKNEAL OSB**							**11795 BROOKNEAL HIGHWAY**				**NAICS Code**	**321219**
LEAD COMPOUNDS	N	0	4	4	0	0	4	0	0	0	0	0	2
Total for GEORGIA-PACIFIC WOOD PRODUCTS		**0**	**4**	**4**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**
CAMPBELL	**SCHRADER-BRIDGEPORT INTERNATIONAL**							**205 FRAZIER RD**				**NAICS Code**	**336390**
LEAD	N	0	0	0	0	0	0	0	0	0	0	2	44,000
Total for SCHRADER-BRIDGEPORT INTERNATI		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**44,000**
Total for Above County : (4 records)		**0**	**4**	**4**	**2,237**	**2**	**2,243**	**0**	**0**	**0**	**0**	**2**	**46,242**
CAROLINE	**OLDCASTLE APG MID-ATLANTIC MILFORD, VA**							**16326 IND US TRIAL DR**				**NAICS Code**	**327999**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for OLDCASTLE APG MID-ATLANTIC MILF		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CAROLINE	**US ARMY FORT WALKER RANGES (PART)**							**19952 NORTH RANGE RD**				**NAICS Code**	**928110**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
LEAD COMPOUNDS	N	127	0	127	0	919	19,397	0	0	0	0	0	5,466
Total for US ARMY FORT WALKER RANGES (PA		**127**	**0**	**127**	**0**	**919**	**19,397**	**0**	**0**	**0**	**0**	**0**	**5,466**
Total for Above County : (2 records)		**127**	**0**	**127**	**0**	**919**	**19,397**	**0**	**0**	**0**	**0**	**0**	**5,466**
CARROLL	**VAUGHAN-BASSETT FURNITURE CO. GALAX**							**300 E GRAYSON ST**				**NAICS Code**	**337122**
LEAD	N	0	1	1	0	0	1	0	0	0	0	0	0
Total for VAUGHAN-BASSETT FURNITURE CO.		**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
CHARLOTTE	**MORGAN LUMBER COMPANY, INC.**							**628 JEB STUART HIGHWAY**				**NAICS Code**	**321113**
LEAD COMPOUNDS	N	0	23	23	0	0	23	0	0	0	0	0	0
Total for MORGAN LUMBER COMPANY, INC.		**0**	**23**	**23**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**23**	**23**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**0**
CHESAPEAKE (CITY)	**CONCRETE PIPE & PRECAST LLC CHESAPEAKE PLANT**							**3801 COOK BLVD**				**NAICS Code**	**327332**
LEAD	N	0	109	109	0	0	109	0	0	0	0	0	0
Total for CONCRETE PIPE & PRECAST LLC CH		**0**	**109**	**109**	**0**	**0**	**109**	**0**	**0**	**0**	**0**	**0**	**0**
CHESAPEAKE (CITY)	**OLDCASTLE APG MID-ATLANTIC**							**3900 SHANNON ST**				**NAICS Code**	**327331**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for OLDCASTLE APG MID-ATLANTIC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESAPEAKE (CITY)	**QUIKRETE - CHESAPEAKE, VA PLANT**							**3712 COOK BLVD**				**NAICS Code**	**327999**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for QUIKRETE - CHESAPEAKE, VA PLANT		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESAPEAKE (CITY)	**SAFETY-KLEEN SYSTEMS CHESAPEAKE (CPK)**							**4545 BAINBRIDGE BLVD**				**NAICS Code**	**562112**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	8
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	425
Total for SAFETY-KLEEN SYSTEMS CHESAPEA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**433**

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CHESAPEAKE (CITY)	**US/NAVY NAVAL SUPPORT ACTIVITY NORTHWEST ANNEX RANGE**							**1320 NW BLVD SUITE 100**				**NAICS Code**	**928110**
LEAD	N	0	0	0	0	0	16,598	0	0	0	0	0	0
Total for US/NAVY NAVAL SUPPORT ACTIVITY		**0**	**0**	**0**	**0**	**0**	**16,598**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (6 records)		**0**	**109**	**110**	**0**	**0**	**16,708**	**0**	**0**	**0**	**0**	**0**	**433**
CHESTERFIELD	**CHESTERFIELD POWER STATION**							**500 COXENDALE RD**				**NAICS Code**	**221112**
LEAD COMPOUNDS	N	0	23	23	0	20	2,568	0	0	0	0	0	0
MERCURY COMPOUNDS	N	0	6	6	0	0	39	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	1	1	0	0	1	0	0	0	0	0	0
Total for CHESTERFIELD POWER STATION		**0**	**29**	**29**	**0**	**20**	**2,608**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**DUPONT SPECIALTY PRODUCTS USA, LLC - SPRUANCE PLANT**							**5401 ROUTE 1**				**NAICS Code**	**325220**
POLYCYCLIC AROMATIC COMPOU	N	22	0	22	0	0	222	0	0	0	0	0	85
Total for DUPONT SPECIALTY PRODUCTS USA,		**22**	**0**	**22**	**0**	**0**	**222**	**0**	**0**	**0**	**0**	**0**	**85**
CHESTERFIELD	**KAISER ALUMINUM FABRICATED PRODUCTS LLC**							**1901 REYMET RD**				**NAICS Code**	**331318**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	545
Total for KAISER ALUMINUM FABRICATED PRO		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**545**
CHESTERFIELD	**MECHANICSVILLE CONCRETE LLC-CHESTERFIELD PLANT**							**3501 WARBRO RD**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for MECHANICSVILLE CONCRETE LLC-CH		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**NOVELIS ALR ROLLED PRODUCTS INC**							**1701 REYMET RD**				**NAICS Code**	**331315**
DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for NOVELIS ALR ROLLED PRODUCTS IN		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**OLDCASTLE APG MID-ATLANTIC RICHMOND, VA**							**1231 WILLIS RD**				**NAICS Code**	**327999**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
MERCURY	N	0	0	0	0	0	0	0	0	0	0	0	0

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Total for OLDCASTLE APG MID-ATLANTIC RICH		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CHESTERFIELD	**SAFETY-KLEEN SYSTEMS CHESTER (CVA)**							**1200 W 100 RD**				**NAICS Code**	**562112**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	30
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	930
Total for SAFETY-KLEEN SYSTEMS CHESTER (		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**960**
Total for Above County : (11 records)		**22**	**29**	**51**	**0**	**20**	**2,830**	**0**	**0**	**0**	**0**	**0**	**1,590**
COVINGTON (CITY)	**INGEVITY VIRGINIA CORPORATION**							**958 E RIVERSIDE ST**				**NAICS Code**	**325998**
DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for INGEVITY VIRGINIA CORPORATION		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
COVINGTON (CITY)	**WESTROCK VIRGINIA CORPORATION (ENTIRE)**							**104 E. RIVERSIDE STREET**				**NAICS Code**	**322130**
BENZO[G,H,I]PERYLENE	N	0	3	3	0	0	6	0	0	0	0	0	0
DIOXIN AND DIOXIN-LIKE COMPO	N	0	1	1	0	0	2	0	0	0	0	0	0
LEAD COMPOUNDS	N	0	81	81	0	85	4,775	0	0	0	0	0	0
MERCURY COMPOUNDS	N	0	17	17	0	0	31	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	255	255	0	0	292	0	0	0	0	0	0
Total for WESTROCK VIRGINIA CORPORATION		**0**	**356**	**356**	**0**	**85**	**5,107**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (6 records)		**0**	**356**	**356**	**0**	**85**	**5,107**	**0**	**0**	**0**	**0**	**0**	**0**
CULPEPER	**BINGHAM & TAYLOR**							**601 NALLE PL**				**NAICS Code**	**331511**
LEAD	N	0	9	9	0	0	9	0	0	0	0	0	895
Total for BINGHAM & TAYLOR		**0**	**9**	**9**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**895**
CULPEPER	**HEXATRONIC ROCHESTER CABLE INC.**							**751 OLD BRANDY RD**				**NAICS Code**	**331491**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	79
Total for HEXATRONIC ROCHESTER CABLE IN		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**79**
Total for Above County : (2 records)		**0**	**9**	**9**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**974**
DANVILLE (CITY)	**THE GOODYEAR TIRE & RUBBER CO.**							**1901 GOODYEAR BLVD**				**NAICS Code**	**326211**

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	BENZO[G,H,I]PERYLENE	N	0	1	1	0	0	1	0	0	0	0	0	25
	LEAD COMPOUNDS	N	0	2	2	0	0	2	0	0	0	0	0	136
	MERCURY COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	3
	POLYCYCLIC AROMATIC COMPOU	N	0	4	4	0	0	4	0	0	0	0	0	699
Total for THE GOODYEAR TIRE & RUBBER CO.			**0**	**7**	**7**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**863**
Total for Above County : (4 records)			**0**	**7**	**7**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**863**
DINWIDDIE	**CHAPARRAL (VA) INC**								**25801 HOFHEIMER WAY**				**NAICS Code**	**331110**
	DIOXIN AND DIOXIN-LIKE COMPO	N	0	1	1	0	0	1	0	0	0	0	0	2
	LEAD COMPOUNDS	N	62	0	62	0	0	62	0	0	0	0	0	121,674
	MERCURY COMPOUNDS	N	0	173	173	0	0	173	0	0	0	0	0	87
Total for CHAPARRAL (VA) INC			**62**	**174**	**236**	**0**	**0**	**236**	**0**	**0**	**0**	**0**	**0**	**121,763**
Total for Above County : (3 records)			**62**	**174**	**236**	**0**	**0**	**236**	**0**	**0**	**0**	**0**	**0**	**121,763**
FAIRFAX	**BREN MAR**								**6315 BREN MAR DR**				**NAICS Code**	**922120**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	3,956
Total for BREN MAR			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,956**
FAIRFAX	**TITAN VIRGINIA READY-MIX LLC-CENTREVILLE PLANT**								**15718 LEE HIGHWAY**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-CENT			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FAIRFAX	**TITAN VIRGINIA READY-MIX LLC-SPRINGFIELD PLANT**								**6600 ELECTRONIC DR**				**NAICS Code**	**327320**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-SPRI			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FAIRFAX	**US ARMY GARRISON FORT BELVOIR**								**9430 JACKSON LOOP**				**NAICS Code**	**928110**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for US ARMY GARRISON FORT BELVOIR			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FAIRFAX	**VIRGINIA CONCRETE EDSALL ROAD PLANT**								**5412 INDUSTRIAL DR**				**NAICS Code**	**327320**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE EDSALL ROAD P		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (5 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3,956**
FAIRFAX (CITY)	**GLOBAL FAIRFAX TERMINAL**							**3800 PICKETT RD**				**NAICS Code**	**424710**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for GLOBAL FAIRFAX TERMINAL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FALLS CHURCH (CITY)	**VIRGINIA CONCRETE FALLS CHURCH PLANT**							**7103 GORDON RD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE FALLS CHURCH		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FAUQUIER	**CHEMETRICS BY AQUAPHOENIX SCIENTIFIC**							**4295 CATLETT RD**				**NAICS Code**	**325998**
MERCURY COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	39
Total for CHEMETRICS BY AQUAPHOENIX SCIE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39**
FAUQUIER	**US DOD, WARRENTON TRAINING CENTER STATION B RANGE**							**7471 BEAR WALLOW ROAD**				**NAICS Code**	**928110**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	6,508
Total for US DOD, WARRENTON TRAINING CEN		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6,508**
FAUQUIER	**US DOD, WARRENTON TRAINING CENTER STATION C RANGE**							**7248 SUMERDUCK RD**				**NAICS Code**	**928110**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	2,711
Total for US DOD, WARRENTON TRAINING CEN		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,711**
Total for Above County : (3 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9,258**
FREDERICK	**APG MID-ATLANTIC - WINCHESTER**							**396 TYSON DRIVE**				**NAICS Code**	**327999**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0

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Total for APG MID-ATLANTIC - WINCHESTER		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FREDERICK	**O-N MINERALS (CHEMSTONE) WINCHESTER LIME PLANT**							**508 QUARRY LN**				**NAICS Code**	**327410**
LEAD COMPOUNDS	N	0	0	0	0	0	152	0	0	0	0	0	0
MERCURY COMPOUNDS	N	0	1	1	0	0	2	0	0	0	0	0	0
Total for O-N MINERALS (CHEMSTONE) WINCH		**0**	**2**	**2**	**0**	**0**	**153**	**0**	**0**	**0**	**0**	**0**	**0**
FREDERICK	**TITAN VIRGINIA READY-MIX LLC-CLEAR BROOK PLANT**							**1383 BRUCETOWN RD**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-CLEA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
FREDERICK	**VIRGINIA CONCRETE - STEPHENS CITY**							**339 ESTEP ROAD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE - STEPHENS CIT		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (5 records)		**0**	**2**	**2**	**0**	**0**	**154**	**0**	**0**	**0**	**0**	**0**	**0**
GALAX (CITY)	**GUARDIAN FABRICATION, LLC - PLANT 2**							**110 JACK GUYNN DR**				**NAICS Code**	**327215**
LEAD	N	0	0	0	0	0	0	0	0	0	0	1	186
Total for GUARDIAN FABRICATION, LLC - PLAN		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**186**
GALAX (CITY)	**WEBB ENTERPRISES LLC AMERICAN MIRROR**							**602 E STUART DR**				**NAICS Code**	**327215**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for WEBB ENTERPRISES LLC AMERICAN		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**186**
GILES	**CELANESE ACETATE LLC - CELCO PLANT**							**3520 VIRGINIA AVE**				**NAICS Code**	**325220**
MERCURY	N	0	2	2	0	0	2	0	0	0	0	0	41
POLYCHLORINATED BIPHENYLS	N	0	0	0	0	0	0	0	0	0	0	0	59
Total for CELANESE ACETATE LLC - CELCO PL		**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**99**
GILES	**LHOIST NA OF VIRGINIA INC KIMBALLTON AREA 1**							**2093 BIG STONY CREEK RD**				**NAICS Code**	**327410**

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	LEAD COMPOUNDS	N	0	0	0	0	448	13,642	0	0	0	0	0	0
	Total for LHOIST NA OF VIRGINIA INC KIMBALL		**0**	**0**	**0**	**0**	**448**	**13,642**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (3 records)		**0**	**3**	**3**	**0**	**448**	**13,644**	**0**	**0**	**0**	**0**	**0**	**99**
GLOUCESTER	**TCS MATERIALS GLOUCESTER READY-MIX**								**5248 GEORGE WASHINGTON MEMORIAL H**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for TCS MATERIALS GLOUCESTER READ		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
GREENSVILLE	**GEORGIA PACIFIC WOOD PRODUCTS LLC EMPORIA PLYWOOD**								**634 DAVIS ST**				**NAICS Code**	**321212**
	LEAD COMPOUNDS	N	0	234	234	0	0	234	0	0	0	0	0	99
	Total for GEORGIA PACIFIC WOOD PRODUCT		**0**	**234**	**234**	**0**	**0**	**234**	**0**	**0**	**0**	**0**	**0**	**99**
GREENSVILLE	**STEELFAB INC, OF VIRGINIA**								**1510 REESE ST**				**NAICS Code**	**332312**
	LEAD	N	12	0	12	0	0	12	0	0	0	0	0	3,026
	Total for STEELFAB INC, OF VIRGINIA		**12**	**0**	**12**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**3,026**
	Total for Above County : (2 records)		**12**	**234**	**246**	**0**	**0**	**246**	**0**	**0**	**0**	**0**	**0**	**3,125**
HALIFAX	**CLOVER POWER STATION**								**4091 CLOVER RD**				**NAICS Code**	**221112**
	LEAD COMPOUNDS	N	0	1	1	0	10	1,762	0	0	0	0	0	0
	MERCURY COMPOUNDS	N	0	9	9	0	1	22	0	0	0	0	0	0
	Total for CLOVER POWER STATION		**0**	**10**	**10**	**0**	**10**	**1,784**	**0**	**0**	**0**	**0**	**0**	**0**
HALIFAX	**HITACHI ENERGY USA INC.**								**2135 PHILPOTT RD**				**NAICS Code**	**335311**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	263
	Total for HITACHI ENERGY USA INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**263**
HALIFAX	**HUBER ENGINEERED WOODS LLC**								**1000 CHANEY LN**				**NAICS Code**	**321219**
	LEAD COMPOUNDS	N	0	13	13	0	0	13	0	0	0	0	0	38
	Total for HUBER ENGINEERED WOODS LLC		**0**	**13**	**13**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**38**
	Total for Above County : (4 records)		**0**	**23**	**23**	**0**	**10**	**1,797**	**0**	**0**	**0**	**0**	**0**	**301**

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HAMPTON (CITY)	**BRANSCOME-HAMPTON**								**1922 W PEMBROKE AVE**				**NAICS Code**	**324121**
	BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
	POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for BRANSCOME-HAMPTON			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HAMPTON (CITY)	**TCS MATERIALS HAMPTON 58TH ST. READY-MIX**								**2510 58TH ST**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TCS MATERIALS HAMPTON 58TH ST.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HAMPTON (CITY)	**TITAN VIRGINIA READY-MIX LLC-RIP RAP ROAD PLANT**								**319 RIP RAP RD**				**NAICS Code**	**327320**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-RIP R			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (5 records)			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HANOVER	**CONCRETE PIPE & PRECAST LLC-ASHLAND PRECAST PLANT**								**11352 VIRGINIA PRECAST RD**				**NAICS Code**	**327332**
	LEAD	N	0	176	176	0	0	176	0	0	0	0	0	0
Total for CONCRETE PIPE & PRECAST LLC-AS			**0**	**176**	**176**	**0**	**0**	**176**	**0**	**0**	**0**	**0**	**0**	**0**
HANOVER	**CONCRETE PIPE & PRECAST LLC-HANOVER PIPE PLANT**								**10364 DESIGN RD**				**NAICS Code**	**327332**
	LEAD	N	0	208	208	0	0	208	0	0	0	0	0	0
Total for CONCRETE PIPE & PRECAST LLC-HA			**0**	**208**	**208**	**0**	**0**	**208**	**0**	**0**	**0**	**0**	**0**	**0**
HANOVER	**OLDCASTLE LAWN & GARDEN**								**17554 WASHINGTON HWY**				**NAICS Code**	**321999**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	TRIFLURALIN	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for OLDCASTLE LAWN & GARDEN			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HANOVER	**SOUTH ATLANTIC GALVANIZING LLC**								**11022 LEWISTOWN RD**				**NAICS Code**	**332812**
	LEAD	N	20	0	20	0	1	20	0	0	0	0	0	3,771

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Total for SOUTH ATLANTIC GALVANIZING LLC		**20**	**0**	**20**	**0**	**1**	**20**	**0**	**0**	**0**	**0**	**0**	**3,771**
Total for Above County : (5 records)		**20**	**385**	**405**	**0**	**1**	**405**	**0**	**0**	**0**	**0**	**0**	**3,771**
HENRICO	**IR ENGRAVING LLC**							**5901 LEWIS RD**				**NAICS Code**	**323111**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for IR ENGRAVING LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**MECHANICSVILLE CONCRETE LLC**							**4608 RACRETE RD**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for MECHANICSVILLE CONCRETE LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**MECHANICSVILLE CONCRETE LLC-AIRPORT PLANT (OAKLEYS LA**							**4481 OAKLEYS LN**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for MECHANICSVILLE CONCRETE LLC-AI		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRICO	**SMYRNA READY MIX CONCRETE PLANT 780 RICHMOND**							**4607 RACRETE RD**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for SMYRNA READY MIX CONCRETE PLA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (4 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HENRY	**CROWN BEVERAGE PACKAGING**							**202 SUTAINABLE WAY**				**NAICS Code**	**332431**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	1
Total for CROWN BEVERAGE PACKAGING		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
HENRY	**PINE PRODUCTS INC**							**315 CARVER RD**				**NAICS Code**	**321113**
LEAD	N	0	15	15	0	0	33	0	0	0	0	0	0
Total for PINE PRODUCTS INC		**0**	**15**	**15**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**
HENRY	**QUIKRETE - MARTINSVILLE, VA PLANT**							**930 MEADOWOOD TRL**				**NAICS Code**	**327999**
LEAD	N	1	0	1	0	0	1	0	0	0	0	0	0
Total for QUIKRETE - MARTINSVILLE, VA PLAN		**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

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HENRY	**VIRGINIA MIRROR LLC**								**300 S MOSS ST**				**NAICS Code**	**327215**
	LEAD COMPOUNDS	N	0	1	1	0	0	1	0	0	0	0	0	104
Total for VIRGINIA MIRROR LLC			**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**104**
Total for Above County : (4 records)			**1**	**16**	**16**	**0**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**105**
HOPEWELL (CITY)	**ADVANSIX INC HOPEWELL PLANT**								**905 E RANDOLPH RD**				**NAICS Code**	**325199**
	POLYCYCLIC AROMATIC COMPOU	N	56	0	56	0	0	56	0	0	0	0	0	0
Total for ADVANSIX INC HOPEWELL PLANT			**56**	**0**	**56**	**0**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**0**
HOPEWELL (CITY)	**ASSOCIATED ASPHALT HOPEWELL LLC**								**410 WATER ST**				**NAICS Code**	**424710**
	BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
	POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for ASSOCIATED ASPHALT HOPEWELL LL			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
HOPEWELL (CITY)	**WESTROCK CP LLC**								**910 INDUSTRIAL ST**				**NAICS Code**	**322130**
	DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
	LEAD COMPOUNDS	N	0	13	13	0	0	13	0	0	0	0	293	847
Total for WESTROCK CP LLC			**0**	**13**	**13**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**293**	**847**
Total for Above County : (5 records)			**56**	**13**	**69**	**0**	**0**	**69**	**0**	**0**	**0**	**0**	**293**	**847**
ISLE OF WIGHT	**INTERNATIONAL PAPER FRANKLIN MILL**								**34040 UNION CAMP DR**				**NAICS Code**	**322110**
	DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	2	2	0	0	0	0	0	4
	LEAD COMPOUNDS	N	0	25	25	0	67	92	0	0	0	0	0	743
Total for INTERNATIONAL PAPER FRANKLIN MI			**0**	**26**	**26**	**0**	**68**	**94**	**0**	**0**	**0**	**0**	**0**	**746**
ISLE OF WIGHT	**ST TISSUE LLC**								**34050 UNION CAMP DR**				**NAICS Code**	**322120**
	LEAD	N	0	1	1	0	0	1	0	0	0	0	0	501
Total for ST TISSUE LLC			**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**501**
Total for Above County : (3 records)			**0**	**26**	**26**	**0**	**68**	**94**	**0**	**0**	**0**	**0**	**0**	**1,247**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
JAMES CITY	**BALL METAL BEVERAGE CONTAINER CORP**							**8935 POCAHONTAS TRAIL JAMES RIVER IND**				**NAICS Code**	**332431**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	3
Total for BALL METAL BEVERAGE CONTAINER		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
JAMES CITY	**BRANSCOME-LEE HALL**							**9393 MERRIMAC TRAIL**				**NAICS Code**	**324121**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for BRANSCOME-LEE HALL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
JAMES CITY	**GREYSTONE OF VIRGINIA INC**							**7992 RICHMOND RD**				**NAICS Code**	**332813**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	88
Total for GREYSTONE OF VIRGINIA INC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**88**
JAMES CITY	**OWENS-BROCKWAY GLASS CONTAINER INC PLANT 26**							**150 INDUSTRIAL BLVD**				**NAICS Code**	**327213**
LEAD COMPOUNDS	N	0	158	158	0	0	158	0	0	0	0	0	1
Total for OWENS-BROCKWAY GLASS CONTAIN		**0**	**158**	**158**	**0**	**0**	**158**	**0**	**0**	**0**	**0**	**0**	**1**
Total for Above County : (6 records)		**0**	**158**	**158**	**0**	**0**	**158**	**0**	**0**	**0**	**0**	**0**	**92**
KING WILLIAM	**WESTROCK CP, LLC**							**1901 MAIN ST**				**NAICS Code**	**322110**
DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD COMPOUNDS	N	0	37	37	0	43	80	0	0	0	0	0	1,257
MERCURY COMPOUNDS	N	0	12	12	0	1	13	0	0	0	0	0	10
POLYCYCLIC AROMATIC COMPOU	N	0	194	194	0	0	194	0	0	0	0	0	32
Total for WESTROCK CP, LLC		**0**	**244**	**244**	**0**	**44**	**287**	**0**	**0**	**0**	**0**	**0**	**1,300**
Total for Above County : (4 records)		**0**	**244**	**244**	**0**	**44**	**287**	**0**	**0**	**0**	**0**	**0**	**1,300**
LEE	**US PENITENTIARY LEE**							**LEE COUNTY IND US TRIAL PARK HICKOR**				**NAICS Code**	**922140**
LEAD COMPOUNDS	N	0	0	0	0	0	1,866	0	0	0	0	0	0
Total for US PENITENTIARY LEE		**0**	**0**	**0**	**0**	**0**	**1,866**	**0**	**0**	**0**	**0**	**0**	**0**

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Facility County/Independent City / Facility Name/Address	Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for Above County : (1 record)			**0**	**0**	**0**	**0**	**0**	**1,866**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**CHANTILLY READY MIX CONCRETE**								**25232 WILLARD ROAD**				**NAICS Code**	**327320**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	2
Total for CHANTILLY READY MIX CONCRETE			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
LOUDOUN	**DOWTY, A GE AEROSPACE COMPANY**								**114 POWERS CT**				**NAICS Code**	**336413**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for DOWTY, A GE AEROSPACE COMPANY			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**SUPERIOR CONCRETE MATERIALS INC. - DULLES**								**44146 WADE DR**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for SUPERIOR CONCRETE MATERIALS IN			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**TITAN VIRGINIA READY-MIX LLC-LEESBURG PLANT**								**42105 COCHRAN MILL RD**				**NAICS Code**	**327320**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-LEES			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**TITAN VIRGINIA READY-MIX LLC-STERLING PLANT**								**22963 CONCRETE PLAZA**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-STER			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**TTM TECHNOLOGIES N.A. LLC.**								**1200 SEVERN WAY**				**NAICS Code**	**334412**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	59	2,293
Total for TTM TECHNOLOGIES N.A. LLC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**2,293**
LOUDOUN	**US DHS MT WEATHER EOC**								**19844 BLUE RIDGE MOUNTAIN RD**				**NAICS Code**	**922190**
	LEAD COMPOUNDS	N	1	0	1	0	0	1	0	0	0	0	0	0
Total for US DHS MT WEATHER EOC			**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**VIRGINIA CONCRETE CO INC-CHANTILLY**								**25086 TANNER LN**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0

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Total for VIRGINIA CONCRETE CO INC-CHANTI			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**VIRGINIA CONCRETE COCHRAN MILL**								**42574 COCHRAN MILL RD**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE COCHRAN MILL			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LOUDOUN	**VIRGINIA CONCRETE DULLES PLANT**								**44866 OLD OX RD**				**NAICS Code**	**327320**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE DULLES PLANT			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (10 records)			**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**59**	**2,296**
LYNCHBURG (CITY)	**BANKER STEEL COMPANY, LLC**								**1619 WYTHE RD**				**NAICS Code**	**332312**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	726
Total for BANKER STEEL COMPANY, LLC			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**726**
LYNCHBURG (CITY)	**BELVAC PRODUCTION MACHINERY**								**237 GRAVES MILL RD**				**NAICS Code**	**333514**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for BELVAC PRODUCTION MACHINERY			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LYNCHBURG (CITY)	**CERTAINTEED / SEVEN HILLS PAPERBOARD, LLC**								**1801 CONCORD TURNPIKE**				**NAICS Code**	**322130**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	8
Total for CERTAINTEED / SEVEN HILLS PAPER			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**
LYNCHBURG (CITY)	**GRIFFIN PIPE PRODUCTS CO**								**10 ADAMS ST**				**NAICS Code**	**331511**
	LEAD COMPOUNDS	N	2	1,358	1,360	0	0	1,360	0	0	0	0	0	44,412
	MERCURY COMPOUNDS	N	0	1	1	0	0	1	0	0	0	0	0	16
Total for GRIFFIN PIPE PRODUCTS CO			**2**	**1,359**	**1,361**	**0**	**0**	**1,361**	**0**	**0**	**0**	**0**	**0**	**44,428**
LYNCHBURG (CITY)	**PARKER HANNIFIN INTEGRATED SEALS DIV**								**3700 MAYFLOWER DR**				**NAICS Code**	**326291**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for PARKER HANNIFIN INTEGRATED SEA			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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Total for Above County : (6 records)			**2**	**1,359**	**1,361**	**0**	**0**	**1,361**	**0**	**0**	**0**	**0**	**0**	**45,162**
MECKLENBURG	**AMERICAN BUILDINGS COMPANY-LA CROSSE**								**501 GOLDEN EAGLE DR**				**NAICS Code**	**332311**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	1,166
Total for AMERICAN BUILDINGS COMPANY-LA			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,166**
MECKLENBURG	**PALLET ONE OF VIRGINIA**								**820 BOYD ST**				**NAICS Code**	**321920**
	LEAD COMPOUNDS	N	0	2	2	0	0	2	0	0	0	0	0	0
Total for PALLET ONE OF VIRGINIA			**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 records)			**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1,166**
MONTGOMERY	**BAE SYSTEMS ORDNANCE SYSTEMS INC**								**RADFORD ARMY AMMUNITION PLANT 4050**				**NAICS Code**	**325920**
	DIOXIN AND DIOXIN-LIKE COMPO	N	0	0	0	0	0	0	0	0	0	0	0	0
	LEAD COMPOUNDS	N	973	80	1,053	0	35	1,088	0	0	0	0	0	504
	MERCURY	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for BAE SYSTEMS ORDNANCE SYSTEMS			**973**	**80**	**1,053**	**0**	**35**	**1,088**	**0**	**0**	**0**	**0**	**0**	**504**
MONTGOMERY	**FEDERAL MOGUL POWERTRAIN LLC.**								**300 INDUSTRIAL PARK RD SE**				**NAICS Code**	**336350**
	LEAD	N	0	5	5	0	0	5	0	0	0	0	1	65
Total for FEDERAL MOGUL POWERTRAIN LLC.			**0**	**5**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**65**
MONTGOMERY	**MOOG INC.**								**1213 N MAIN ST**				**NAICS Code**	**334419**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	278
Total for MOOG INC.			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**278**
MONTGOMERY	**NORTHROP GRUMMAN SYSTEMS CORPORATION (NEW RIVER ENE**								**RT 114 RADFORD ARMY AMMUNITION PLA**				**NAICS Code**	**325920**
	LEAD COMPOUNDS	N	0	5	5	0	0	5	0	0	0	0	0	10,588
Total for NORTHROP GRUMMAN SYSTEMS CO			**0**	**5**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**10,588**
Total for Above County : (6 records)			**973**	**89**	**1,062**	**0**	**35**	**1,097**	**0**	**0**	**0**	**0**	**1**	**11,435**
NEWPORT NEWS (CITY)	**ERGON ASPHALT PARTNERS, LP. - NEWPORT NEWS VA**								**801 TERMINAL AVE**				**NAICS Code**	**324121**

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BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for ERGON ASPHALT PARTNERS, LP. - N		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NEWPORT NEWS (CITY)	**HUNTINGTON INGALLS INC**							**4101 WASHINGTON AVE**				**NAICS Code**	**336611**
LEAD	N	1	0	1	0	300	301	0	0	0	0	22	6,632
Total for HUNTINGTON INGALLS INC		**1**	**0**	**1**	**0**	**300**	**301**	**0**	**0**	**0**	**0**	**22**	**6,632**
NEWPORT NEWS (CITY)	**JOINT BASE LANGLEY EUSTIS-EUSTIS (JBLE-EUSTIS) RANGES**							**705 WASHINGTON BLVD**				**NAICS Code**	**928110**
LEAD	N	0	0	0	0	0	9,626	0	0	0	0	0	0
Total for JOINT BASE LANGLEY EUSTIS-EUSTI		**0**	**0**	**0**	**0**	**0**	**9,626**	**0**	**0**	**0**	**0**	**0**	**0**
NEWPORT NEWS (CITY)	**TCS MATERIALS NEWPORT NEWS**							**700 SHIELDS RD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TCS MATERIALS NEWPORT NEWS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (6 records)		**1**	**0**	**1**	**0**	**300**	**9,927**	**0**	**0**	**0**	**0**	**22**	**6,632**
NORFOLK (CITY)	**BAE SYSTEMS NORFOLK SHIP REPAIR**							**750 W BERKLEY AVE**				**NAICS Code**	**336611**
LEAD COMPOUNDS	N	5	0	5	0	0	5	0	0	0	0	7	142
Total for BAE SYSTEMS NORFOLK SHIP REPAI		**5**	**0**	**5**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**7**	**142**
NORFOLK (CITY)	**CAPITAL CONCRETE INC.**							**400 STAPLETON ST**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for CAPITAL CONCRETE INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NORFOLK (CITY)	**TITAN VIRGINIA READY-MIX LLC-CAMPOSTELLA PLANT**							**2125 KIMBALL TERRACE**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-CAM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NORFOLK (CITY)	**US NAVY NAVAL STATION NORFOLK**							**1530 GILBERT STREET SUITE 2000**				**NAICS Code**	**928110**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
LEAD	N	70	0	70	0	0	70	0	0	0	0	0	0
Total for US NAVY NAVAL STATION NORFOLK		**70**	**0**	**70**	**0**	**0**	**70**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (4 records)		**75**	**0**	**75**	**0**	**0**	**75**	**0**	**0**	**0**	**0**	**7**	**142**
NORTHUMBERLAND	**CARRY-ON TRAILER CORP**							**617 HARRY HOGAN RD**				**NAICS Code**	**336212**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	2
Total for CARRY-ON TRAILER CORP		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
NOTTOWAY	**ARBORTECH FOREST PRODUCTS, INC.**							**500 DEARING AVENUE**				**NAICS Code**	**321113**
LEAD COMPOUNDS	N	0	14	14	0	0	30	0	0	0	0	0	0
Total for ARBORTECH FOREST PRODUCTS, IN		**0**	**14**	**14**	**0**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**0**
NOTTOWAY	**US ARMY NATIONAL GUARD FORT BARFOOT (RANGES)**							**US PFO BUILDING 561 FORT BARFOOT**				**NAICS Code**	**928110**
LEAD	N	0	0	0	0	0	40,995	0	0	0	0	0	0
LEAD COMPOUNDS	N	80	0	80	0	0	80	0	0	0	0	0	0
Total for US ARMY NATIONAL GUARD FORT BA		**80**	**0**	**80**	**0**	**0**	**41,074**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**80**	**14**	**94**	**0**	**0**	**41,104**	**0**	**0**	**0**	**0**	**0**	**0**
PATRICK	**MICROMETRICS SYSTEM**							**225 JEB STUART HWY**				**NAICS Code**	**333514**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for MICROMETRICS SYSTEM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PETERSBURG (CITY)	**AMPAC FINE CHEMICALS VIRGINIA LLC**							**2820 N NORMANDY DRIVE**				**NAICS Code**	**325411**
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for AMPAC FINE CHEMICALS VIRGINIA LL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PETERSBURG (CITY)	**PRE CON, INC.**							**321 BROWN ST**				**NAICS Code**	**313320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	198
Total for PRE CON, INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**198**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for Above County : (2 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**198**
PITTSYLVANIA	**BLUE RIDGE FIBERBOARD**							**250 CELOTEX DR**				**NAICS Code**	**321219**
POLYCYCLIC AROMATIC COMPOU	N	0	22	22	0	0	22	0	0	0	0	0	0
Total for BLUE RIDGE FIBERBOARD		**0**	**22**	**22**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**0**
PITTSYLVANIA	**JTI LEAF SERVICES (US) LLC**							**202 STINSON DRIVE**				**NAICS Code**	**312230**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	10,275
Total for JTI LEAF SERVICES (US) LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10,275**
PITTSYLVANIA	**OWENS-BROCKWAY GLASS CONTAINER INC PLANT 29**							**29 GLASSBLOWER LN**				**NAICS Code**	**327213**
LEAD COMPOUNDS	N	0	233	233	0	0	233	0	0	0	0	0	1
Total for OWENS-BROCKWAY GLASS CONTAIN		**0**	**233**	**233**	**0**	**0**	**233**	**0**	**0**	**0**	**0**	**0**	**1**
Total for Above County : (3 records)		**0**	**255**	**255**	**0**	**0**	**255**	**0**	**0**	**0**	**0**	**0**	**10,276**
PORTSMOUTH (CITY)	**TITAN VIRGINIA READY-MIX LLC-PORT NORFOLK PLANT**							**101 CHAUTAUQUA AVE**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-POR		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PORTSMOUTH (CITY)	**U.S. NAVY NORFOLK NAVAL SHIPYARD RANGE**							**INTERSECTION OF EFFINGHAM ST & GEOR**				**NAICS Code**	**928110**
LEAD	N	2	0	2	0	42	44	0	0	0	0	62	7,325
MERCURY	N	0	0	0	0	2	2	0	0	0	0	1	11
Total for U.S. NAVY NORFOLK NAVAL SHIPYAR		**2**	**0**	**2**	**0**	**44**	**46**	**0**	**0**	**0**	**0**	**63**	**7,336**
PORTSMOUTH (CITY)	**US COAST GUARD BASE PORTSMOUTH**							**4000 COAST GUARD BLVD**				**NAICS Code**	**928110**
LEAD	N	7	0	7	0	0	7	0	0	0	0	0	4,872
Total for US COAST GUARD BASE PORTSMOU		**7**	**0**	**7**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**4,872**
Total for Above County : (4 records)		**9**	**0**	**9**	**0**	**44**	**53**	**0**	**0**	**0**	**0**	**63**	**12,208**
PRINCE GEORGE	**FEDERAL CORRECTIONAL COMPLEX PETERSBURG**							**1060 RIVER RD**				**NAICS Code**	**922140**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0

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Total for FEDERAL CORRECTIONAL COMPLEX		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE GEORGE	**NOBLE OIL SERVICES, INC.**							**229 HUMMEL ROSS ROAD**				**NAICS Code**	**424710**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	259
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	24,116
Total for NOBLE OIL SERVICES, INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24,375**
PRINCE GEORGE	**U.S. ARMY GARRISON FORT GREGG-ADAMS VA - RANGES**							**825 19TH ST**				**NAICS Code**	**928110**
LEAD	N	16	0	16	0	0	1,570	0	0	0	0	0	0
Total for U.S. ARMY GARRISON FORT GREGG-		**16**	**0**	**16**	**0**	**0**	**1,570**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (4 records)		**16**	**0**	**16**	**0**	**0**	**1,570**	**0**	**0**	**0**	**0**	**0**	**24,375**
PRINCE WILLIAM	**BAE SYSTEMS INFORMATION & ELECTRONIC SYSTEMS INTEGRAT**							**9300 WELLINGTON RD**				**NAICS Code**	**334419**
LEAD	N	0	2	2	0	0	2	0	0	0	0	0	111
Total for BAE SYSTEMS INFORMATION & ELEC		**0**	**2**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**111**
PRINCE WILLIAM	**MANASSAS READY MIX CONCRETE**							**7310 OLD COMPTON RD**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	4
MERCURY COMPOUNDS	N	1	1	1	0	0	1	0	0	0	0	0	0
Total for MANASSAS READY MIX CONCRETE		**1**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**
PRINCE WILLIAM	**SAFETY-KLEEN SYSTEMS MANASSAS (MAN)**							**11520 BALLS FORD RD**				**NAICS Code**	**562112**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	40
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	683
Total for SAFETY-KLEEN SYSTEMS MANASSAS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**724**
PRINCE WILLIAM	**TITAN VIRGINIA READY-MIX LLC-DUMFRIES PLANT**							**3454 CANAL RD**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-DUM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**US MARINE CORPS BASE QUANTICO**							**3250 CATLIN AVE**				**NAICS Code**	**928110**

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LEAD COMPOUNDS	N	106	0	106	0	0	89,330	0	0	0	0	0	0
Total for US MARINE CORPS BASE QUANTICO		**106**	**0**	**106**	**0**	**0**	**89,330**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**VIRGINIA CONCRETE DUMFRIES PLANT**							**217 CANAL RD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE DUMFRIES PLA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**VIRGINIA CONCRETE GAINESVILLE PLANT**							**7300 RAIL LINE CT**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE GAINESVILLE P		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PRINCE WILLIAM	**VIRGINIA CONCRETE WOODBRIDGE PLANT**							**936 ANNAPOLIS WAY**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE WOODBRIDGE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (10 records)		**107**	**2**	**109**	**0**	**0**	**89,333**	**0**	**0**	**0**	**0**	**0**	**839**
PULASKI	**JAMES HARDIE BUILDING PRODUCTS PULASKI**							**1000 JAMES HARDIE WAY**				**NAICS Code**	**327390**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	702
Total for JAMES HARDIE BUILDING PRODUCTS		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**702**
PULASKI	**VOLVO GROUP NORTH AMERICA, LLC**							**4881 COUGAR TRAIL ROAD**				**NAICS Code**	**336120**
POLYCYCLIC AROMATIC COMPOU	N	406	0	406	0	0	406	0	0	0	0	0	0
Total for VOLVO GROUP NORTH AMERICA, LLC		**406**	**0**	**406**	**0**	**0**	**406**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 records)		**406**	**0**	**406**	**0**	**0**	**406**	**0**	**0**	**0**	**0**	**0**	**702**
RICHMOND	**SONOCO RICHMOND**							**1850 COMMERCE RD**				**NAICS Code**	**322130**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	570
Total for SONOCO RICHMOND		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**570**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**570**
ROANOKE	**ELBIT SYSTEMS OF AMERICA - NIGHT VISION LLC**							**7635 PLANTATION RD**				**NAICS Code**	**333310**

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LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	263
Total for ELBIT SYSTEMS OF AMERICA - NIGHT		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**263**
ROANOKE	**KOPPERS INC (ROANOKE)**							**4020 KOPPERS RD**				**NAICS Code**	**321114**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	147	0	147	0	6
POLYCYCLIC AROMATIC COMPOU	N	2	4	7	0	0	7	0	47,504	7	47,511	0	2,022
Total for KOPPERS INC (ROANOKE)		**2**	**4**	**7**	**0**	**0**	**7**	**0**	**47,651**	**7**	**47,658**	**0**	**2,028**
ROANOKE	**MEDECO SECURITY LOCKS INC.**							**3625 ALLEGHENY DR**				**NAICS Code**	**332510**
LEAD	N	0	0	0	0	1	1	0	0	0	0	0	22,397
Total for MEDECO SECURITY LOCKS INC.		**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**22,397**
ROANOKE	**NEW MILLENNIUM BUILDING SYSTEMS**							**100 DIUGUIDS LANE**				**NAICS Code**	**332312**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for NEW MILLENNIUM BUILDING SYSTEM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE	**SAFETY-KLEEN SYSTEMS VINTON (ROA)**							**16090 STEWARTSVILLE RD**				**NAICS Code**	**562112**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	56
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	4,834
Total for SAFETY-KLEEN SYSTEMS VINTON (R		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4,890**
ROANOKE	**YOKOHAMA TIRE MANUFACTURING VIRGINIA LLC**							**1500 INDIANA ST**				**NAICS Code**	**326211**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	1
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	2
Total for YOKOHAMA TIRE MANUFACTURING V		**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**
Total for Above County : (10 records)		**2**	**5**	**7**	**0**	**1**	**8**	**0**	**47,651**	**7**	**47,658**	**0**	**29,581**
ROANOKE (CITY)	**ASSOCIATED ASPHALT ROANOKE, LLC**							**2677 ROANOKE AVE SW**				**NAICS Code**	**424710**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	0
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for ASSOCIATED ASPHALT ROANOKE, LL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE (CITY)	**FRANK CHERVAN INCORPORATED**							**2005 GREENBRIER AVE SE**				**NAICS Code**	**337122**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for FRANK CHERVAN INCORPORATED		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROANOKE (CITY)	**STEEL DYNAMICS INC ROANOKE BAR DIV**							**102 WESTSIDE BLVD**				**NAICS Code**	**331110**
LEAD COMPOUNDS	N	14	136	150	0	40	190	0	0	0	0	0	199,730
MERCURY COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for STEEL DYNAMICS INC ROANOKE BAR		**14**	**136**	**150**	**0**	**40**	**190**	**0**	**0**	**0**	**0**	**0**	**199,730**
Total for Above County : (6 records)		**14**	**136**	**150**	**0**	**40**	**190**	**0**	**0**	**0**	**0**	**0**	**199,730**
ROCKBRIDGE	**CONCRETE PIPE & PRECAST LLC-HARRISONBURG PRECAST PLANT**							**210 STONE SPRING RD**				**NAICS Code**	**327332**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for CONCRETE PIPE & PRECAST LLC-HA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
ROCKBRIDGE	**STELLA JONES CORP-GOSHEN FACILITY**							**9223 MAURY RIVER RD**				**NAICS Code**	**321114**
BENZO[G,H,I]PERYLENE	N	0	0	0	0	0	0	0	0	0	0	0	2
POLYCYCLIC AROMATIC COMPOU	N	16	2	17	0	1	18	0	0	0	0	0	129
Total for STELLA JONES CORP-GOSHEN FACILI		**16**	**2**	**18**	**0**	**1**	**18**	**0**	**0**	**0**	**0**	**0**	**132**
Total for Above County : (3 records)		**16**	**2**	**18**	**0**	**1**	**18**	**0**	**0**	**0**	**0**	**0**	**132**
SALEM (CITY)	**CONCRETE PIPE & PRECAST LLC-SALEM #1 PLANT**							**2000 SALEM INDUSTRIAL DR**				**NAICS Code**	**327332**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for CONCRETE PIPE & PRECAST LLC-SAL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
SOUTHAMPTON	**ATLANTIC POLE & PILING - NEWSOMS**							**21366 GENERAL THOMAS HWY**				**NAICS Code**	**321114**
LEAD	N	0	1	1	0	0	6	0	0	0	0	0	1
Total for ATLANTIC POLE & PILING - NEWSOMS		**0**	**1**	**1**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**1**

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Facility County/Independent City / Facility Name/Address / Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
Total for Above County : (1 record)		**0**	**1**	**1**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**1**
SPOTSYLVANIA	**OLDCASTLE PRECAST INC**							**5115 MASSAPONAX CHURCH RD**				**NAICS Code**	**327390**
LEAD COMPOUNDS	N	0	0	0	0	0	1	0	0	0	0	0	0
POLYCYCLIC AROMATIC COMPOU	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for OLDCASTLE PRECAST INC		**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
SPOTSYLVANIA	**VIRGINIA CONCRETE SPOTSYLVANIA PLANT**							**6110 SMITH STATION ROAD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE SPOTSYLVANIA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)		**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
STAFFORD	**FTG CORP.**							**1026 WARRENTON RD**				**NAICS Code**	**334412**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for FTG CORP.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
STAFFORD	**TITAN VIRGINIA READY-MIX LLC-STAFFORD PLANT**							**48 POWELL LN**				**NAICS Code**	**327320**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for TITAN VIRGINIA READY-MIX LLC-STAF		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
STAFFORD	**U.S. DOJ FBI TRAINING ACADEMY**							**MCB-4 BUILDING 15-FMU**				**NAICS Code**	**921110**
LEAD COMPOUNDS	N	44	4	48	0	0	48	0	0	0	0	0	27,876
Total for U.S. DOJ FBI TRAINING ACADEMY		**44**	**4**	**48**	**0**	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**27,876**
STAFFORD	**VIRGINIA CONCRETE-STAFFORD PLANT**							**32 WYCHE RD**				**NAICS Code**	**327320**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for VIRGINIA CONCRETE-STAFFORD PLA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (4 records)		**44**	**4**	**48**	**0**	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**27,876**
SUFFOLK (CITY)	**OLDCASTLE LAWN AND GARDEN INC.**							**310 KENYON RD**				**NAICS Code**	**321999**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0

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Facility County/Independent City / Facility Name/Address	Chemical Name	form A*	On-Site Releases from Section 5 of Form R: Fugitive Air (pounds)	Stack Air (pounds)	Total Air (pounds)	Land (pounds)	Water (pounds)	Total On-Site Releases (pounds)	On-Site Management from Section 8 of Form R: Energy Recovery (pounds)	Recycling (pounds)	Treatment (pounds)	Total On-Site Management (pounds)	Off-Site Transfers from Section 6 of Form R: POTW (pounds)	Total Other Off-Site Transfers ** (pounds)
	TRIFLURALIN	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for OLDCASTLE LAWN AND GARDEN INC.		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (2 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TAZEWELL	**QUIKRETE - POUNDING MILL, VA PLANT**								**288 QUARRY RD**				**NAICS Code**	**327999**
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for QUIKRETE - POUNDING MILL, VA PLA		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VIRGINIA BEACH (CITY)	**TITAN VIRGINIA READY-MIX LLC-OCEANA PLANT**								**160 OCEANA BLVD.**				**NAICS Code**	**327320**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for TITAN VIRGINIA READY-MIX LLC-OCE		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VIRGINIA BEACH (CITY)	**U.S. NAVY FLEET COMBAT TRAINING CENTER ATL DAM NECK BAS**								**1912 REGULUS AVE**				**NAICS Code**	**928110**
	LEAD	N	0	0	0	0	0	11,399	0	0	0	0	0	0
	Total for U.S. NAVY FLEET COMBAT TRAINING		**0**	**0**	**0**	**0**	**0**	**11,399**	**0**	**0**	**0**	**0**	**0**	**0**
VIRGINIA BEACH (CITY)	**US NAVY JOINT EXPEDITIONARY LITTLE CREEK RANGE**								**2600 TARAWA CT SUITE 100**				**NAICS Code**	**928110**
	LEAD	N	0	0	0	0	0	2,940	0	0	0	0	0	0
	LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for US NAVY JOINT EXPEDITIONARY LITT		**0**	**0**	**0**	**0**	**0**	**2,940**	**0**	**0**	**0**	**0**	**0**	**0**
VIRGINIA BEACH (CITY)	**US NAVY NAVAL AIR STATION OCEANA BASE**								**1750 TOMCAT BLVD**				**NAICS Code**	**928110**
	LEAD COMPOUNDS	N	11	0	11	0	0	11	0	0	0	0	0	0
	Total for US NAVY NAVAL AIR STATION OCEAN		**11**	**0**	**11**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**
	Total for Above County : (5 records)		**11**	**0**	**11**	**0**	**0**	**14,350**	**0**	**0**	**0**	**0**	**0**	**0**
WARREN	**TITAN VIRGINIA READY-MIX LLC-FRONT ROYAL READY-MIX CON**								**399 KELLEY DR**				**NAICS Code**	**327320**
	LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	0
	Total for TITAN VIRGINIA READY-MIX LLC-FRO		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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WARREN	**US CBP CANINE TRAINING FACILITY FIRING RANGE #VA0040**							**828 HARMONY HOLLOW RD**				**NAICS Code**	**922120**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	0
Total for US CBP CANINE TRAINING FACILITY F		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (2 records)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WASHINGTON	**AZZ GALVANIZING-BRISTOL**							**14781 INDUSTRIAL PARK RD**				**NAICS Code**	**332812**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	48
Total for AZZ GALVANIZING-BRISTOL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**48**
WASHINGTON	**METAL CASTING CO**							**15331 INDUSTRIAL PARK ROAD**				**NAICS Code**	**331523**
LEAD COMPOUNDS	N	0	0	0	0	0	0	0	0	0	0	0	44
Total for METAL CASTING CO		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**
WASHINGTON	**MXI ENVIRONMENTAL SERVICES, LLC**							**26319 OLD TRAIL RD (ST RTE 679)**				**NAICS Code**	**562111**
CHLORDANE	N	0	0	0	0	0	0	0	0	0	0	0	80
HEPTACHLOR	N	0	0	0	0	0	0	0	0	0	0	0	80
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	37,958
MERCURY	N	0	0	0	0	0	0	0	0	0	0	0	2,038
METHOXYCHLOR	N	0	0	0	0	0	0	0	0	0	0	0	80
Total for MXI ENVIRONMENTAL SERVICES, LLC		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**40,236**
Total for Above County : (7 records)		**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**40,328**
WESTMORELAND	**CARRY-ON TRAILER CORP**							**159 INDUSTRIAL PARK RD**				**NAICS Code**	**336212**
LEAD	N	0	0	0	0	0	0	0	0	0	0	0	109
Total for CARRY-ON TRAILER CORP		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**109**
Total for Above County : (1 record)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**109**
WISE	**VIRGINIA CITY HYBRID ENERGY CENTER**							**3425 RUSSELL CREEK RD**				**NAICS Code**	**221112**
DIOXIN AND DIOXIN-LIKE COMPO	N	0	1	1	0	0	1	0	0	0	0	0	0
LEAD COMPOUNDS	N	0	64	64	0	0	7,118	0	0	0	0	0	0

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	MERCURY COMPOUNDS	N	0	0	0	0	0	87	0	0	0	0	0	0
Total for VIRGINIA CITY HYBRID ENERGY CENT			**0**	**65**	**65**	**0**	**0**	**7,206**	**0**	**0**	**0**	**0**	**0**	**0**
Total for Above County : (3 records)			**0**	**65**	**65**	**0**	**0**	**7,206**	**0**	**0**	**0**	**0**	**0**	**0**
YORK	**AFETA CAMP PEARY**								**1100 EXECUTIVE DRIVE**				**NAICS Code**	**928110**
	LEAD	N	29	0	29	0	0	29	0	0	0	0	0	0
Total for AFETA CAMP PEARY			**29**	**0**	**29**	**0**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**0**
YORK	**U.S NAVY CHEATHAM ANNEX BASE**								**108 SANDA AVE BLDG 270**				**NAICS Code**	**928110**
	LEAD	N	6	0	6	0	0	2,359	0	0	0	0	0	6,712
Total for U.S NAVY CHEATHAM ANNEX BASE			**6**	**0**	**6**	**0**	**0**	**2,359**	**0**	**0**	**0**	**0**	**0**	**6,712**
YORK	**US NAVY YORKTOWN NAVAL WEAPONS STATION BASE RANGE**								**160 MAIN RD**				**NAICS Code**	**928110**
	LEAD	N	15	0	15	0	0	4,828	0	0	0	0	0	57,655
Total for US NAVY YORKTOWN NAVAL WEAPO			**15**	**0**	**15**	**0**	**0**	**4,828**	**0**	**0**	**0**	**0**	**0**	**57,655**
Total for Above County : (3 records)			**50**	**0**	**50**	**0**	**0**	**7,216**	**0**	**0**	**0**	**0**	**0**	**64,367**

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Appendix H-1 - 2023 VA TRI NAICS Code Ranking by On-Site Releases

APPENDIX H-1 - 2023 VA TRI NAICS Code Ranking by On-Site Releases

NAICS Subsector	General Type of Industry	Count	Total On-Site Release (Pounds)
325	Chemical Manufacturing	214	14,070,145
322	Paper Manufacturing	88	5,009,206
311	Food Manufacturing	67	1,542,109
324	Petroleum and Coal Products Manufacturing	17	1,322,711
332	Fabricated Metal Product Manufacturing	98	1,253,003
326	Plastics and Rubber Products Manufacturing	72	691,477
221	Utilities	53	683,912
928	National Security & International Affairs	53	374,548
312	Beverage and Tobacco Product Manufacturing	10	285,501
336	Transportation Equipment Manufacturing	57	234,780
	All Other NAICS	**440**	**711,492**
321	Wood Product Manufacturing	53	184,551
337	Furniture and Related Product Manufacturing	11	183,386
331	Primary Metal Manufacturing	43	126,442
327	Nonmetallic Mineral Product Manufacturing	102	92,526
334	Computer and Electronic Product Manufacturing	20	46,951
333	Machinery Manufacturing	52	21,334
323	Printing and Related Support Activities	9	16,937
424	Merchant Wholesalers, Nondurable Goods	78	12,113
331	Aluminum castings (except die-castings), unfinished, manufacturing	2	9,803
339	Miscellaneous Manufacturing	5	9,059
425	Wholesale Electronic Markets and Agents and Brokers	6	3,789
922	Justice, Public Order, and Safety Activities	2	1,866
325	Medicinal and Botanical Manufacturing	4	1,171
811	Repair and Maintenance	3	505
313	Textile Mills	4	468
314	Textile Product Mills	3	228
335	Electrical Equipment, Appliance, and Component Manufacturing	12	175
921	Executive, Legislative, and Other General Government Support	2	89
927	Space Research and Technology	2	57
212	Mining (Except Oil and Gas)	1	28
562	Waste Management and Remediation Services	16	9

NAICS Subsector	General Type of Industry	Count	Total On-Site Release (Pounds)
336	Motor Vehicle Body Manufacturing	1	3
321	Wood Container and Pallet Manufacturing	1	2
922	Other Justice, Public Order, and Safety Activities	1	1
922	Police Protection	2	0
323	Fabricated Metal Product Manufacturing	1	0
332	Fabricated Metals	1	0
999	Other	3	0

Appendix H-2 - 2023 VA TRI NAICS Code Ranking by On-Site Management

APPENDIX H-2 - 2023 VA TRI NAICS Code Ranking by On-Site Management

NAICS Subsector	General Type of Industry	Count	Total On-Site Treatment (Pounds)
311	Food Manufacturing	67	570,866,986
325	Chemical Manufacturing	214	350,648,815
322	Paper Manufacturing	88	36,265,973
332	Fabricated Metal Product Manufacturing	98	6,417,132
326	Plastics and Rubber Products Manufacturing	72	5,718,599
334	Computer and Electronic Product Manufacturing	20	1,655,339
336	Transportation Equipment Manufacturing	57	1,252,370
321	Wood Product Manufacturing	53	1,192,159
221	Utilities	53	1,027,400
339	Miscellaneous Manufacturing	5	516,514
	All Other NAICS	**442**	**1,261,600**
314	Textile Product Mills	3	513,655
312	Beverage and Tobacco Product Manufacturing	10	322,406
327	Nonmetallic Mineral Product Manufacturing	102	193,140
928	National Security & International Affairs	53	128,296
337	Furniture and Related Product Manufacturing	11	56,403
331	Primary Metal Manufacturing	43	32,026
424	Merchant Wholesalers, Nondurable Goods	78	7,939
313	Textile Mills	4	6,708
323	Printing and Related Support Activities	9	1,027
927	Space Research and Technology	2	0
922	Police Protection	2	0
922	Other Justice, Public Order, and Safety Activities	1	0
922	Justice, Public Order, and Safety Activities	2	0
321	Wood Container and Pallet Manufacturing	1	0
921	Executive, Legislative, and Other General Government Support	2	0
811	Repair and Maintenance	3	0
332	Fabricated Metals	1	0
324	Petroleum and Coal Products Manufacturing	17	0
335	Electrical Equipment, Appliance, and Component Manufacturing	12	0
562	Waste Management and Remediation Services	16	0

NAICS Subsector	General Type of Industry	Count	Total On-Site Treatment (Pounds)
325	Medicinal and Botanical Manufacturing	4	0
425	Wholesale Electronic Markets and Agents and Brokers	6	0
331	Aluminum castings (except die-castings), unfinished, manufacturing	2	0
212	Mining (Except Oil and Gas)	1	0
336	Motor Vehicle Body Manufacturing	1	0
999	Other	3	0
333	Machinery Manufacturing	52	0
323	Fabricated Metal Product Manufacturing	1	0

Appendix I-1 - 2023 VA TRI Facility Ranking by On-Site Releases

APPENDIX I-1 - 2023 VA TRI FACILITY RANKING BY ON-SITE RELEASES

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
1	BAE Systems Ordnance Systems Inc	11,980,753	Radford Army Ammunition Plant 4050 Peppers Ferry R	Radford	Montgomery	24141RDFRDPOBOX
2	Westrock Virginia Corporation (Entire)	2,076,143	104 E. Riverside Street	Covington	Covington (City)	24426WSTVCRIVER
3	Jewell Coke Co LP	1,322,710	1034 Dismal River Rd	Oakwood	Buchanan	24656JWLLCHWY46
4	Advansix Inc Hopewell Plant	910,729	905 E Randolph Rd	Hopewell	Hopewell (City)	23860LLDSGPOBOX
5	International Paper Franklin Mill	893,576	34040 Union Camp Dr	Franklin	Isle Of Wight	23851NNCMPHIGHW
6	Westrock Cp, LLC	842,009	1901 Main St	West Point	King William	23181CHSPK19THM
7	Ball Metal Beverage Container Corp	554,905	8935 Pocahontas Trail James River Commerce Center	Williamsburg	James City	23185BLLPC8935P
8	GP Big Island, LLC	508,877	9909 Lee Jackson Hwy	Big Island	Bedford	24526NKSPCHIGHW
9	Perdue Foods LLC - Accomack Processing Plant	492,343	22520 Lankford Hwy	Accomack	Accomack	23301PRDNCROUTE
10	BWXT Nuclear Operations Group, Inc.	482,938	1570 Mount Athos Rd	Lynchburg	Campbell	24504BBCCKMTATH
11	Perdue Agribusiness LLC - Chesapeake Va	394,903	501A Barnes Rd	Chesapeake	Chesapeake (City)	23324CRGLL501BA
12	Doswell LP	357,155	10098 Old Ridge Rd	Ashland	Hanover	23005DSWLL10098
13	Westrock Cp LLC	347,087	910 Industrial St	Hopewell	Hopewell (City)	23860STNHP910IN

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
14	Greif Packaging LLC	341,513	861 Fibre Plant Rd	Amherst	Amherst	24521VRGNFROUTE
15	Dupont Specialty Products USA, LLC - Spruance Plant	254,962	5401 Route 1	North Chesterfield	Chesterfield	23234DPNTSUSHIG
16	Celanese Acetate LLC - Celco Plant	243,717	3520 Virginia Ave	Narrows	Giles	24124HCHSTRT460
17	Virginia City Hybrid Energy Center	202,168	3425 Russell Creek Rd	Saint Paul	Wise	2428WVRGNC3425R
18	New Market Poultry LLC	201,800	145 Old East Cross Road	New Market	Shenandoah	2284WNWMRK145LD
19	Philip Morris USA Park 500 Site	197,568	4100 Bermuda Hundred Rd	Chester	Chesterfield	23831PHLLP4100B
20	Honeywell International Colonial Heights Plant	180,408	15801 Woods Edge Rd	Colonial Heights	Chesterfield	23832LLDSGEXIT5
21	Eastman Performance Films, LLC - Plant II	166,262	4129 The Great Rd	Fieldale	Henry	24089MRTNPRTE68
22	US Marine Corps Base Quantico	164,219	3250 Catlin Ave	Quantico	Prince William	22134SDDSM3040M
23	Ashland Specialty Ingredients GP	156,731	1111 Hercules Rd	Hopewell	Hopewell (City)	23860QLNCM1111H
24	Griffin Pipe Products Co	116,488	10 Adams St	Lynchburg	Lynchburg (City)	24505GRFFNADAMS
25	Aquatic Co	115,808	1100 Industrial Park Rd Halifax Industrial Park	South Boston	Halifax	24592PHLPSPOBOX
26	Mondelez Global LLC	109,296	6002 S Laburnum Ave	Richmond	Richmond	23231NBSCB6002S

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
27	US Army National Guard Fort Barfoot (Ranges)	106,748	US Pfo Building 561 Fort Barfoot	Blackstone	Nottoway	23824SRMYM316RI
28	Huntington Ingalls Incorporated	100,513	4101 Washington Ave	Newport News	Newport News (City)	23607NWPRT4101W
29	VPGC LLC Hinton Facility	94,884	6349 Rawley Pike Hwy 33 We	Hinton	Rockingham	22831WMPLRUSRT3
30	Dupont Teijin Films Spruance	94,880	5401A Route 1	Richmond	Chesterfield	2323WDPNTT541AR
31	Huber Engineered Woods LLC	91,640	1000 Chaney Ln	Crystal Hill	Halifax	24539JMHBRRT3HW
32	Cabinetworks Group - Mount Jackson Plant	86,324	1325 Industrial Park Rd	Mount Jackson	Shenandoah	22842MRLLTSTATE
33	Chesterfield Power Station	85,547	500 Coxendale Rd	Chester	Chesterfield	23836CHSTR500CO
34	Eastman Performance Films, LLC-Axton Facility	71,091	47 Brenda Dr	Axton	Henry	24054CMMNWRT58S
35	Crown Beverage Packaging	55,780	202 Sutainable Way	Ridgeway	Henry	2414WCRWNB22SUT
36	Tyson Farms Inc-Temperanceville	54,738	11224 Lankford Hwy	Temperanceville	Accomack	23442HLLYFUSHIG
37	JTI Leaf Services (US) LLC	53,963	202 Stinson Drive	Danville	Pittsylvania	2454WJTLFS22STI
38	George's Chicken LLC	53,141	19992 Senedo Rd	Edinburg	Shenandoah	22824RCCFRRTE42
39	Intertape Polymer Corp	52,010	1101 Eagle Springs Rd	Danville	Pittsylvania	24540NTRTPSTATE

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
40	Cabinetworks Group - Culpeper Plant	51,607	641 Maddox Dr	Culpeper	Culpeper	22701WDCBN641MA
41	US Army Fort Walker Ranges (Part)	51,252	19952 North Range Rd	Bowling Green	Caroline	22427SRMYF18902
42	Omega Protein Corporation	49,956	610 Menhaden Rd	Reedville	Northumberland	22530ZPTHYPOBOX
43	Georgia-Pacific Wood Products LLC - Brookneal OSB	49,204	11795 Brookneal Highway	Gladys	Campbell	24554GRGPCHIGHW
44	Roanoke Cement Co LLC	47,088	6071 Catawba Rd	Troutville	Botetourt	24175RNKCM5555C
45	Vaughan-Bassett Furniture Co. Galax	45,445	300 E Grayson St	Galax	Carroll	24333VGHNBOLDTO
46	Micron Technology Inc.	44,886	9600 Godwin Dr	Manassas	Prince William	20110DMNNS9600G
47	Dynax America Corp	44,394	568 E Park Dr	Roanoke	Botetourt	24019DYNXM568EP
48	Volvo Group North America, LLC	43,768	4881 Cougar Trail Road	Dublin	Pulaski	24084VLVGMROUTE
49	Kingspan Insulation LLC	42,997	200 Kingspan Way	Winchester	Frederick	22601MCFMPROUTE
50	Church & Dwight Co Inc	42,572	1851 Touchstone Rd	Colonial Heights	Chesterfield	23834LDNCR16101
51	Appalachian Plastics Inc.	41,918	34001 Glove Dr	Glade Spring	Washington	24340PPLCHPOBOX
52	Ingevity Virginia Corporation	39,798	958 E Riverside St	Covington	Covington (City)	2442WNGVTY958ER
53	New Millennium Building Systems	39,702	100 Diuguids Lane	Salem	Roanoke	24153JHNWH2535D
54	Virginia Marble Manufacturers Inc	37,734	Corner Of Brunswick & Oak St	Kenbridge	Lunenburg	23944VRGNMCORNE
55	The Lycra Company LLC	34,018	400 Du Pont Blvd	Waynesboro	Augusta	22980DPNTWDUPON

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
56	Evolve Stone LLC	33,084	200 Lenoir Drive	Winchester	Frederick	2260WVLVST2LENI
57	Axalta Coating Systems USA LLC-Front Royal Plant	32,164	7961 Winchester Rd	Front Royal	Warren	22630DPNTFPOBOX
58	Wolverine Advanced Materials	29,991	3175 State St	Blacksburg	Montgomery	24060WLVRN3175S
59	Darling Ingredients Inc Linville Facility	29,945	6230 Kratzer Rd	Linville	Rockingham	22834VLLYP623KR
60	Colonna's Shipyard Inc	25,687	400 E Indian River Rd	Norfolk	Norfolk (City)	23523CLNNS400EI
61	HAPCO	24,915	26252 Hillman Highway	Abingdon	Washington	2421WHPCXX26252
62	Georgia Pacific Wood Products LLC Emporia Plywood	24,834	634 Davis St	Emporia	Greensville	23847GRGPCDAVIS
63	Strongwell Corp Bristol	22,683	400 Commonwealth Ave	Bristol	Bristol (City)	24203MRRSN400CO
64	Mica Co Of Canada Inc	20,969	900 Jefferson Ave	Newport News	Newport News (City)	23607MCCMP900JE
65	Trivium Packaging USA, Inc	20,040	5022 Hollins Rd	Roanoke	Roanoke (City)	2401WRDGHM522HL
66	Northrop Grumman Systems Corporation (New River Energetics)	19,113	Rt 114 Radford Army Ammunition Plant	Radford	Montgomery	24141NWRVRRTE11
67	Slocum Adhesives Corporation	18,972	1409 Buchanan St	Lynchburg	Lynchburg (City)	24501SLCMC1409B
68	Clover Power Station	18,514	4091 Clover Rd	Clover	Halifax	24534CLVRPRTE92

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
69	Virginia Marble Manufacturers Inc	17,902	1201 5Th Ave	Kenbridge	Lunenburg	23944VRGNMPOBOX
70	WWF Operating Co	17,256	6364 S Valley Pike	Mount Crawford	Rockingham	22841SHNND6364S
71	US/Navy Naval Support Activity Northwest Annex Range	16,598	1320 Nw Blvd Suite 100	Chesapeake	Chesapeake (City)	23322SNVYN132NW
72	Bellwood Printing Plant	16,428	2001 Reymet Rd	Richmond	Chesterfield	23237BLLWD2001R
73	Darling Ingredients Inc-Winchester Facility	16,267	1635 Indian Hollow Rd	Winchester	Frederick	22603VLLYP1444I
74	Anheuser-Busch LLC	16,118	7801 Pocahontas Trail	Williamsburg	James City	23185NHSRB7801P
75	Fujifilm Wako Chemicals USA Corporation	15,892	1600 Bellwood Rd	Richmond	Chesterfield	23237WKCHM1600B
76	Akzo Nobel Coatings Inc	15,733	2837 Roanoke Ave Sw	Roanoke	Roanoke (City)	24015RLNCN2837R
77	Pilgrim's Pride Corp Broadway Facility	13,983	330 Co-Op Dr	Timberville	Rockingham	22853RCKNGCOOPD
78	Lhoist Na Of Virginia Inc Kimballton Area 1	13,642	2093 Big Stony Creek Rd	Ripplemead	Giles	24150CHMCL2093B
79	BAE Systems Norfolk Ship Repair	13,062	750 W Berkley Ave	Norfolk	Norfolk (City)	23501NRFLKFOOTO
80	Solenis LLC	12,454	27123 Shady Brook Trail	Courtland	Southampton	23851HRCLSROUTE
81	Smithfield Fresh Meats Corp Smithfield, Va Facility	11,727	601 N Church St	Smithfield	Isle Of Wight	23430GWLTNHIGHW
82	NIBCO Of Virginia Inc.	11,682	131 Johnson Drive	Stuarts Draft	Augusta	24477NBCNCROUTE

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
83	Tenaska Virginia Partners LP	11,420	2300 Branch Road	Scottsville	Fluvanna	2459WTNSKV23BRA
84	U.S. Navy Fleet Combat Training Center ATL Dam Neck Base	11,399	1912 Regulus Ave	Virginia Beach	Virginia Beach (City)	23461SNVYF1912R
85	Wolverine Advanced Materials	10,492	201 Industrial Park Rd	Blacksburg	Montgomery	24060WLVRN201IN
86	Solenis LLC	10,254	2301 Wilroy Rd	Suffolk	Suffolk (City)	23434LLDCL2301W
87	Molson Coors Shenandoah Brewery	9,990	5135 S Eastside Hwy	Elkton	Rockingham	22827DLPHCROUTE
88	Ball Advanced Aluminum Technologies Corp	9,803	56 Dunsmore Rd	Verona	Augusta	24482NMNSLLAURE
89	Wabtec Components	9,673	655 Fairview Rd	Wytheville	Wythe	24382RQPCR655FA
90	Joint Base Langley Eustis-Eustis (JBLE-Eustis) Ranges	9,626	705 Washington Blvd	Fort Eustis	Newport News (City)	23604SDDSRFORTE
91	American GFM Corp	9,580	1200 Cavalier Blvd	Chesapeake	Chesapeake (City)	23323MRCNG1200C
92	UPACO Adhesives Inc	9,208	4105 Castlewood Rd	Richmond	Richmond (City)	23234PCDHS4105C
93	Sterilization Services of Virginia	9,059	5674 Eastport Blvd	Henrico	Henrico	23231STRLZ5674E
94	Columbia Forest Products	8,541	100 Paul Rd Sw	Chatham	Pittsylvania	24531CLMBF1PAUL
95	Veolia James River Plant	8,302	1201 Bellwood Rd	Richmond	Chesterfield	23237DPNTJ1201B
96	Stihl Inc	8,106	536 Viking Dr	Virginia Beach	Virginia Beach (City)	23450STHLN536VI
97	CPFilms, Inc.	8,090	345 Beaver Creek Dr	Martinsville	Henry	24112CMMNW345BE

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
98	Philip Morris USA Commerce Road Site	7,862	3601 Commerce Rd	Richmond	Richmond (City)	23234PHLLP3601C
99	Ascent Chemicals - Danville	7,645	1975 Old Richmond Rd	Danville	Pittsylvania	24540DNRVRSTATE
100	RPS Composites Virginia, Inc.	7,395	211 E 4Th St	Front Royal	Warren	22630SHNND210E4
101	Strongwell Corp Highlands Div	6,592	26770 Newbanks Rd	Abingdon	Washington	24210STRNG26770
102	Bear Garden Generating Station	6,550	2608 C.G. Woodson Road	New Canton	Buckingham	2312WBRGRD268CG
103	Stella Jones Corp-Goshen Facility	6,331	9223 Maury River Rd	Goshen	Rockbridge	24439THBRKSTATE
104	Federal Mogul Powertrain LLC.	6,091	300 Industrial Park Rd Se	Blacksburg	Montgomery	24060FDRLMRT460
105	Nucor Insulated Panel Group	5,991	6001 Quality Way	Prince George	Prince George	23875MTLSP6001Q
106	Guardian Fabrication, LLC - Plant 2	5,977	110 Jack Guynn Dr	Galax	Galax (City)	24333CNSLD110JA
107	South Atlantic Galvanizing LLC	5,969	11022 Lewistown Rd	Ashland	Hanover	23005VRGNGSTATE
108	Arkema Inc	5,040	601 Tightsqueeze Ind Us Trial Rd	Chatham	Pittsylvania	24531SRTMR601TI
109	US Navy Yorktown Naval Weapons Station Base Range	4,828	160 Main Rd	Yorktown	York	2369WSNVYYRUTE2
110	Chemsolv Inc	4,774	1140 Industry Ave Se	Roanoke	Roanoke (City)	24013CHMSL1140I

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
111	Ennis-Flint Richmond	4,700	4400 Vawter Ave	Richmond	Henrico	23222DGLSC4400V
112	Mar-Bal, Inc.	4,285	5400 Reserve Way	Dublin	Pulaski	24084MRBLN5400R
113	Steel Dynamics Inc Roanoke Bar Div	4,008	102 Westside Blvd	Roanoke	Roanoke (City)	24017RNKLC102WE
114	Chaparral (Va) Inc	3,919	25801 Hofheimer Way	Petersburg	Dinwiddie	23803CHPRR25801
115	US Defense Logistics Agency Defense Supply Center Richmond	3,789	6090 Strathmore Rd	Richmond	Chesterfield	23297DFNSG8000J
116	O'Sullivan Films Inc	3,619	1944 Valley Ave	Winchester	Winchester (City)	22601SLLVN1944V
117	Koppers Inc (Roanoke)	3,408	4020 Koppers Rd	Salem	Roanoke	24153KPPRSRT460
118	Valmont-Virginia Galvanizing Inc	3,405	3535 Halifax Rd	Petersburg	Petersburg (City)	23805NDSTR3535H
119	Rexnord Industries LLC	3,405	150 Johnson Dr	Stuarts Draft	Augusta	24477PTCMPRTS34
120	Merck Sharp & Dohme LLC	3,350	2778 Se Side Hwy	Elkton	Rockingham	22827MRCKCHIGHW
121	Polynt Composites USA Inc.	3,224	920 Tightsqueeze Ind Us Trial Rd	Chatham	Pittsylvania	24531FRMNRPITTS
122	US Navy Joint Expeditionary Little Creek Range	2,940	2600 Tarawa Ct Suite 100	Virginia Beach	Virginia Beach (City)	23521SDDSN2600T
123	Lake Region Medical, Inc	2,904	200 S Yorkshire St	Salem	Salem (City)	24153NBLMT200SY
124	Yokohama Tire Manufacturing Virginia LLC	2,812	1500 Indiana St	Salem	Roanoke	24153MHWKR1500I

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
125	Possum Point Power Station	2,520	19000 Possum Point Rd	Dumfries	Prince William	22026PSSMP19000
126	U.S Navy Cheatham Annex Base	2,359	108 Sanda Ave Bldg 270	Williamsburg	York	23185SNVYC18SAN
127	Canon Virginia Inc	2,061	12000 Canon Blvd	Newport News	Newport News (City)	23606CNNVR12000
128	Menzies Aviation Fueling Operations Wash Dulles International	2,002	Tank Farm Rd Building 2	Sterling	Loudoun	20166RBPXXBUILD
129	Evonik Industries	1,957	914 E Randolph Rd	Hopewell	Hopewell (City)	23860GLDSC914ER
130	Howmet Castings & Services Inc	1,868	One Howmet Dr	Hampton	Hampton (City)	23661HWMTCONEHO
131	US Penitentiary Lee	1,866	Lee County Industrial Park Hickory Flats Rd	Pennington Gap	Lee	24277SPNTNLEECI
132	Brenntag Mid-South, Inc.	1,783	738 Goodes St	Richmond	Richmond (City)	2322WBRNNT738GD
133	U.S. Army Garrison Fort Gregg-Adams Va - Ranges	1,570	825 19Th St	Fort Lee	Prince George	23801SRMYC3901A
134	Davis-Frost Inc	1,524	3416 Candlers Mountain Rd	Lynchburg	Lynchburg (City)	24506DVSPN3420C
135	Cameron Chemical Inc.	1,515	830 Old Dill Rd.	Suffolk	Suffolk (City)	2343WCMRNC83LDD
136	Carpenter Co Richmond Plant	1,423	2400 Richmond Hwy	Richmond	Richmond (City)	23234RCRPN2400J
137	Global Fairfax Terminal	1,374	3800 Pickett Rd	Fairfax	Fairfax (City)	22031FRFXT3800P
138	U.S. Amines (Portsmouth) LLC	1,355	3230 W Norfolk Rd	Portsmouth	Portsmouth (City)	23703CLNSC3230E

Appendix I-1 *2023 Toxics Release Inventory*

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
139	George's Foods, LLC. Processing Plant	1,213	501 N Liberty St	Harrisonburg	Rockingham	22801HLLYF501NO
140	Metalsa Roanoke Inc.	1,189	184 Vista Dr	Roanoke	Botetourt	24019TWRTM184VI
141	AMPAC Fine Chemicals Virginia, LLC	1,171	2820 N Normandy Drive	Petersburg	Petersburg (City)	23805LLBRT2999F
142	Steelfab Inc, Of Virginia	1,134	1510 Reese St	Emporia	Greensville	23847STFBF1510R
143	RTI Martinsville Inc	1,078	101 Rti Way	Martinsville	Henry	2411WRTMRT11RTI
144	Marvin Composites	1,033	5415 Corporate Cir	Salem	Roanoke	24153TCTNP5415C
145	U.S. Navy Norfolk Naval Shipyard	1,032	Intersection Of Effingham St & George Washington H	Portsmouth	Portsmouth (City)	23709SDDSNINTER
146	Eastman Performance Films, LLC-Plant 1	996	4210 The Great Rd	Fieldale	Henry	24089MRTNPROUTE
147	Hutchinson Sealing Systems Inc	869	1150 S Third St	Wytheville	Wythe	24382KNGST1150S
148	Kinder Morgan Transmix Company, LLC	853	3302 Deepwater Terminal Rd	Richmond	Richmond (City)	23234PRMRY3302D
149	AZZ Galvanizing-Bristol	829	14781 Industrial Park Rd	Bristol	Washington	24201VSBRS795IN
150	Allied Aviation Fueling Co Inc	748	Ronald Reagan National Airport	Arlington	Arlington	22202GDNVTRONAL
151	Accutec Blades, Inc.	713	57 Razor Blade Ln	Verona	Augusta	24482MRCNSRAZOR
152	US Navy Defense Fuel Support Point Craney Island	692	4501 Cedar Ln Bldg 288	Portsmouth	Portsmouth (City)	23703CRNYS4501C

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
153	US Navy Naval Station Norfolk	668	1530 Gilbert Street Suite 2000	Norfolk	Norfolk (City)	23511NVLBS1530G
154	General Shale Brick Inc Plant 35 & 36	652	2353 Webster Rd	Roanoke	Botetourt	24064GNRLS770WE
155	HP Hood LLC	600	160 Hood Way	Winchester	Frederick	22602HPHDX160HO
156	Glen-Gery Corporation - Lawrenceville Plant	556	16024 Governor Harrison Pkwy	Lawrenceville	Brunswick	23868BRCKTHWY58
157	Joy Global Underground Mining, LLC	505	811 Boone Trail Rd	Duffield	Scott	2424WJYGLB811BN
158	Dominion Chemical Co Inc	500	2050 Puddledock Rd	Petersburg	Petersburg (City)	23803DMNNC2050P
159	Arkema Inc Franklin Plant	500	27047 Shady Brook Trail	Courtland	Southampton	2383WRKMNC2747S
160	Pre Con Inc	468	220 S Perry St	Petersburg	Petersburg (City)	23803PRCNN220SP
161	Airgas Specialty Products Inc., Suffolk, Va	467	105 Dill Rd	Suffolk	Suffolk (City)	2343WRGSSP15DIL
162	Pentagon Reservation	425	2 N Rotary Rd	Arlington	Arlington	2220WPNTRSNRTAR
163	The Goodyear Tire & Rubber Co.	367	1901 Goodyear Blvd	Danville	Danville (City)	24541THGDY1435G
164	Virginia Concrete Shirlington Plant	327	2651 Shirlington Rd	Arlington	Arlington	22206VRGNC2651S
165	Hoover Treated Wood Products, Inc	312	18315 House Dr	Milford	Caroline	22514HVRTRCAROL
166	Blue Ridge Solvents & Coatings	298	3800 Original Henry Rd	Henry	Franklin	24102BLRDGSTATE

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
167	Virginia Concrete Dulles Plant	296	44866 Old Ox Rd	Sterling	Loudoun	22170VRGNC44866
168	Virginia Concrete Edsall Road Plant	295	5412 Industrial Dr	Springfield	Fairfax	22151VRGNC6995E
169	Superior Concrete Materials Inc. - Dulles	288	44146 Wade Dr	Chantilly	Loudoun	2015WSPRRC44146
170	Virginia Concrete Falls Church Plant	260	7103 Gordon Rd	Falls Church	Falls Church (City)	22043VRGNC7103G
171	IR Engraving LLC	257	5901 Lewis Rd	Sandston	Henrico	23150RNTRN5901L
172	SICPA Securink Corp	250	8000 Research Way	Springfield	Fairfax	22153SCPVR8000R
173	Trelleborg Marine Systems North America Inc.	250	532 Jack Enders Blvd	Berryville	Clarke	2261WTRLLB532JA
174	Owens-Brockway Glass Container Inc Plant 29	233	29 Glassblower Ln	Ringgold	Pittsylvania	24586WNSBRSTATE
175	Mehler Engineered Products	228	175 Mehler Ln	Martinsville	Henry	24112MHLRN175ME
176	Capital Concrete Inc.	214	400 Stapleton St	Norfolk	Norfolk (City)	2350WCPTLC4STAP
177	Virginia Concrete Gainesville Plant	209	7300 Rail Line Ct	Gainesville	Prince William	2015WVRGNC73RAI
178	Concrete Pipe & Precast LLC-Hanover Pipe Plant	208	10364 Design Rd	Ashland	Hanover	2300WMRCST135DE
179	Concrete Pipe & Precast LLC-Ashland Precast Plant	176	11352 Virginia Precast Rd	Ashland	Hanover	2300WSSRCM312MI
180	Hitachi Energy USA Inc.	175	2135 Philpott Rd	South Boston	Halifax	24592WSTNGHIGHW

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
181	Southern Graphic Systems LLC	171	5301 Lewis Rd	Sandston	Henrico	23150STHRN531LE
182	Virginia Concrete Dumfries Plant	168	217 Canal Rd	Dumfries	Prince William	2202WVRGNC217CA
183	Custom Truck One Source	166	12660 E Lynchburg Salem Tpke	Forest	Bedford	2455WCSTMT1266E
184	Owens-Brockway Glass Container Inc Plant 26	158	150 Industrial Blvd	Toano	James City	23168WNSLL150IN
185	O-N Minerals (Chemstone) Winchester Lime Plant	153	508 Quarry Ln	Clear Brook	Frederick	22624GLBLSONEQU
186	US Navy Naval Air Station Oceana Base	150	1750 Tomcat Blvd	Virginia Beach	Virginia Beach (City)	23460SNVLROCEAN
187	Oldcastle Precast Inc	149	5115 Massaponax Church Rd	Fredericksburg	Spotsylvania	22407RTNDP5115M
188	Virginia Concrete Cochran Mill	145	42574 Cochran Mill Rd	Leesburg	Loudoun	2017WVRGNC42574
189	Cooper Steel of Virginia	145	275 Francis Ave	Monroe	Amherst	24574LYNCHRT29N
190	Novelis ALR Rolled Products Inc	140	1701 Reymet Rd	Richmond	Chesterfield	23237TRNST1801R
191	Commonwealth Galvanizing	113	10988 Leadbetter Rd	Ashland	Hanover	2300WCMMNW1988L
192	Colonial Chemical Solutions Inc.	112	2540 Bellwood Rd	Richmond	Chesterfield	23237NDLCH2540B
193	Concrete Pipe & Precast LLC Chesapeake Plant	109	3801 Cook Blvd	Chesapeake	Chesapeake (City)	23323HNSNP381CK

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
194	Virginia Concrete Co Inc-Chantilly	92	25086 Tanner Ln	Chantilly	Loudoun	2015WVRGNC2586T
195	U.S. DOJ FBI Training Academy	89	Mcb-4 Building 15-Fmu	Quantico	Stafford	22135SDJFBMCB4B
196	Atlantic Pole & Piling - Newsoms	89	21366 General Thomas Hwy	Newsoms	Southampton	23874TLNTCRTE67
197	Samuel Son & Company (USA) Inc.	88	58 Samuel Way	Lebanon	Russell	2426WSTLFB58SAM
198	Banker Steel Company, LLC	87	351 Rangoon Road	Lynchburg	Campbell	2450WBNKRS351RA
199	Roslyn Converters Inc	81	1106 W Roslyn Rd	Colonial Heights	Colonial Heights (City)	23834CLNLH1106W
200	Stella-Jones Corp	81	15939 History Land Hwy	Warsaw	Richmond	22572WDPRSROUTE
201	Banker Steel Company, LLC	77	1619 Wythe Rd	Lynchburg	Lynchburg (City)	24502MNTGB1619W
202	Virginia Concrete Spotsylvania Plant	71	6110 Smith Station Road	Fredericksburg	Spotsylvania	2240WVRGNC611SM
203	Fisher Diagnostics, A Division of Fisher Scientific Company	65	8365 Valley Pike	Middletown	Frederick	22645FSHRD8365V
204	U.S. NASA GSFC Wallops Flight Facility	57	34200 Fulton Street	Wallops Island	Accomack	23337SNSGDWALLO
205	Virginia Concrete Woodbridge Plant	54	936 Annapolis Way	Woodbridge	Prince William	2219WVRGNC936AN

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
206	Modine Manufacturing Co	48	1221 Magnolia Ave	Buena Vista	Rockbridge	24416MDNMN1221M
207	Kensing LLC	47	914 E Randolph Rd	Hopewell	Hopewell (City)	2386WKNSNG914ER
208	Commonwealth Chesapeake Company, LLC	38	3415 White Oak Way	New Church	Accomack	23415CMMNW3415W
209	Degesch America Inc	38	153 Triangle Dr	Weyers Cave	Augusta	24486DGSCH275TR
210	Pine Products Inc	33	315 Carver Rd	Martinsville	Henry	24112PNPRD315CA
211	Virginia Concrete-Stafford Plant	30	32 Wyche Rd	Stafford	Stafford	2255WVRGNC32WYC
212	Arbortech Forest Products, Inc.	30	500 Dearing Avenue	Blackstone	Nottoway	2382WRBRTC5DEAR
213	AFETA Camp Peary	29	1100 Executive Drive	Williamsburg	York	2318WFTCMP11EXE
214	Kyanite Mining Corp Mullite Plant	28	5836 Buffalo Road	Dillwyn	Buckingham	23936KYNTMRTE15
215	Morgan Lumber Company, Inc.	23	628 Jeb Stuart Highway	Red Oak	Charlotte	2396WMRGNL628JE
216	Carry-On Trailer Corp	23	159 Industrial Park Rd	Montross	Westmoreland	22520CRRYN159IN
217	Blue Ridge Fiberboard	22	250 Celotex Dr	Danville	Pittsylvania	24543WDFBRMASON
218	Graham-White Manufacturing Co.	21	1242 Colorado St	Salem	Roanoke	24153GRHMW1242C
219	Tyson Farms Inc. - Processing Facility	20	13264 Mountain Rd	Glen Allen	Hanover	20360HLLYF3301U
220	American Phoenix Inc	20	121 Martha St	Danville	Danville (City)	2454WMRCNP121MA

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
221	Shamrock Foods Dairy Div	18	318 Mill Pl Pkwy	Verona	Augusta	2448WSHMRC318MI
222	Utility Trailer Manufacturing	16	13160 Monroe Rd	Glade Spring	Washington	2434WTLTYT1316M
223	Munters Corp - Daleville	15	158 Shooting Star Way	Daleville	Botetourt	2408WMNTRS158SH
224	Utility Trailer Manufacturing	15	124 Mountain Empire Rd	Atkins	Smyth	24311TLTYTSTATE
225	Maag Gala, Inc.	15	181 Pauley St	Eagle Rock	Botetourt	24085GLNDSRFD2B
226	Canatal Steel USA	11	459 Industrial Dr	Roanoke	Botetourt	24019NLSTL459IN
227	Trex - Virginia Manufacturing Operations	11	3229 Shawnee Drive	Winchester	Frederick	2260WTRXWN3229S
228	Reco Biodiesel, LLC	10	710 Hospital St	Richmond	Richmond (City)	2321WRCBDS71HSP
229	Bleachtech LLC	10	2020 Bessemer Rd	Petersburg	Petersburg (City)	23805BLCHT22BES
230	Shearers Food LLC	10	1445 Pittstown Road	Bristol	Washington	2420WSHRRS1445P
231	Tempur Production USA Inc	10	203 Tempurpedic Dr	Duffield	Scott	24244TMPRP4700B
232	Voestalpine High Performance Metals - South Boston Plant	10	2306 Eastover Dr	South Boston	Halifax	24592CKCMPSTATE
233	Bingham & Taylor	9	601 Nalle Pl	Culpeper	Culpeper	2270WBNGHM61NAL
234	Murphy-Brown LLC Waverly Feed Mill	8	27404 Cabin Point Rd	Waverly	Sussex	23890MRPHY27404
235	U.S. DOD, USAF, Joint Base Langley Eustis - Langley AFB	8	633 Ces/Ceie 37 Sweeney Blvd	Langley Afb	Hampton (City)	23665SRFRC1CESC

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
236	Sun Chemical Corp	7	16000 Continental Blvd	Colonial Heights	Colonial Heights (City)	23834SNCHM16000
237	US Coast Guard Base Portsmouth	7	4000 Coast Guard Blvd	Portsmouth	Portsmouth (City)	23701SDTSC4000C
238	Amsted Rail Co Inc	6	2580 Frontage Rd	Petersburg	Petersburg (City)	23804BRNCNPETER
239	Safety-Kleen Systems Manassas (Man)	5	11520 Balls Ford Rd	Manassas	Prince William	22110SFTYK11520
240	American Buildings Company-La Crosse	5	501 Golden Eagle Dr	La Crosse	Mecklenburg	23950MRCNB51GLD
241	Ruffin Creek Properties LLC	3	10229 Tidewater Trail	Fredericksburg	Spotsylvania	22408RFFNC10229
242	Altec Industries, Inc.	3	325 South Center Drive	Daleville	Botetourt	2408WLTCND325SU
243	Safety-Kleen Systems Chester (CVA)	2	1200 W 100 Rd	Chester	Chesterfield	23831SFTYK1200W
244	Safety-Kleen Systems Vinton (Roa)	2	16090 Stewartsville Rd	Vinton	Roanoke	24179SFTYKRTE24
245	Pallet One Of Virginia	2	820 Boyd St	Chase City	Mecklenburg	2392WPLLTN82BYD
246	W&W-AFCO Steel LLC	2	15083 Industrial Park Rd	Bristol	Washington	24202CRLNS1583I
247	BAE Systems Information & Electronic Systems Integration I	2	9300 Wellington Rd	Manassas	Prince William	20110BSYSN9300W
248	TTM Technologies N.A. LLC.	2	1200 Severn Way	Dulles	Loudoun	22170TMTNC1200S

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
249	Medeco Security Locks Inc.	2	3625 Allegheny Dr	Salem	Roanoke	24153MDCSCUS11A
250	Manassas Ready Mix Concrete	1	7310 Old Compton Rd	Manassas	Prince William	22110MNSSS731LD
251	Kik (Virginia) LLC	1	27 Mill Ln	Salem	Roanoke	24153THDLC27MIL
252	Virginia Paving Alexandria Plant	1	5601 Courtney Avenue	Alexandria	Alexandria (City)	2230WTHLNC561CU
253	Virginia Mirror LLC	1	300 S Moss St	Martinsville	Henry	24112VRGNM300MO
254	Quikrete - Martinsville, Va Plant	1	930 Meadowood Trl	Martinsville	Henry	2411WQKRTM93MEA
255	US DHS Mt Weather EOC	1	19844 Blue Ridge Mountain Rd	Bluemont	Loudoun	20135SDHSM19844
256	St Tissue LLC	1	34050 Union Camp Dr	Franklin	Isle Of Wight	2385WSTTSS345UN
257	Quikrete - Chesapeake, Va Plant	0	3712 Cook Blvd	Chesapeake	Chesapeake (City)	2332WQKRTC3712C
258	Metal Casting Co	0	15331 Industrial Park Road	Bristol	Washington	2420WMTLCS15331
259	Everbrite LLC	0	627 E 30Th St	Buena Vista	Buena Vista (City)	24416VRBRT627EA
260	Taylor & Boody Inc.	0	8 Hewitt Rd	Staunton	Augusta	24401TYLRB8HEWE
261	Certainteed / Seven Hills Paperboard, LLC	0	1801 Concord Turnpike	Lynchburg	Lynchburg (City)	24505MDPPR1801C
262	Quikrete - Pounding Mill, Va Plant	0	288 Quarry Rd	Pounding Mill	Tazewell	2463WQKRTP288QU
263	Sonoco Richmond	0	1850 Commerce Rd	Richmond	Richmond	23224SNCPR1850C

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
264	Northrop Grumman Systems Corporation	0	1070 Seminole Trail	Charlottesville	Albemarle	22906SPRRY1070S
265	Oldcastle APG Mid-Atlantic Richmond, Va	0	1231 Willis Rd	Richmond	Chesterfield	2323WLDCST1231W
266	Frank Chervan Incorporated	0	2005 Greenbrier Ave Se	Roanoke	Roanoke (City)	24013HKRFR2005G
267	Oldcastle Lawn & Garden	0	17554 Washington Hwy	Doswell	Hanover	23047GRDNP17554
268	Greystone Of Virginia Inc	0	7992 Richmond Rd	Toano	James City	23168GRYST7992R
269	Branscome-Hampton	0	1922 W Pembroke Ave	Hampton	Hampton (City)	23661BRNSC1922W
270	Branscome-Lee Hall	0	9393 Merrimac Trail	Williamsburg	James City	23185BRNSC9393M
271	Hexatronic Rochester Cable Inc.	0	751 Old Brandy Rd	Culpeper	Culpeper	22701THRCH751OL
272	Titan Virginia Ready-Mix LLC-Sterling Plant	0	22963 Concrete Plaza	Sterling	Loudoun	2016WTTNVR22963
273	Concrete Pipe & Precast LLC-Salem #1 Plant	0	2000 Salem Industrial Dr	Salem	Salem (City)	24153HNSNP2SALE
274	US CBP Canine Training Facility Firing Range #Va0040	0	828 Harmony Hollow Rd	Front Royal	Warren	22630SCSTM828HA
275	APG Mid-Atlantic - Winchester	0	396 Tyson Drive	Winchester	Frederick	2260WPGMDT396TY
276	Smyrna Ready Mix Concrete Plant 780 Richmond	0	4607 Racrete Rd	Richmond	Henrico	23230RDYMX457RA

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
277	Titan Virginia Ready-Mix LLC-Centreville Plant	0	15718 Lee Highway	Centreville	Fairfax	2202WTTNVR15718
278	Pre Con, Inc.	0	321 Brown St	Petersburg	Petersburg (City)	2380WPRCNN321BR
279	Titan Virginia Ready-Mix LLC-Springfield Plant	0	6600 Electronic Dr	Springfield	Fairfax	22151STHRN6600E
280	Oldcastle APG Mid-Atlantic	0	3900 Shannon St	Chesapeake	Chesapeake (City)	2332WLDCST39SHB
281	Kaiser Aluminum Fabricated Products LLC	0	1901 Reymet Rd	Richmond	Chesterfield	23237RYNLD1901R
282	Mechanicsville Concrete LLC-Chesterfield Plant	0	3501 Warbro Rd	Midlothian	Chesterfield	2311WMCHNC351WA
283	Titan Virginia Ready-Mix LLC-Leesburg Plant	0	42105 Cochran Mill Rd	Leesburg	Loudoun	2017WTTNVR4215C
284	Concrete Pipe & Precast LLC-Harrisonburg Precast Plant	0	210 Stone Spring Rd	Harrisonburg	Rockbridge	2280WVLLYB21STN
285	Mechanicsville Concrete LLC-Airport Plant (Oakleys Lane)	0	4481 Oakleys Ln	Henrico	Henrico	2322WMCHNC4481A
286	Titan Virginia Ready-Mix LLC-Campostella Plant	0	2125 Kimball Terrace	Norfolk	Norfolk (City)	2350WTTNVR2125K
287	TCS Materials Newport News	0	700 Shields Rd	Newport News	Newport News (City)	2318WTCSMT7SHIE
288	Titan Virginia Ready-Mix LLC-Stafford Plant	0	48 Powell Ln	Falmouth	Stafford	2240WTTNVR48PWE

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
289	TCS Materials Hampton 58Th St. Ready-Mix	0	2510 58Th St	Hampton	Hampton (City)	2366WTCSMT25158
290	Titan Virginia Ready-Mix LLC-Dumfries Plant	0	3454 Canal Rd	Dumfries	Prince William	2202WTTNVR3454C
291	Virginia Concrete - Stephens City	0	339 Estep Road	Stephens City	Frederick	2265WSTPHN339ES
292	Titan Virginia Ready-Mix LLC-Clear Brook Plant	0	1383 Brucetown Rd	Clear Brook	Frederick	2262WTTNVR1383B
293	Titan Virginia Ready-Mix LLC-Port Norfolk Plant	0	101 Chautauqua Ave	Portsmouth	Portsmouth (City)	2370WTTNVR11CHA
294	Chantilly Ready Mix Concrete	0	25232 Willard Road	Chantilly	Loudoun	2015WCHNTL25232
295	Titan Virginia Ready-Mix LLC-Rip Rap Road Plant	0	319 Rip Rap Rd	Hampton	Hampton (City)	2366WTTNVR319RI
296	Oldcastle Lawn And Garden Inc.	0	310 Kenyon Rd	Suffolk	Suffolk (City)	2343WLDCST31KEN
297	Titan Virginia Ready-Mix LLC-Front Royal Ready-Mix Concrete	0	399 Kelley Dr	Front Royal	Warren	2263WTTNVR399KE
298	TCS Materials Gloucester Ready-Mix	0	5248 George Washington Memorial Hwy	Gloucester	Gloucester	2306WTCSMT5248G
299	Mechanicsville Concrete LLC	0	4608 Racrete Rd	Richmond	Henrico	2323WMCHNC468RA
300	Titan Virginia Ready-Mix LLC-Oceana Plant	0	160 Oceana Blvd.	Virginia Beach	Virginia Beach (City)	2345WTTNVR16CEA

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
301	Oldcastle APG Mid-Atlantic Milford, Va	0	16326 Ind Us Trial Dr	Milford	Caroline	22514MRCNS16326
302	Chemetrics By Aquaphoenix Scientific	0	4295 Catlett Rd	Midland	Fauquier	20138CHMTR4295C
303	Dowty, A Ge Aerospace Company	0	114 Powers Ct	Sterling	Loudoun	20166SMTHS114PW
304	US DOD, Warrenton Training Center Station B Range	0	7471 Bear Wallow Road	Warrenton	Fauquier	2018WSDDSR7471B
305	US Army Garrison Fort Belvoir	0	9430 Jackson Loop	Fort Belvoir	Fairfax	2206WSRMYF943JA
306	George Bush Center For Intelligence (CIA)	0	1000 Colonial Farm Rd	Mc Lean	Fairfax	2210WCHDQRRUTES
307	US Army Joint Base Myer-Henderson Hall Garrison Ops (Part)	0	204 Lee Ave	Fort Myer	Arlington	2221WSRMYJ24LEE
308	Bren Mar	0	6315 Bren Mar Dr	Alexandria	Fairfax	2231WBRNMR6315B
309	FTG Corp.	0	1026 Warrenton Rd	Fredericksburg	Stafford	22405CLNLC1026W
310	Mapei Corp	0	300 Nelms Cir	Fredericksburg	Stafford	22406MPCRP3NELM
311	CMC Rebar	0	9434 Crossroads Pkwy	Fredericksburg	Spotsylvania	22408SMRBR9434C
312	Carry-On Trailer Corp	0	617 Harry Hogan Rd	Callao	Northumberland	22435CRRYN617HA
313	CMC Rebar Va King George	0	10924 Dennis W Kerns Pkwy	King George	King George	2248WCMCRB1924D
314	JCI Jones Chemicals Inc.	0	16248 Industrial Dr	Milford	Caroline	22514JNSCHRT640

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
315	Dominion - Northern Neck Combustion Turbine Station	0	819 Indianfield Rd	Warsaw	Richmond	2257WDMNNN819IN
316	Ladysmith Combustion Turbine Station	0	8063 Cedon Rd	Woodford	Caroline	22580LDYSM863CE
317	Griffith Energy Services Inc-Berryville	0	618 E Main St	Berryville	Clarke	22611CLRKC618EM
318	Toray Plastics (America) Inc	0	500 Toray Dr	Front Royal	Warren	22630TRYPL500TO
319	Culpeper Wood Preservers	0	15487 Braggs Corner Rd	Culpeper	Culpeper	22701CLPPRROUTE
320	Ardent Mills, LLC	0	1900 Industry Dr	Culpeper	Culpeper	2270WRDNTM19IND
321	Madison Wood Preservers Inc.	0	216 Oak Park Rd	Madison	Madison	22727MDSNWSTARR
322	Remington Power Station	0	12025 Lucky Hill Road	Remington	Fauquier	2273WDMNNR1225L
323	US DOD, Warrenton Training Center Station C Range	0	7248 Sumerduck Rd	Remington	Fauquier	2273WSDDSR7248S
324	George's Foods LLC Feed Mill	0	61 Kratzer Rd	Harrisonburg	Harrisonburg (City)	22801RCCFDPOBOX
325	Pilgrim’s Pride Corp Harrisonburg Feedmill	0	590 Mt Clinton Pike	Harrisonburg	Harrisonburg (City)	22801WMPLR590MT
326	Cargill Turkey Production LLC	0	1 Kratzer Ave	Harrisonburg	Harrisonburg (City)	22802RCCFR1KRAT
327	VPGC LLC Broadway Feedmill	0	410 S Main St	Broadway	Rockingham	22815WMPLRRTE42

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
328	Cargill Meat Solutions Inc	0	135 Huffman Dr	Dayton	Rockingham	22821RCCTRROUTE
329	Georges Family Farms, LLC Mt Jackson Feed Mill	0	560 Caverns Rd	Mount Jackson	Shenandoah	22844HLLYFSTATE
330	Howell Metal Co	0	574 Depot Rd	New Market	Shenandoah	22844HWLLM574DE
331	Masonite Corp	0	280 Donovan Dr	Stanley	Page	2285WMSNTC28DNV
332	International Cold Storage	0	5678 Heards Mountain Rd	Covesville	Albemarle	22931NTRNTROUTE
333	Gordonsville Power Station	0	819 Hill Rd	Gordonsville	Louisa	22942GRDNS115RE
334	Cascades Bear Island Mill	0	10026 Old Ridge Rd	Ashland	Hanover	23005BRSLNPOBOX
335	Chemtreat Inc	0	10040 Lickinghole Rd	Ashland	Hanover	23005CHMTR500LI
336	Eaton Corporation - Williamsburg Manufacturing	0	149 Warwick Court	Williamsburg	York	2318WTNCRP149WA
337	Johns Manville Corp Hamilton Plant	0	7400 Ranco Rd	Richmond	Henrico	23228MNVLL7400R
338	Super Radiator Coils	0	451 Southlake Blvd	Richmond	Chesterfield	23236SPRRD451SO
339	Hill Phoenix, Inc.	0	1301 Battery Brooke Pkwy	Richmond	Chesterfield	23237RHRGN1301B
340	Darbytown Power Station	0	6001 Fergus Blvd	Henrico	Henrico	2323WDRBYT61FER
341	Power Distribution Inc.	0	5250 Klockner Dr	Henrico	Henrico	2323WPWRDS525KL
342	Mitsubishi Chemical America Alpolic Division	0	401 Volvo Pkwy	Chesapeake	Chesapeake (City)	23320MTSBS401VA
343	Safety-Kleen Systems Chesapeake (CPK)	0	4545 Bainbridge Blvd	Chesapeake	Chesapeake (City)	23320SFTYK4545B

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
344	Elizabeth River Combustion Turbine Station	0	2837 S Military Hwy	Chesapeake	Chesapeake (City)	23323CMMNW2837S
345	Flowserve US Inc	0	3900 Cook Blvd	Chesapeake	Chesapeake (City)	23323NGRSL3900C
346	US Navy Joint Expeditionary Little Creek Range	0	2600 Tarawa Ct Suite 100	Virginia Beach	Virginia Beach (City)	2345WSNVYJ3GUAD
347	PAPCO Inc	0	4920 Southern Blvd	Virginia Beach	Virginia Beach (City)	2346WPPCNC492SU
348	Marva Maid Dairy	0	5500 Chestnut Ave	Newport News	Newport News (City)	23605MRVMD5500C
349	Ergon Asphalt Partners, LP. - Newport News Va	0	801 Terminal Ave	Newport News	Newport News (City)	23607KCHPT801TE
350	PAPCO Oil Company	0	407 Jefferson Avenue	Newport News	Newport News (City)	2360WPPCLC47JEF
351	Prowood, LLC Hampton	0	5604 City Line Rd	Hampton	Hampton (City)	23661CMMNW5604C
352	Catalina Cylinders Inc	0	2400 Aluminum Ave	Hampton	Hampton (City)	23666CTLNC2400A
353	Boar’s Head Provisions Co., Inc.	0	1950 Industry Place	Petersburg	Petersburg (City)	23805BRSHD195IN
354	Hill Phoenix, Inc.	0	1925 Ruffin Mill Rd	Colonial Heights	Chesterfield	23834HLLPH1925R
355	Trident Americas	0	833 Liberty Way	Chester	Chesterfield	23836KTNGR833LI
356	Creative Playthings Ltd.	0	859 Industrial Dr	Emporia	Greensville	23847CRTVP859IN
357	Federal Correctional Complex Petersburg	0	1060 River Rd	Hopewell	Prince George	23860BRFPR16RIV
358	Boar's Head Provisions Co Inc. - Jarratt	0	2230 Wyatts Mill Rd	Jarratt	Greensville	23867BRSHD2230W

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
359	Noble Oil Services, Inc.	0	229 Hummel Ross Road	Hopewell	Prince George	2386WNBLLS229HU
360	Associated Asphalt Hopewell LLC	0	410 Water St	Hopewell	Hopewell (City)	2386WSSCTD41WAT
361	Gemini-Farmville	0	102 Hauschild Dr	Farmville	Cumberland	23901GMNFR12HAU
362	Associated Asphalt Roanoke, LLC	0	2677 Roanoke Ave Sw	Roanoke	Roanoke (City)	24015SSCTD2677R
363	Mennel Milling Co Of Virginia	0	5185 Benois Rd	Roanoke	Roanoke	24018MNNLM5185B
364	Elbit Systems Of America - Night Vision LLC	0	7635 Plantation Rd	Roanoke	Roanoke	24019TTLCT7635P
365	Tread Corp	0	176 Eastpark Dr	Roanoke	Botetourt	24019VFPNC4520E
366	Moog Inc.	0	1213 N Main St	Blacksburg	Montgomery	24060LTTNP1213N
367	Prochem, Inc	0	5100 Enterprise Dr	Elliston	Montgomery	24087PRCHM51ENT
368	Imperial Group Manufacturing Inc	0	4969 Stepp Place	Dublin	Pulaski	2408WMPRLG4969S
369	Nationwide Homes Inc.	0	1100 Rives Rd	Martinsville	Henry	24112NTNWD100RI
370	Micrometrics System	0	225 Jeb Stuart Hwy	Meadows Of Dan	Patrick	24120MCRMT2900W
371	Great Southern Wood - Va, Inc.	0	1050 N Main St	Rocky Mount	Franklin	24151RCKYTNORTH
372	Novozymes	0	420 Kesler Mill Rd	Salem	Roanoke	24153NVZYM42KES
373	Novozymes Biologicals Inc	0	528 Chapman St	Salem	Salem (City)	24153NVZYM528CH
374	Lineal Technologies Inc	0	350 State St	Rocky Mount	Franklin	2415WLNLTC35STA
375	Lake Region Medical, Inc	0	235 S Yorkshire St	Salem	Salem (City)	2415WNBLMT235SY

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Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
376	Qualichem, Inc Plant 1	0	2003 Salem Industrial Dr	Salem	Salem (City)	2415WQLCHM23SAL
377	Qualichem, Inc. Plant 2	0	510 Branch Dr	Salem	Salem (City)	2415WQLCHM51BRA
378	Cargill Feed & Nutrition Roanoke	0	1003 Walnut Ave	Vinton	Roanoke	24179STHRN1003W
379	Cardinal Glass	0	2132 Cardinal Park Dr	Vinton	Roanoke	2417WCRDNL2132C
380	Zenith Fuel Systems LLC	0	14570 Industrial Park Rd	Bristol	Washington	24201FCTFL1048I
381	Associated Asphalt Bristol, LLC	0	140 Spurgeon Ln	Bristol	Bristol (City)	2420WSSCTD1SPUR
382	Cardinal Cg Abingdon	0	18370 Oak Park Dr	Abingdon	Washington	24210FGCTN1837A
383	MXI Environmental Services, LLC	0	26319 Old Trail Rd (St Rte 679)	Abingdon	Washington	2421WMXNVR26319
384	James Hardie Building Products Pulaski	0	1000 James Hardie Way	Pulaski	Pulaski	24301JHBPP1JAME
385	Heytex-USA	0	509 Burgis Ave	Pulaski	Pulaski	24301WSTPNBURGI
386	Hitachi Energy USA Inc.	0	171 Industry Drive	Bland	Bland	24315BBPWRSTRTE
387	Pascor Atlantic Corp	0	254 Industry Dr	Bland	Bland	24315PSCSTRTE1B
388	Webb Enterprises LLC American Mirror	0	602 E Stuart Dr	Galax	Galax (City)	24333MRCNMPOBOX
389	Grottoes Plastics Plant	0	149 Grand Caverns Dr	Grottoes	Augusta	24441RYNLDCAVER
390	Mastic Home Exteriors	0	185 Johnson Dr	Stuarts Draft	Augusta	24477LCBLDRTE90
391	Cerro Fabricated Products LLC	0	300 Triangle Dr	Weyers Cave	Augusta	24486CRRMT300TR
392	Sunlite Plastics Inc.	0	846 Keezletown Rd	Weyers Cave	Augusta	24486SNLGHROUTE
393	Westover Dairy	0	2801 Fort Ave	Lynchburg	Lynchburg (City)	24501WSTVR2801F

Rank	Facility Name	Total On-Site Releases (lbs.)	Physical Street Address	Post Office City	Actual Physical County or Independent City	Facility ID
394	Parker Hannifin Integrated Seals Div	0	3700 Mayflower Dr	Lynchburg	Lynchburg (City)	24501WYNNS3700M
395	Flowserve Corp Lynchburg Va	0	5114 Woodall Rd	Lynchburg	Lynchburg (City)	24502LMTRQ5114W
396	Belvac Production Machinery	0	237 Graves Mill Rd	Lynchburg	Lynchburg (City)	2450WBLVCP237GR
397	Slocum Adhesives Corp.	0	2500 Carroll Ave	Lynchburg	Lynchburg (City)	2450WSLCMD25CAR
398	Virginia Metal Treating, Inc.	0	111 Lynchpin Ln	Lynchburg	Lynchburg (City)	2450WVRGNM111LY
399	Schrader-Bridgeport International	0	205 Frazier Rd	Altavista	Campbell	24517PDMNT205FR
400	Prowood, LLC Moneta	0	1220 Hendricks Store Rd	Moneta	Bedford	24523SMTHMPOBOX
401	Tyson Farms, Inc	0	1725 Cane Creek Pkwy	Ringgold	Pittsylvania	2458WTYSNF1725C

Appendix I-2 - 2023 VA TRI Facility Ranking by On-Site Management

APPENDIX I-2 - 2023 VA TRI FACILITY RANKING BY ON-SITE MANAGEMENT

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
1	Perdue Agribusiness LLC - Chesapeake Va	559,259,075	501A Barnes Rd	Chesapeake	Chesapeake (City)	23324CRGLL501BA
2	Honeywell International Colonial Heights Plant	278,014,200	15801 Woods Edge Rd	Colonial Heights	Chesterfield	23832LLDSGEXIT5
3	BAE Systems Ordnance Systems Inc	50,278,546	Radford Army Ammunition Plant 4050 Peppers Ferry R	Radford	Montgomery	24141RDFRDPOBOX
4	Westrock Virginia Corporation (Entire)	16,784,692	104 E. Riverside Street	Covington	Covington (City)	24426WSTVCRIVER
5	International Paper Franklin Mill	12,696,359	34040 Union Camp Dr	Franklin	Isle Of Wight	23851NNCMPHIGHW
6	Axalta Coating Systems USA LLC-Front Royal Plant	6,905,853	7961 Winchester Rd	Front Royal	Warren	22630DPNTFPOBOX
7	Westrock Cp, LLC	5,237,171	1901 Main St	West Point	King William	23181CHSPK19THM
8	Solenis LLC	3,792,353	2301 Wilroy Rd	Suffolk	Suffolk (City)	23434LLDCL2301W

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
9	Perdue Foods LLC - Accomack Processing Plant	3,401,813	22520 Lankford Hwy	Accomack	Accomack	23301PRDNCROUTE
10	Advansix Inc Hopewell Plant	3,144,907	905 E Randolph Rd	Hopewell	Hopewell (City)	23860LLDSGPOBOX
11	Tyson Farms Inc-Temperanceville	3,073,513	11224 Lankford Hwy	Temperanceville	Accomack	23442HLLYFUSHIG
12	Ingevity Virginia Corporation	2,964,311	958 E Riverside St	Covington	Covington (City)	2442WNGVTY958ER
13	George's Chicken LLC	2,835,111	19992 Senedo Rd	Edinburg	Shenandoah	22824RCCFRRTE42
14	Eastman Performance Films, LLC - Plant II	2,389,846	4129 The Great Rd	Fieldale	Henry	24089MRTNPRTE68
15	Wolverine Advanced Materials	2,071,790	3175 State St	Blacksburg	Montgomery	24060WLVRN3175S
16	BWXT Nuclear Operations Group, Inc.	1,974,221	1570 Mount Athos Rd	Lynchburg	Campbell	24504BBCCKMTATH
17	Fujifilm Wako Chemicals USA Corporation	1,929,713	1600 Bellwood Rd	Richmond	Chesterfield	23237WKCHM1600B
18	Intertape Polymer Corp	1,763,096	1101 Eagle Springs Rd	Danville	Pittsylvania	24540NTRTPSTATE

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
19	Micron Technology Inc.	1,602,700	9600 Godwin Dr	Manassas	Prince William	20110DMNNS9600G
20	Trivium Packaging USA, Inc	1,085,632	5022 Hollins Rd	Roanoke	Roanoke (City)	2401WRDGHM522HL
21	Celanese Acetate LLC - Celco Plant	1,042,265	3520 Virginia Ave	Narrows	Giles	24124HCHSTRT460
22	WWF Operating Co	1,015,635	6364 S Valley Pike	Mount Crawford	Rockingham	22841SHNND6364S
23	Arkema Inc	973,070	601 Tightsqueeze Ind Us Trial Rd	Chatham	Pittsylvania	24531SRTMR601TI
24	Dynax America Corp	945,393	568 E Park Dr	Roanoke	Botetourt	24019DYNXM568EP
25	Wolverine Advanced Materials	888,837	201 Industrial Park Rd	Blacksburg	Montgomery	24060WLVRN201IN
26	GP Big Island, LLC	880,800	9909 Lee Jackson Hwy	Big Island	Bedford	24526NKSPCHIGHW
27	Ascent Chemicals - Danville	854,485	1975 Old Richmond Rd	Danville	Pittsylvania	24540DNRVRSTATE
28	Virginia City Hybrid Energy Center	850,400	3425 Russell Creek Rd	Saint Paul	Wise	2428WVRGNC3425R
29	CPFilms, Inc.	824,607	345 Beaver Creek Dr	Martinsville	Henry	24112CMMNW345BE
30	VPGC LLC Hinton Facility	524,795	6349 Rawley Pike Hwy 33 We	Hinton	Rockingham	22831WMPLRUSRT3

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
31	Sterilization Services Of Virginia	516,514	5674 Eastport Blvd	Henrico	Henrico	23231STRLZ5674E
32	Mehler Engineered Products	513,655	175 Mehler Ln	Martinsville	Henry	24112MHLRN175ME
33	Huber Engineered Woods LLC	475,151	1000 Chaney Ln	Crystal Hill	Halifax	24539JMHBRRT3HW
34	Koppers Inc (Roanoke)	417,708	4020 Koppers Rd	Salem	Roanoke	24153KPPRSRT460
35	Toray Plastics (America) Inc	382,364	500 Toray Dr	Front Royal	Warren	22630TRYPL500TO
36	Greif Packaging LLC	368,893	861 Fibre Plant Rd	Amherst	Amherst	24521VRGNFROUTE
37	Crown Beverage Packaging	331,833	202 Sutainable Way	Ridgeway	Henry	2414WCRWNB22SUT
38	Volvo Group North America, LLC	306,977	4881 Cougar Trail Road	Dublin	Pulaski	24084VLVGMROUTE
39	Blue Ridge Solvents & Coatings	303,874	3800 Original Henry Rd	Henry	Franklin	24102BLRDGSTATE
40	Westrock CP LLC	298,059	910 Industrial St	Hopewell	Hopewell (City)	23860STNHP910IN
41	Georgia-Pacific Wood Products LLC - Brookneal OSB	291,000	11795 Brookneal Highway	Gladys	Campbell	24554GRGPCHIGHW
42	Philip Morris USA Park 500 Site	241,443	4100 Bermuda Hundred Rd	Chester	Chesterfield	23831PHLLP4100B

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
43	George's Foods, LLC. Processing Plant	241,318	501 N Liberty St	Harrisonburg	Rockingham	22801HLLYF501NO
44	Clover Power Station	177,000	4091 Clover Rd	Clover	Halifax	24534CLVRPRTE92
45	Dupont Specialty Products USA, LLC - Spruance Plant	169,706	5401 Route 1	North Chesterfield	Chesterfield	23234DPNTSUSHIG
46	O'Sullivan Films Inc	168,592	1944 Valley Ave	Winchester	Winchester (City)	22601SLLVN1944V
47	Pilgrim's Pride Corp Broadway Facility	155,788	330 Co-Op Dr	Timberville	Rockingham	22853RCKNGCOOPD
48	General Shale Brick Inc Plant 35 & 36	128,723	2353 Webster Rd	Roanoke	Botetourt	24064GNRLS770WE
49	Eastman Performance Films, LLC-Plant 1	128,319	4210 The Great Rd	Fieldale	Henry	24089MRTNPROUTE
50	US Navy Defense Fuel Support Point Craney Island	128,296	4501 Cedar Ln Bldg 288	Portsmouth	Portsmouth (City)	23703CRNYS4501C
51	HP Hood LLC	127,059	160 Hood Way	Winchester	Frederick	22602HPHDX160HO
52	Merck Sharp & Dohme LLC	93,696	2778 Se Side Hwy	Elkton	Rockingham	22827MRCKCHIGHW
53	New Market Poultry LLC	91,100	145 Old East Cross Road	New Market	Shenandoah	2284WNWMRK145LD

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
54	Northrop Grumman Systems Corporation (New River Energetics)	74,237	Rt 114 Radford Army Ammunition Plant	Radford	Montgomery	24141NWRVRRTE11
55	Philip Morris USA Commerce Road Site	72,966	3601 Commerce Rd	Richmond	Richmond (City)	23234PHLLP3601C
56	Glen-Gery Corporation - Lawrenceville Plant	64,200	16024 Governor Harrison Pkwy	Lawrenceville	Brunswick	23868BRCKTHWY58
57	Cabinetworks Group - Mount Jackson Plant	56,403	1325 Industrial Park Rd	Mount Jackson	Shenandoah	22842MRLLTSTATE
58	U.S. Amines (Portsmouth) LLC	54,027	3230 W Norfolk Rd	Portsmouth	Portsmouth (City)	23703CLNSC3230E
59	Marvin Composites	52,899	5415 Corporate Cir	Salem	Roanoke	24153TCTNP5415C
60	Evonik Industries	33,954	914 E Randolph Rd	Hopewell	Hopewell (City)	23860GLDSC914ER
61	TTM Technologies N.A. LLC.	32,731	1200 Severn Way	Dulles	Loudoun	22170TMTNC1200S
62	Cargill Meat Solutions Inc	29,118	135 Huffman Dr	Dayton	Rockingham	22821RCCTRROUTE
63	Marva Maid Dairy	29,082	5500 Chestnut Ave	Newport News	Newport News (City)	23605MRVMD5500C
64	Cerro Fabricated Products LLC	28,908	300 Triangle Dr	Weyers Cave	Augusta	24486CRRMT300TR

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
65	Shearers Food LLC	25,180	1445 Pittstown Road	Bristol	Washington	2420WSHRRS1445P
66	Darling Ingredients Inc-Winchester Facility	25,156	1635 Indian Hollow Rd	Winchester	Frederick	22603VLLYP1444I
67	Lake Region Medical, Inc	23,367	200 S Yorkshire St	Salem	Salem (City)	24153NBLMT200SY
68	Tyson Farms Inc. - Processing Facility	20,340	13264 Mountain Rd	Glen Allen	Hanover	20360HLLYF3301U
69	Canon Virginia Inc	19,908	12000 Canon Blvd	Newport News	Newport News (City)	23606CNNVR12000
70	Catalina Cylinders Inc	19,409	2400 Aluminum Ave	Hampton	Hampton (City)	23666CTLNC2400A
71	The Lycra Company LLC	19,000	400 Du Pont Blvd	Waynesboro	Augusta	22980DPNTWDUPON
72	Westover Dairy	12,904	2801 Fort Ave	Lynchburg	Lynchburg (City)	24501WSTVR2801F
73	Howmet Castings & Services Inc	12,617	One Howmet Dr	Hampton	Hampton (City)	23661HWMTCONEHO
74	Lake Region Medical, Inc	12,544	235 S Yorkshire St	Salem	Salem (City)	2415WNBLMT235SY
75	Aquatic Co	8,730	1100 Industrial Park Rd Halifax Industrial Park	South Boston	Halifax	24592PHLPSPOBOX

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
76	Georgia Pacific Wood Products LLC Emporia Plywood	8,300	634 Davis St	Emporia	Greensville	23847GRGPCDAVIS
77	Molson Coors Shenandoah Brewery	7,997	5135 S Eastside Hwy	Elkton	Rockingham	22827DLPHCROUTE
78	Menzies Aviation Fueling Operations Wash Dulles Internationa	7,725	Tank Farm Rd Building 2	Sterling	Loudoun	20166RBPXXBUILD
79	Pre Con Inc	6,708	220 S Perry St	Petersburg	Petersburg (City)	23803PRCNN220SP
80	Roslyn Converters Inc	1,027	1106 W Roslyn Rd	Colonial Heights	Colonial Heights (City)	23834CLNLH1106W
81	Kensing LLC	425	914 E Randolph Rd	Hopewell	Hopewell (City)	2386WKNSNG914ER
82	Kinder Morgan Transmix Company, LLC	214	3302 Deepwater Terminal Rd	Richmond	Richmond (City)	23234PRMRY3302D
83	Ashland Specialty Ingredients GP	153	1111 Hercules Rd	Hopewell	Hopewell (City)	23860QLNCM1111H
84	Strongwell Corp Bristol	120	400 Commonwealth Ave	Bristol	Bristol (City)	24203MRRSN400CO
85	TCS Materials Newport News	79	700 Shields Rd	Newport News	Newport News (City)	2318WTCSMT7SHIE

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
86	Virginia Concrete Woodbridge Plant	54	936 Annapolis Way	Woodbridge	Prince William	2219WVRGNC936AN
87	TCS Materials Hampton 58Th St. Ready-Mix	45	2510 58Th St	Hampton	Hampton (City)	2366WTCSMT25158
88	Dupont Teijin Films Spruance	40	5401A Route 1	Richmond	Chesterfield	2323WDPNTT541AR
89	Virginia Concrete - Stephens City	39	339 Estep Road	Stephens City	Frederick	2265WSTPHN339ES
90	Strongwell Corp Highlands Div	26	26770 Newbanks Rd	Abingdon	Washington	24210STRNG26770
91	BAE Systems Information & Electronic Systems Integration I	0	9300 Wellington Rd	Manassas	Prince William	20110BSYSN9300W
92	US DHS Mt Weather EOC	0	19844 Blue Ridge Mountain Rd	Bluemont	Loudoun	20135SDHSM19844
93	Chemetrics By Aquaphoenix Scientific	0	4295 Catlett Rd	Midland	Fauquier	20138CHMTR4295C
94	Chantilly Ready Mix Concrete	0	25232 Willard Road	Chantilly	Loudoun	2015WCHNTL25232
95	Superior Concrete Materials Inc. - Dulles	0	44146 Wade Dr	Chantilly	Loudoun	2015WSPRRC44146

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
96	Virginia Concrete Co Inc-Chantilly	0	25086 Tanner Ln	Chantilly	Loudoun	2015WVRGNC2586T
97	Virginia Concrete Gainesville Plant	0	7300 Rail Line Ct	Gainesville	Prince William	2015WVRGNC73RAI
98	Dowty, A Ge Aerospace Company	0	114 Powers Ct	Sterling	Loudoun	20166SMTHS114PW
99	Titan Virginia Ready-Mix LLC-Sterling Plant	0	22963 Concrete Plaza	Sterling	Loudoun	2016WTTNVR22963
100	Titan Virginia Ready-Mix LLC-Leesburg Plant	0	42105 Cochran Mill Rd	Leesburg	Loudoun	2017WTTNVR4215C
101	Virginia Concrete Cochran Mill	0	42574 Cochran Mill Rd	Leesburg	Loudoun	2017WVRGNC42574
102	US DOD, Warrenton Training Center Station B Range	0	7471 Bear Wallow Road	Warrenton	Fauquier	2018WSDDSR7471B
103	Possum Point Power Station	0	19000 Possum Point Rd	Dumfries	Prince William	22026PSSMP19000
104	Titan Virginia Ready-Mix LLC-Centreville Plant	0	15718 Lee Highway	Centreville	Fairfax	2202WTTNVR15718
105	Titan Virginia Ready-Mix LLC-Dumfries Plant	0	3454 Canal Rd	Dumfries	Prince William	2202WTTNVR3454C

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
106	Virginia Concrete Dumfries Plant	0	217 Canal Rd	Dumfries	Prince William	2202WVRGNC217CA
107	Global Fairfax Terminal	0	3800 Pickett Rd	Fairfax	Fairfax (City)	22031FRFXT3800P
108	Virginia Concrete Falls Church Plant	0	7103 Gordon Rd	Falls Church	Falls Church (City)	22043VRGNC7103G
109	US Army Garrison Fort Belvoir	0	9430 Jackson Loop	Fort Belvoir	Fairfax	2206WSRMYF943JA
110	George Bush Center For Intelligence (CIA)	0	1000 Colonial Farm Rd	Mc Lean	Fairfax	2210WCHDQRRUTES
111	Manassas Ready Mix Concrete	0	7310 Old Compton Rd	Manassas	Prince William	22110MNSSS731LD
112	Safety-Kleen Systems Manassas (Man)	0	11520 Balls Ford Rd	Manassas	Prince William	22110SFTYK11520
113	US Marine Corps Base Quantico	0	3250 Catlin Ave	Quantico	Prince William	22134SDDSM3040M
114	U.S. DOJ FBI Training Academy	0	Mcb-4 Building 15-Fmu	Quantico	Stafford	22135SDJFBMCB4B
115	Titan Virginia Ready-Mix LLC-Springfield Plant	0	6600 Electronic Dr	Springfield	Fairfax	22151STHRN6600E
116	Virginia Concrete Edsall Road Plant	0	5412 Industrial Dr	Springfield	Fairfax	22151VRGNC6995E

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
117	SICPA Securink Corp	0	8000 Research Way	Springfield	Fairfax	22153SCPVR8000R
118	Virginia Concrete Dulles Plant	0	44866 Old Ox Rd	Sterling	Loudoun	22170VRGNC44866
119	Allied Aviation Fueling Co Inc	0	Ronald Reagan National Airport	Arlington	Arlington	22202GDNVTRONAL
120	Virginia Concrete Shirlington Plant	0	2651 Shirlington Rd	Arlington	Arlington	22206VRGNC2651S
121	Pentagon Reservation	0	2 N Rotary Rd	Arlington	Arlington	2220WPNTRSNRTAR
122	US Army Joint Base Myer-Henderson Hall Garrison Ops (Part)	0	204 Lee Ave	Fort Myer	Arlington	2221WSRMYJ24LEE
123	Virginia Paving Alexandria Plant	0	5601 Courtney Avenue	Alexandria	Alexandria (City)	2230WTHLNC561CU
124	Bren Mar	0	6315 Bren Mar Dr	Alexandria	Fairfax	2231WBRNMR6315B
125	FTG Corp.	0	1026 Warrenton Rd	Fredericksburg	Stafford	22405CLNLC1026W
126	Mapei Corp	0	300 Nelms Cir	Fredericksburg	Stafford	22406MPCRP3NELM
127	Oldcastle Precast Inc	0	5115 Massaponax Church Rd	Fredericksburg	Spotsylvania	22407RTNDP5115M
128	Ruffin Creek Properties LLC	0	10229 Tidewater Trail	Fredericksburg	Spotsylvania	22408RFFNC10229
129	CMC Rebar	0	9434 Crossroads Pkwy	Fredericksburg	Spotsylvania	22408SMRBR9434C

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
130	Titan Virginia Ready-Mix LLC-Stafford Plant	0	48 Powell Ln	Falmouth	Stafford	2240WTTNVR48PWE
131	Virginia Concrete Spotsylvania Plant	0	6110 Smith Station Road	Fredericksburg	Spotsylvania	2240WVRGNC611SM
132	US Army Fort Walker Ranges (Part)	0	19952 North Range Rd	Bowling Green	Caroline	22427SRMYF18902
133	Carry-On Trailer Corp	0	617 Harry Hogan Rd	Callao	Northumberland	22435CRRYN617HA
134	CMC Rebar Va King George	0	10924 Dennis W Kerns Pkwy	King George	King George	2248WCMCRB1924D
135	Hoover Treated Wood Products, Inc	0	18315 House Dr	Milford	Caroline	22514HVRTRCAROL
136	JCI Jones Chemicals Inc.	0	16248 Industrial Dr	Milford	Caroline	22514JNSCHRT640
137	Oldcastle APG Mid-Atlantic Milford, Va	0	16326 Ind Us Trial Dr	Milford	Caroline	22514MRCNS16326
138	Carry-On Trailer Corp	0	159 Industrial Park Rd	Montross	Westmoreland	22520CRRYN159IN
139	Omega Protein Corporation	0	610 Menhaden Rd	Reedville	Northumberland	22530ZPTHYPOBOX
140	Virginia Concrete-Stafford Plant	0	32 Wyche Rd	Stafford	Stafford	2255WVRGNC32WYC

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
141	Stella-Jones Corp	0	15939 History Land Hwy	Warsaw	Richmond	22572WDPRSROUTE
142	Dominion - Northern Neck Combustion Turbine Station	0	819 Indianfield Rd	Warsaw	Richmond	2257WDMNNN819IN
143	Ladysmith Combustion Turbine Station	0	8063 Cedon Rd	Woodford	Caroline	22580LDYSM863CE
144	Kingspan Insulation LLC	0	200 Kingspan Way	Winchester	Frederick	22601MCFMPROUTE
145	APG Mid-Atlantic - Winchester	0	396 Tyson Drive	Winchester	Frederick	2260WPGMDT396TY
146	Trex - Virginia Manufacturing Operations	0	3229 Shawnee Drive	Winchester	Frederick	2260WTRXWN3229S
147	Evolve Stone LLC	0	200 Lenoir Drive	Winchester	Frederick	2260WVLVST2LENI
148	Griffith Energy Services Inc-Berryville	0	618 E Main St	Berryville	Clarke	22611CLRKC618EM
149	Trelleborg Marine Systems North America Inc.	0	532 Jack Enders Blvd	Berryville	Clarke	2261WTRLLB532JA

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
150	O-N Minerals (Chemstone) Winchester Lime Plant	0	508 Quarry Ln	Clear Brook	Frederick	22624GLBLSONEQU
151	Titan Virginia Ready-Mix LLC-Clear Brook Plant	0	1383 Brucetown Rd	Clear Brook	Frederick	2262WTTNVR1383B
152	US CBP Canine Training Facility Firing Range #Va0040	0	828 Harmony Hollow Rd	Front Royal	Warren	22630SCSTM828HA
153	RPS Composites Virginia, Inc.	0	211 E 4Th St	Front Royal	Warren	22630SHNND210E4
154	Titan Virginia Ready-Mix LLC-Front Royal Ready-Mix Concrete	0	399 Kelley Dr	Front Royal	Warren	2263WTTNVR399KE
155	Fisher Diagnostics, A Division of Fisher Scientific Company	0	8365 Valley Pike	Middletown	Frederick	22645FSHRD8365V
156	Culpeper Wood Preservers	0	15487 Braggs Corner Rd	Culpeper	Culpeper	22701CLPPRROUTE
157	Hexatronic Rochester Cable Inc.	0	751 Old Brandy Rd	Culpeper	Culpeper	22701THRCH751OL

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
158	Cabinetworks Group - Culpeper Plant	0	641 Maddox Dr	Culpeper	Culpeper	22701WDCBN641MA
159	Bingham & Taylor	0	601 Nalle Pl	Culpeper	Culpeper	2270WBNGHM61NAL
160	Ardent Mills, LLC	0	1900 Industry Dr	Culpeper	Culpeper	2270WRDNTM19IND
161	Madison Wood Preservers Inc.	0	216 Oak Park Rd	Madison	Madison	22727MDSNWSTARR
162	Remington Power Station	0	12025 Lucky Hill Road	Remington	Fauquier	2273WDMNNR1225L
163	US DOD, Warrenton Training Center Station C Range	0	7248 Sumerduck Rd	Remington	Fauquier	2273WSDDSR7248S
164	George's Foods LLC Feed Mill	0	61 Kratzer Rd	Harrisonburg	Harrisonburg (City)	22801RCCFDPOBOX
165	Pilgrim's Pride Corp Harrisonburg Feedmill	0	590 Mt Clinton Pike	Harrisonburg	Harrisonburg (City)	22801WMPLR590MT
166	Cargill Turkey Production LLC	0	1 Kratzer Ave	Harrisonburg	Harrisonburg (City)	22802RCCFR1KRAT
167	Concrete Pipe & Precast LLC-Harrisonburg Precast Plant	0	210 Stone Spring Rd	Harrisonburg	Rockbridge	2280WVLLYB21STN
168	VPGC LLC Broadway Feedmill	0	410 S Main St	Broadway	Rockingham	22815WMPLRRTE42

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
169	Darling Ingredients Inc Linville Facility	0	6230 Kratzer Rd	Linville	Rockingham	22834VLLYP623KR
170	Georges Family Farms, LLC Mt Jackson Feed Mill	0	560 Caverns Rd	Mount Jackson	Shenandoah	22844HLLYFSTATE
171	Howell Metal Co	0	574 Depot Rd	New Market	Shenandoah	22844HWLLM574DE
172	Masonite Corp	0	280 Donovan Dr	Stanley	Page	2285WMSNTC28DNV
173	Northrop Grumman Systems Corporation	0	1070 Seminole Trail	Charlottesville	Albemarle	22906SPRRY1070S
174	International Cold Storage	0	5678 Heards Mountain Rd	Covesville	Albemarle	22931NTRNTROUTE
175	Gordonsville Power Station	0	819 Hill Rd	Gordonsville	Louisa	22942GRDNS115RE
176	Cascades Bear Island Mill	0	10026 Old Ridge Rd	Ashland	Hanover	23005BRSLNPOBOX
177	Chemtreat Inc	0	10040 Lickinghole Rd	Ashland	Hanover	23005CHMTR500LI
178	Doswell LP	0	10098 Old Ridge Rd	Ashland	Hanover	23005DSWLL10098
179	South Atlantic Galvanizing LLC	0	11022 Lewistown Rd	Ashland	Hanover	23005VRGNGSTATE
180	Commonwealth Galvanizing	0	10988 Leadbetter Rd	Ashland	Hanover	2300WCMMNW1988L
181	Concrete Pipe & Precast LLC-Hanover Pipe Plant	0	10364 Design Rd	Ashland	Hanover	2300WMRCST135DE

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
182	Concrete Pipe & Precast LLC-Ashland Precast Plant	0	11352 Virginia Precast Rd	Ashland	Hanover	2300WSSRCM312MI
183	Oldcastle Lawn & Garden	0	17554 Washington Hwy	Doswell	Hanover	23047GRDNP17554
184	TCS Materials Gloucester Ready-Mix	0	5248 George Washington Memorial Hwy	Gloucester	Gloucester	2306WTCSMT5248G
185	Mechanicsville Concrete LLC-Chesterfield Plant	0	3501 Warbro Rd	Midlothian	Chesterfield	2311WMCHNC351WA
186	Bear Garden Generating Station	0	2608 C.G. Woodson Road	New Canton	Buckingham	2312WBRGRD268CG
187	IR Engraving LLC	0	5901 Lewis Rd	Sandston	Henrico	23150RNTRN5901L
188	Southern Graphic Systems LLC	0	5301 Lewis Rd	Sandston	Henrico	23150STHRN531LE
189	Greystone Of Virginia Inc	0	7992 Richmond Rd	Toano	James City	23168GRYST7992R
190	Owens-Brockway Glass Container Inc Plant 26	0	150 Industrial Blvd	Toano	James City	23168WNSLL150IN
191	Ball Metal Beverage Container Corp	0	8935 Pocahontas Trail James River Commerce Center	Williamsburg	James City	23185BLLPC8935P

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192	Branscome-Lee Hall	0	9393 Merrimac Trail	Williamsburg	James City	23185BRNSC9393M
193	Anheuser-Busch LLC	0	7801 Pocahontas Trail	Williamsburg	James City	23185NHSRB7801P
194	U.S Navy Cheatham Annex Base	0	108 Sanda Ave Bldg 270	Williamsburg	York	23185SNVYC18SAN
195	AFETA Camp Peary	0	1100 Executive Drive	Williamsburg	York	2318WFTCMP11EXE
196	Eaton Corporation - Williamsburg Manufacturing	0	149 Warwick Court	Williamsburg	York	2318WTNCRP149WA
197	Reco Biodiesel, LLC	0	710 Hospital St	Richmond	Richmond (City)	2321WRCBDS71HSP
198	Ennis-Flint Richmond	0	4400 Vawter Ave	Richmond	Henrico	23222DGLSC4400V
199	Sonoco Richmond	0	1850 Commerce Rd	Richmond	Richmond	23224SNCPR1850C
200	Johns Manville Corp Hamilton Plant	0	7400 Ranco Rd	Richmond	Henrico	23228MNVLL7400R
201	Brenntag Mid-South, Inc.	0	738 Goodes St	Richmond	Richmond (City)	2322WBRNNT738GD
202	Mechanicsville Concrete LLC-Airport Plant (Oakleys Lane)	0	4481 Oakleys Ln	Henrico	Henrico	2322WMCHNC4481A

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203	Smyrna Ready Mix Concrete Plant 780 Richmond	0	4607 Racrete Rd	Richmond	Henrico	23230RDYMX457RA
204	Mondelez Global LLC	0	6002 S Laburnum Ave	Richmond	Richmond	23231NBSCB6002S
205	UPACO Adhesives Inc	0	4105 Castlewood Rd	Richmond	Richmond (City)	23234PCDHS4105C
206	Carpenter Co Richmond Plant	0	2400 Richmond Hwy	Richmond	Richmond (City)	23234RCRPN2400J
207	Super Radiator Coils	0	451 Southlake Blvd	Richmond	Chesterfield	23236SPRRD451SO
208	Bellwood Printing Plant	0	2001 Reymet Rd	Richmond	Chesterfield	23237BLLWD2001R
209	Veolia James River Plant	0	1201 Bellwood Rd	Richmond	Chesterfield	23237DPNTJ1201B
210	Colonial Chemical Solutions Inc.	0	2540 Bellwood Rd	Richmond	Chesterfield	23237NDLCH2540B
211	Hill Phoenix, Inc.	0	1301 Battery Brooke Pkwy	Richmond	Chesterfield	23237RHRGN1301B
212	Kaiser Aluminum Fabricated Products LLC	0	1901 Reymet Rd	Richmond	Chesterfield	23237RYNLD1901R
213	Novelis ALR Rolled Products Inc	0	1701 Reymet Rd	Richmond	Chesterfield	23237TRNST1801R
214	Darbytown Power Station	0	6001 Fergus Blvd	Henrico	Henrico	2323WDRBYT61FER

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215	Oldcastle APG Mid-Atlantic Richmond, Va	0	1231 Willis Rd	Richmond	Chesterfield	2323WLDCST1231W
216	Mechanicsville Concrete LLC	0	4608 Racrete Rd	Richmond	Henrico	2323WMCHNC468RA
217	Power Distribution Inc.	0	5250 Klockner Dr	Henrico	Henrico	2323WPWRDS525KL
218	US Defense Logistics Agency Defense Supply Center Richmond	0	6090 Strathmore Rd	Richmond	Chesterfield	23297DFNSG8000J
219	Mitsubishi Chemical America Alpolic Division	0	401 Volvo Pkwy	Chesapeake	Chesapeake (City)	23320MTSBS401VA
220	Safety-Kleen Systems Chesapeake (CPK)	0	4545 Bainbridge Blvd	Chesapeake	Chesapeake (City)	23320SFTYK4545B
221	US/Navy Naval Support Activity Northwest Annex Range	0	1320 Nw Blvd Suite 100	Chesapeake	Chesapeake (City)	23322SNVYN132NW
222	Elizabeth River Combustion Turbine Station	0	2837 S Military Hwy	Chesapeake	Chesapeake (City)	23323CMMNW2837S

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223	Concrete Pipe & Precast LLC Chesapeake Plant	0	3801 Cook Blvd	Chesapeake	Chesapeake (City)	23323HNSNP381CK
224	American GFM Corp	0	1200 Cavalier Blvd	Chesapeake	Chesapeake (City)	23323MRCNG1200C
225	Flowserve US Inc	0	3900 Cook Blvd	Chesapeake	Chesapeake (City)	23323NGRSL3900C
226	Oldcastle APG Mid-Atlantic	0	3900 Shannon St	Chesapeake	Chesapeake (City)	2332WLDCST39SHB
227	Quikrete - Chesapeake, Va Plant	0	3712 Cook Blvd	Chesapeake	Chesapeake (City)	2332WQKRTC3712C
228	U.S. NASA GSFC Wallops Flight Facility	0	34200 Fulton Street	Wallops Island	Accomack	23337SNSGDWALLO
229	Commonwealth Chesapeake Company, LLC	0	3415 White Oak Way	New Church	Accomack	23415CMMNW3415W
230	Smithfield Fresh Meats Corp Smithfield, Va Facility	0	601 N Church St	Smithfield	Isle Of Wight	23430GWLTNHIGHW
231	Cameron Chemical Inc.	0	830 Old Dill Rd.	Suffolk	Suffolk (City)	2343WCMRNC83LDD

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232	Oldcastle Lawn And Garden Inc.	0	310 Kenyon Rd	Suffolk	Suffolk (City)	2343WLDCST31KEN
233	Airgas Specialty Products Inc., Suffolk, Va	0	105 Dill Rd	Suffolk	Suffolk (City)	2343WRGSSP15DIL
234	Stihl Inc	0	536 Viking Dr	Virginia Beach	Virginia Beach (City)	23450STHLN536VI
235	US Navy Joint Expeditionary Little Creek Range	0	2600 Tarawa Ct Suite 100	Virginia Beach	Virginia Beach (City)	2345WSNVYJ3GUAD
236	Titan Virginia Ready-Mix LLC-Oceana Plant	0	160 Oceana Blvd.	Virginia Beach	Virginia Beach (City)	2345WTTNVR16CEA
237	US Navy Naval Air Station Oceana Base	0	1750 Tomcat Blvd	Virginia Beach	Virginia Beach (City)	23460SNVLROCEAN
238	U.S. Navy Fleet Combat Training Center ATL Dam Neck Base	0	1912 Regulus Ave	Virginia Beach	Virginia Beach (City)	23461SNVYF1912R
239	PAPCO Inc	0	4920 Southern Blvd	Virginia Beach	Virginia Beach (City)	2346WPPCNC492SU
240	BAE Systems Norfolk Ship Repair	0	750 W Berkley Ave	Norfolk	Norfolk (City)	23501NRFLKFOOTO
241	Capital Concrete Inc.	0	400 Stapleton St	Norfolk	Norfolk (City)	2350WCPTLC4STAP

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242	Titan Virginia Ready-Mix LLC-Campostella Plant	0	2125 Kimball Terrace	Norfolk	Norfolk (City)	2350WTTNVR2125K
243	US Navy Naval Station Norfolk	0	1530 Gilbert Street Suite 2000	Norfolk	Norfolk (City)	23511NVLBS1530G
244	US Navy Joint Expeditionary Little Creek Range	0	2600 Tarawa Ct Suite 100	Virginia Beach	Virginia Beach (City)	23521SDDSN2600T
245	Colonna's Shipyard Inc	0	400 E Indian River Rd	Norfolk	Norfolk (City)	23523CLNNS400EI
246	Joint Base Langley Eustis-Eustis (JBLE-Eustis) Ranges	0	705 Washington Blvd	Fort Eustis	Newport News (City)	23604SDDSRFORTE
247	Ergon Asphalt Partners, LP. - Newport News Va	0	801 Terminal Ave	Newport News	Newport News (City)	23607KCHPT801TE
248	Mica Co Of Canada Inc	0	900 Jefferson Ave	Newport News	Newport News (City)	23607MCCMP900JE
249	Huntington Ingalls Incorporated	0	4101 Washington Ave	Newport News	Newport News (City)	23607NWPRT4101W
250	PAPCO Oil Company	0	407 Jefferson Avenue	Newport News	Newport News (City)	2360WPPCLC47JEF
251	Branscome-Hampton	0	1922 W Pembroke Ave	Hampton	Hampton (City)	23661BRNSC1922W

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252	Prowood, LLC Hampton	0	5604 City Line Rd	Hampton	Hampton (City)	23661CMMNW5604C
253	U.S. DOD, USAF, Joint Base Langley Eustis - Langley AFB	0	633 Ces/Ceie 37 Sweeney Blvd	Langley Afb	Hampton (City)	23665SRFRC1CESC
254	Titan Virginia Ready-Mix LLC-Rip Rap Road Plant	0	319 Rip Rap Rd	Hampton	Hampton (City)	2366WTTNVR319RI
255	US Navy Yorktown Naval Weapons Station Base Range	0	160 Main Rd	Yorktown	York	2369WSNVYYRUTE2
256	US Coast Guard Base Portsmouth	0	4000 Coast Guard Blvd	Portsmouth	Portsmouth (City)	23701SDTSC4000C
257	U.S. Navy Norfolk Naval Shipyard	0	Intersection Of Effingham St & George Washington H	Portsmouth	Portsmouth (City)	23709SDDSNINTER
258	Titan Virginia Ready-Mix LLC-Port Norfolk Plant	0	101 Chautauqua Ave	Portsmouth	Portsmouth (City)	2370WTTNVR11CHA
259	U.S. Army Garrison Fort Gregg-Adams Va - Ranges	0	825 19Th St	Fort Lee	Prince George	23801SRMYC3901A

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260	Chaparral (Va) Inc	0	25801 Hofheimer Way	Petersburg	Dinwiddie	23803CHPRR25801
261	Dominion Chemical Co Inc	0	2050 Puddledock Rd	Petersburg	Petersburg (City)	23803DMNNC2050P
262	Amsted Rail Co Inc	0	2580 Frontage Rd	Petersburg	Petersburg (City)	23804BRNCNPETER
263	Bleachtech LLC	0	2020 Bessemer Rd	Petersburg	Petersburg (City)	23805BLCHT22BES
264	Boar's Head Provisions Co., Inc.	0	1950 Industry Place	Petersburg	Petersburg (City)	23805BRSHD195IN
265	AMPAC Fine Chemicals Virginia, LLC	0	2820 N Normandy Drive	Petersburg	Petersburg (City)	23805LLBRT2999F
266	Valmont-Virginia Galvanizing Inc	0	3535 Halifax Rd	Petersburg	Petersburg (City)	23805NDSTR3535H
267	Pre Con, Inc.	0	321 Brown St	Petersburg	Petersburg (City)	2380WPRCNN321BR
268	US Army National Guard Fort Barfoot (Ranges)	0	US Pfo Building 561 Fort Barfoot	Blackstone	Nottoway	23824SRMYM316RI
269	Arbortech Forest Products, Inc.	0	500 Dearing Avenue	Blackstone	Nottoway	2382WRBRTC5DEAR
270	Safety-Kleen Systems Chester (CVA)	0	1200 W 100 Rd	Chester	Chesterfield	23831SFTYK1200W

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271	Hill Phoenix, Inc.	0	1925 Ruffin Mill Rd	Colonial Heights	Chesterfield	23834HLLPH1925R
272	Church & Dwight Co Inc	0	1851 Touchstone Rd	Colonial Heights	Chesterfield	23834LDNCR16101
273	Sun Chemical Corp	0	16000 Continental Blvd	Colonial Heights	Colonial Heights (City)	23834SNCHM16000
274	Chesterfield Power Station	0	500 Coxendale Rd	Chester	Chesterfield	23836CHSTR500CO
275	Trident Americas	0	833 Liberty Way	Chester	Chesterfield	23836KTNGR833LI
276	Arkema Inc Franklin Plant	0	27047 Shady Brook Trail	Courtland	Southampton	2383WRKMNC2747S
277	Creative Playthings Ltd.	0	859 Industrial Dr	Emporia	Greensville	23847CRTVP859IN
278	Steelfab Inc, Of Virginia	0	1510 Reese St	Emporia	Greensville	23847STFBF1510R
279	Solenis LLC	0	27123 Shady Brook Trail	Courtland	Southampton	23851HRCLSROUTE
280	St Tissue LLC	0	34050 Union Camp Dr	Franklin	Isle Of Wight	2385WSTTSS345UN
281	Federal Correctional Complex Petersburg	0	1060 River Rd	Hopewell	Prince George	23860BRFPR16RIV
282	Boar's Head Provisions Co Inc. - Jarratt	0	2230 Wyatts Mill Rd	Jarratt	Greensville	23867BRSHD2230W

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283	Noble Oil Services, Inc.	0	229 Hummel Ross Road	Hopewell	Prince George	2386WNBLLS229HU
284	Associated Asphalt Hopewell LLC	0	410 Water St	Hopewell	Hopewell (City)	2386WSSCTD41WAT
285	Atlantic Pole & Piling - Newsoms	0	21366 General Thomas Hwy	Newsoms	Southampton	23874TLNTCRTE67
286	Nucor Insulated Panel Group	0	6001 Quality Way	Prince George	Prince George	23875MTLSP6001Q
287	Murphy-Brown LLC Waverly Feed Mill	0	27404 Cabin Point Rd	Waverly	Sussex	23890MRPHY27404
288	Gemini-Farmville	0	102 Hauschild Dr	Farmville	Cumberland	23901GMNFR12HAU
289	Pallet One Of Virginia	0	820 Boyd St	Chase City	Mecklenburg	2392WPLLTN82BYD
290	Kyanite Mining Corp Mullite Plant	0	5836 Buffalo Road	Dillwyn	Buckingham	23936KYNTMRTE15
291	Virginia Marble Manufacturers Inc	0	Corner Of Brunswick & Oak St	Kenbridge	Lunenburg	23944VRGNMCORNE
292	Virginia Marble Manufacturers Inc	0	1201 5Th Ave	Kenbridge	Lunenburg	23944VRGNMPOBOX
293	American Buildings Company-La Crosse	0	501 Golden Eagle Dr	La Crosse	Mecklenburg	23950MRCNB51GLD
294	Morgan Lumber Company, Inc.	0	628 Jeb Stuart Highway	Red Oak	Charlotte	2396WMRGNL628JE

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295	Chemsolv Inc	0	1140 Industry Ave Se	Roanoke	Roanoke (City)	24013CHMSL1140I
296	Frank Chervan Incorporated	0	2005 Greenbrier Ave Se	Roanoke	Roanoke (City)	24013HKRFR2005G
297	Akzo Nobel Coatings Inc	0	2837 Roanoke Ave Sw	Roanoke	Roanoke (City)	24015RLNCN2837R
298	Associated Asphalt Roanoke, LLC	0	2677 Roanoke Ave Sw	Roanoke	Roanoke (City)	24015SSCTD2677R
299	Steel Dynamics Inc Roanoke Bar Div	0	102 Westside Blvd	Roanoke	Roanoke (City)	24017RNKLC102WE
300	Mennel Milling Co of Virginia	0	5185 Benois Rd	Roanoke	Roanoke	24018MNNLM5185B
301	Canatal Steel USA	0	459 Industrial Dr	Roanoke	Botetourt	24019NLSTL459IN
302	Elbit Systems of America - Night Vision LLC	0	7635 Plantation Rd	Roanoke	Roanoke	24019TTLCT7635P
303	Metalsa Roanoke Inc.	0	184 Vista Dr	Roanoke	Botetourt	24019TWRTM184VI
304	Tread Corp	0	176 Eastpark Dr	Roanoke	Botetourt	24019VFPNC4520E
305	Eastman Performance Films, LLC-Axton Facility	0	47 Brenda Dr	Axton	Henry	24054CMMNWRT58S
306	Federal Mogul Powertrain LLC.	0	300 Industrial Park Rd Se	Blacksburg	Montgomery	24060FDRLMRT460
307	Moog Inc.	0	1213 N Main St	Blacksburg	Montgomery	24060LTTNP1213N

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308	Mar-Bal, Inc.	0	5400 Reserve Way	Dublin	Pulaski	24084MRBLN5400R
309	Maag Gala, Inc.	0	181 Pauley St	Eagle Rock	Botetourt	24085GLNDSRFD2B
310	Prochem, Inc	0	5100 Enterprise Dr	Elliston	Montgomery	24087PRCHM51ENT
311	Altec Industries, Inc.	0	325 South Center Drive	Daleville	Botetourt	2408WLTCND325SU
312	Munters Corp - Daleville	0	158 Shooting Star Way	Daleville	Botetourt	2408WMNTRS158SH
313	Imperial Group Manufacturing Inc	0	4969 Stepp Place	Dublin	Pulaski	2408WMPRLG4969S
314	Nationwide Homes Inc.	0	1100 Rives Rd	Martinsville	Henry	24112NTNWD100RI
315	Pine Products Inc	0	315 Carver Rd	Martinsville	Henry	24112PNPRD315CA
316	Virginia Mirror LLC	0	300 S Moss St	Martinsville	Henry	24112VRGNM300MO
317	Quikrete - Martinsville, Va Plant	0	930 Meadowood Trl	Martinsville	Henry	2411WQKRTM93MEA
318	RTI Martinsville Inc	0	101 Rti Way	Martinsville	Henry	2411WRTMRT11RTI
319	Micrometrics System	0	225 Jeb Stuart Hwy	Meadows Of Dan	Patrick	24120MCRMT2900W
320	Lhoist Na Of Virginia Inc Kimballton Area 1	0	2093 Big Stony Creek Rd	Ripplemead	Giles	24150CHMCL2093B
321	Great Southern Wood - Va, Inc.	0	1050 N Main St	Rocky Mount	Franklin	24151RCKYTNORTH

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322	Graham-White Manufacturing Co.	0	1242 Colorado St	Salem	Roanoke	24153GRHMW1242C
323	Concrete Pipe & Precast LLC-Salem #1 Plant	0	2000 Salem Industrial Dr	Salem	Salem (City)	24153HNSNP2SALE
324	New Millennium Building Systems	0	100 Diuguids Lane	Salem	Roanoke	24153JHNWH2535D
325	Medeco Security Locks Inc.	0	3625 Allegheny Dr	Salem	Roanoke	24153MDCSCUS11A
326	Yokohama Tire Manufacturing Virginia LLC	0	1500 Indiana St	Salem	Roanoke	24153MHWKR1500I
327	Novozymes	0	420 Kesler Mill Rd	Salem	Roanoke	24153NVZYM42KES
328	Novozymes Biologicals Inc	0	528 Chapman St	Salem	Salem (City)	24153NVZYM528CH
329	Kik (Virginia) LLC	0	27 Mill Ln	Salem	Roanoke	24153THDLC27MIL
330	Lineal Technologies Inc	0	350 State St	Rocky Mount	Franklin	2415WLNLTC35STA
331	Qualichem, Inc Plant 1	0	2003 Salem Industrial Dr	Salem	Salem (City)	2415WQLCHM23SAL
332	Qualichem, Inc. Plant 2	0	510 Branch Dr	Salem	Salem (City)	2415WQLCHM51BRA
333	Roanoke Cement Co LLC	0	6071 Catawba Rd	Troutville	Botetourt	24175RNKCM5555C

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334	Safety-Kleen Systems Vinton (Roa)	0	16090 Stewartsville Rd	Vinton	Roanoke	24179SFTYKRTE24
335	Cargill Feed & Nutrition Roanoke	0	1003 Walnut Ave	Vinton	Roanoke	24179STHRN1003W
336	Cardinal Glass	0	2132 Cardinal Park Dr	Vinton	Roanoke	2417WCRDNL2132C
337	Zenith Fuel Systems LLC	0	14570 Industrial Park Rd	Bristol	Washington	24201FCTFL1048I
338	AZZ Galvanizing-Bristol	0	14781 Industrial Park Rd	Bristol	Washington	24201VSBRS795IN
339	W&W-AFCO Steel LLC	0	15083 Industrial Park Rd	Bristol	Washington	24202CRLNS1583I
340	Metal Casting Co	0	15331 Industrial Park Road	Bristol	Washington	2420WMTLCS15331
341	Associated Asphalt Bristol, LLC	0	140 Spurgeon Ln	Bristol	Bristol (City)	2420WSSCTD1SPUR
342	Cardinal Cg Abingdon	0	18370 Oak Park Dr	Abingdon	Washington	24210FGCTN1837A
343	HAPCO	0	26252 Hillman Highway	Abingdon	Washington	2421WHPCXX26252
344	MXI Environmental Services, LLC	0	26319 Old Trail Rd (St Rte 679)	Abingdon	Washington	2421WMXNVR26319
345	Tempur Production USA Inc	0	203 Tempurpedic Dr	Duffield	Scott	24244TMPRP4700B

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346	Joy Global Underground Mining, LLC	0	811 Boone Trail Rd	Duffield	Scott	2424WJYGLB811BN
347	Samuel Son & Company (USA) Inc.	0	58 Samuel Way	Lebanon	Russell	2426WSTLFB58SAM
348	US Penitentiary Lee	0	Lee County Industrial Park Hickory Flats Rd	Pennington Gap	Lee	24277SPNTNLEECI
349	James Hardie Building Products Pulaski	0	1000 James Hardie Way	Pulaski	Pulaski	24301JHBPP1JAME
350	Heytex-USA	0	509 Burgis Ave	Pulaski	Pulaski	24301WSTPNBURGI
351	Utility Trailer Manufacturing	0	124 Mountain Empire Rd	Atkins	Smyth	24311TLTYTSTATE
352	Hitachi Energy USA Inc.	0	171 Industry Drive	Bland	Bland	24315BBPWRSTRTE
353	Pascor Atlantic Corp	0	254 Industry Dr	Bland	Bland	24315PSCSTRTE1B
354	Guardian Fabrication, LLC - Plant 2	0	110 Jack Guynn Dr	Galax	Galax (City)	24333CNSLD110JA
355	Webb Enterprises LLC American Mirror	0	602 E Stuart Dr	Galax	Galax (City)	24333MRCNMPOBOX

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356	Vaughan-Bassett Furniture Co. Galax	0	300 E Grayson St	Galax	Carroll	24333VGHNBOLDTO
357	Appalachian Plastics Inc.	0	34001 Glove Dr	Glade Spring	Washington	24340PPLCHPOBOX
358	Utility Trailer Manufacturing	0	13160 Monroe Rd	Glade Spring	Washington	2434WTLTYT1316M
359	Hutchinson Sealing Systems Inc	0	1150 S Third St	Wytheville	Wythe	24382KNGST1150S
360	Wabtec Components	0	655 Fairview Rd	Wytheville	Wythe	24382RQPCR655FA
361	Taylor & Boody Inc.	0	8 Hewitt Rd	Staunton	Augusta	24401TYLRB8HEWE
362	Modine Manufacturing Co	0	1221 Magnolia Ave	Buena Vista	Rockbridge	24416MDNMN1221M
363	Everbrite LLC	0	627 E 30Th St	Buena Vista	Buena Vista (City)	24416VRBRT627EA
364	Stella Jones Corp-Goshen Facility	0	9223 Maury River Rd	Goshen	Rockbridge	24439THBRKSTATE
365	Grottoes Plastics Plant	0	149 Grand Caverns Dr	Grottoes	Augusta	24441RYNLDCAVER
366	Mastic Home Exteriors	0	185 Johnson Dr	Stuarts Draft	Augusta	24477LCBLDRTE90
367	NIBCO Of Virginia Inc.	0	131 Johnson Drive	Stuarts Draft	Augusta	24477NBCNCROUTE
368	Rexnord Industries LLC	0	150 Johnson Dr	Stuarts Draft	Augusta	24477PTCMPRTS34
369	Accutec Blades, Inc.	0	57 Razor Blade Ln	Verona	Augusta	24482MRCNSRAZOR

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370	Ball Advanced Aluminum Technologies Corp	0	56 Dunsmore Rd	Verona	Augusta	24482NMNSLLAURE
371	Degesch America Inc	0	153 Triangle Dr	Weyers Cave	Augusta	24486DGSCH275TR
372	Sunlite Plastics Inc.	0	846 Keezletown Rd	Weyers Cave	Augusta	24486SNLGHROUTE
373	Shamrock Foods Dairy Div	0	318 Mill Pl Pkwy	Verona	Augusta	2448WSHMRC318MI
374	Slocum Adhesives Corporation	0	1409 Buchanan St	Lynchburg	Lynchburg (City)	24501SLCMC1409B
375	Parker Hannifin Integrated Seals Div	0	3700 Mayflower Dr	Lynchburg	Lynchburg (City)	24501WYNNS3700M
376	Flowserve Corp Lynchburg Va	0	5114 Woodall Rd	Lynchburg	Lynchburg (City)	24502LMTRQ5114W
377	Banker Steel Company, LLC	0	1619 Wythe Rd	Lynchburg	Lynchburg (City)	24502MNTGB1619W
378	Griffin Pipe Products Co	0	10 Adams St	Lynchburg	Lynchburg (City)	24505GRFFNADAMS
379	Certainteed / Seven Hills Paperboard, LLC	0	1801 Concord Turnpike	Lynchburg	Lynchburg (City)	24505MDPPR1801C
380	Davis-Frost Inc	0	3416 Candlers Mountain Rd	Lynchburg	Lynchburg (City)	24506DVSPN3420C
381	Belvac Production Machinery	0	237 Graves Mill Rd	Lynchburg	Lynchburg (City)	2450WBLVCP237GR

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382	Banker Steel Company, LLC	0	351 Rangoon Road	Lynchburg	Campbell	2450WBNKRS351RA
383	Slocum Adhesives Corp.	0	2500 Carroll Ave	Lynchburg	Lynchburg (City)	2450WSLCMD25CAR
384	Virginia Metal Treating, Inc.	0	111 Lynchpin Ln	Lynchburg	Lynchburg (City)	2450WVRGNM111LY
385	Schrader-Bridgeport International	0	205 Frazier Rd	Altavista	Campbell	24517PDMNT205FR
386	Prowood, LLC Moneta	0	1220 Hendricks Store Rd	Moneta	Bedford	24523SMTHMPOBOX
387	Columbia Forest Products	0	100 Paul Rd Sw	Chatham	Pittsylvania	24531CLMBF1PAUL
388	Polynt Composites USA Inc.	0	920 Tightsqueeze Ind Us Trial Rd	Chatham	Pittsylvania	24531FRMNRPITTS
389	The Goodyear Tire & Rubber Co.	0	1901 Goodyear Blvd	Danville	Danville (City)	24541THGDY1435G
390	Blue Ridge Fiberboard	0	250 Celotex Dr	Danville	Pittsylvania	24543WDFBRMASON
391	JTI Leaf Services (US) LLC	0	202 Stinson Drive	Danville	Pittsylvania	2454WJTLFS22STI
392	American Phoenix Inc	0	121 Martha St	Danville	Danville (City)	2454WMRCNP121MA
393	Custom Truck One Source	0	12660 E Lynchburg Salem Tpke	Forest	Bedford	2455WCSTMT1266E

Rank	Facility Name	Total On-Site Management (lbs.)	Physical Street	Post Office City	Actual Physical County or Independent City	Facility ID
394	Cooper Steel of Virginia	0	275 Francis Ave	Monroe	Amherst	24574LYNCHRT29N
395	Owens-Brockway Glass Container Inc Plant 29	0	29 Glassblower Ln	Ringgold	Pittsylvania	24586WNSBRSTATE
396	Tyson Farms, Inc	0	1725 Cane Creek Pkwy	Ringgold	Pittsylvania	2458WTYSNF1725C
397	Voestalpine High Performance Metals - South Boston Plant	0	2306 Eastover Dr	South Boston	Halifax	24592CKCMPSTATE
398	Hitachi Energy USA Inc.	0	2135 Philpott Rd	South Boston	Halifax	24592WSTNGHIGHW
399	Tenaska Virginia Partners LP	0	2300 Branch Road	Scottsville	Fluvanna	2459WTNSKV23BRA
400	Quikrete - Pounding Mill, Va Plant	0	288 Quarry Rd	Pounding Mill	Tazewell	2463WQKRTP288QU
401	Jewell Coke Co LP	0	1034 Dismal River Rd	Oakwood	Buchanan	24656JWLLCHWY46

APPENDIX J-1 - 2023 VA TRI Jurisdiction Ranking by On-Site Releases

APPENDIX J-1 - 2023 VA TRI JURISDICTION RANKING BY ON-SITE RELEASES

Rank	County or City	Total On-Site Release (Pounds)	Total Air Release (Pounds)	Total Land (Pounds)	Total Water Release (Pounds)
1	Montgomery	12,046,441	126,066	3,376	11,916,999
2	Covington (city)	2,115,941	1,763,843	295,696	56,403
3	HOPEWELL (CITY)	1,416,551	1,267,951	0	148,600
4	Buchanan	1,322,710	1,322,710	0	0
5	Isle of Wight	905,303	877,478	0	27,826
6	Chesterfield	900,602	784,181	28,959	87,462
7	King William	842,009	782,520	0	59,489
8	JAMES CITY	571,181	571,181	0	0
9	Accomack	547,175	50,895	0	496,281
10	Campbell	532,229	52,127	2,336	477,767
11	Bedford	509,042	362,075	59,564	87,404
12	Chesapeake (city)	421,191	404,593	16,598	0
13	Hanover	363,642	363,466	0	176
14	Amherst	341,658	339,304	0	2,353
15	Shenandoah	341,265	97,115	0	244,150
16	Henry	303,559	303,541	18	0
17	Giles	257,359	183,149	13,194	61,016
18	HALIFAX	226,147	224,373	1,763	10
19	Prince William	212,064	47,136	136,906	28,022
20	Wise	202,168	73,066	129,041	61
21	Rockingham	170,621	37,254	37,942	95,425
22	LYNCHBURG (CITY)	137,061	136,892	0	169
23	NEWPORT NEWS (CITY)	133,170	119,771	9,626	3,773
24	PITTSYLVANIA	130,679	130,679	0	0
25	Richmond	109,377	109,312	0	65
26	Nottoway	106,778	94	106,685	0

Rank	County or City	Total On-Site Release (Pounds)	Total Air Release (Pounds)	Total Land (Pounds)	Total Water Release (Pounds)
27	BOTETOURT	93,367	91,764	1,578	25
28	Frederick	93,178	77,477	15,701	0
29	Washington	74,282	74,195	0	87
30	AUGUSTA	59,677	25,676	0	34,000
31	LUNENBURG	55,636	55,636	0	0
32	Culpeper	51,616	51,616	0	0
33	Caroline	51,564	127	48,686	2,751
34	Northumberland	49,956	49,863	0	93
35	Pulaski	48,053	48,053	0	0
36	Roanoke	46,980	46,978	0	2
37	Carroll	45,445	45,445	0	0
38	Roanoke (city)	44,555	43,979	0	576
39	Norfolk (city)	39,631	36,490	0	3,141
40	Warren	39,559	39,559	0	0
41	Greensville	25,968	25,968	0	0
42	Bristol (city)	22,683	22,683	0	0
43	Virginia Beach (city)	22,595	8,220	14,339	36
44	Richmond (city)	21,139	21,136	0	3
45	Henrico	14,187	14,187	0	0
46	Southampton	13,043	12,888	5	150
47	Suffolk (city)	12,236	12,221	0	15
48	Fluvanna	11,420	11,420	0	0
49	Wythe	10,542	10,542	0	0
50	Prince George	7,561	6,007	1,554	0
51	York	7,216	50	7,167	0
52	Buckingham	6,578	6,578	0	0
53	Rockbridge	6,379	6,365	0	14
54	Galax (city)	5,977	5,977	0	0
55	Petersburg (city)	5,560	2,181	0	3,379

Rank	County or City	Total On-Site Release (Pounds)	Total Air Release (Pounds)	Total Land (Pounds)	Total Water Release (Pounds)
56	DINWIDDIE	3,919	2,141	0	1,778
57	WINCHESTER (CITY)	3,619	3,619	0	0
58	Portsmouth (city)	3,085	3,042	0	44
59	Salem (city)	2,904	2,904	0	0
60	Loudoun	2,826	2,005	0	821
61	Hampton (city)	1,876	1,875	0	0
62	Lee	1,866	0	1,866	0
63	Arlington	1,500	1,173	0	327
64	Fairfax (city)	1,374	1,374	0	0
65	Brunswick	556	556	0	0
66	Fairfax	545	250	0	295
67	Scott	515	515	0	0
68	DANVILLE (CITY)	387	271	0	116
69	Franklin	298	298	0	0
70	Falls Church (city)	260	0	0	260
71	Clarke	250	250	0	0
72	Spotsylvania	223	2	146	74
73	Stafford	119	89	0	30
74	Russell	88	70	0	18
75	COLONIAL HEIGHTS (CITY)	88	88	0	0
76	Charlotte	23	23	0	0
77	Westmoreland	23	23	0	0
78	Smyth	15	15	0	0
79	Sussex	8	8	0	0
80	Mecklenburg	7	7	0	0
81	Alexandria (city)	1	1	0	0
82	Buena Vista (city)	0	0	0	0

Rank	County or City	Total On-Site Release (Pounds)	Total Air Release (Pounds)	Total Land (Pounds)	Total Water Release (Pounds)
83	Tazewell	0	0	0	0
84	Albemarle	0	0	0	0
85	Gloucester	0	0	0	0
86	Cumberland	0	0	0	0
87	Madison	0	0	0	0
88	PAGE	0	0	0	0
89	Bland	0	0	0	0
90	Patrick	0	0	0	0
91	Louisa	0	0	0	0
92	Harrisonburg (city)	0	0	0	0
93	Fauquier	0	0	0	0
94	King George	0	0	0	0

APPENDIX J-2 - 2023 VA TRI Jurisdiction Ranking by On-Site Management

APPENDIX J-2 - 2023 VA TRI JURISDICTION RANKING BY ON-SITE MANAGEMENT

Rank	County or City	Total On-Site Management (Pounds)	Total Energy Recovery On-Site (Pounds)	Total Recycled On-Site (Pounds)	Total Treated On-Site (Pounds)
1	Chesapeake (city)	559,259,075	0	559,259,075	0
2	Chesterfield	280,355,102	0	279,768,659	586,443
3	Montgomery	53,313,410	0	38,190,215	15,123,195
4	Covington (city)	19,749,003	0	0	19,749,003
5	Isle of Wight	12,696,359	0	0	12,696,359
6	Warren	7,288,217	0	7,280,190	8,027
7	Accomack	6,475,326	0	0	6,475,326
8	King William	5,237,171	0	0	5,237,171
9	Henry	4,188,260	513,655	574,649	3,099,956
10	Suffolk (city)	3,792,353	0	3,713,780	78,573
11	PITTSYLVANIA	3,590,651	0	3,288,386	302,265
12	HOPEWELL (CITY)	3,477,498	1,112,184	1,661,762	703,552
13	Shenandoah	2,982,614	0	0	2,982,614
14	Campbell	2,265,221	0	1,243	2,263,979
15	Rockingham	2,068,347	0	0	2,068,347
16	Prince William	1,602,754	0	0	1,602,754
17	Roanoke (city)	1,085,632	0	0	1,085,632
18	BOTETOURT	1,074,116	0	0	1,074,116
19	Giles	1,042,265	781,808	0	260,457
20	Bedford	880,800	163,000	0	717,800
21	Wise	850,400	0	0	850,400
22	HALIFAX	660,881	0	0	660,881
23	Henrico	516,514	0	0	516,514
24	Roanoke	470,607	0	417,651	52,956
25	Amherst	368,893	97,083	0	271,810
26	Pulaski	306,977	0	0	306,977
27	Franklin	303,874	0	303,874	0
28	Portsmouth (city)	182,323	0	128,296	54,027
29	WINCHESTER (CITY)	168,592	0	0	168,592

Rank	County or City	Total On-Site Management (Pounds)	Total Energy Recovery On-Site (Pounds)	Total Recycled On-Site (Pounds)	Total Treated On-Site (Pounds)
30	Frederick	152,254	0	39	152,215
31	Richmond (city)	73,180	0	0	73,180
32	Brunswick	64,200	0	0	64,200
33	NEWPORT NEWS (CITY)	49,069	0	19,987	29,082
34	AUGUSTA	47,908	0	0	47,908
35	Loudoun	40,456	0	7,725	32,731
36	Salem (city)	35,911	0	0	35,911
37	Hampton (city)	32,071	0	45	32,026
38	Washington	25,206	0	0	25,206
39	Hanover	20,340	0	0	20,340
40	LYNCHBURG (CITY)	12,904	0	0	12,904
41	Greensville	8,300	0	0	8,300
42	Petersburg (city)	6,708	0	0	6,708
43	COLONIAL HEIGHTS (CITY)	1,027	0	1,027	0
44	Bristol (city)	120	0	0	120
45	Albemarle	0	0	0	0
46	Alexandria (city)	0	0	0	0
47	Arlington	0	0	0	0
48	Bland	0	0	0	0
49	Buchanan	0	0	0	0
50	Buckingham	0	0	0	0
51	Buena Vista (city)	0	0	0	0
52	Caroline	0	0	0	0
53	Carroll	0	0	0	0
54	Charlotte	0	0	0	0
55	Clarke	0	0	0	0
56	Culpeper	0	0	0	0
57	Cumberland	0	0	0	0
58	DANVILLE (CITY)	0	0	0	0

Rank	County or City	Total On-Site Management (Pounds)	Total Energy Recovery On-Site (Pounds)	Total Recycled On-Site (Pounds)	Total Treated On-Site (Pounds)
59	DINWIDDIE	0	0	0	0
60	Fairfax	0	0	0	0
61	Fairfax (city)	0	0	0	0
62	Falls Church (city)	0	0	0	0
63	Fauquier	0	0	0	0
64	Fluvanna	0	0	0	0
65	Galax (city)	0	0	0	0
66	Gloucester	0	0	0	0
67	Harrisonburg (city)	0	0	0	0
68	JAMES CITY	0	0	0	0
69	King George	0	0	0	0
70	Lee	0	0	0	0
71	Louisa	0	0	0	0
72	LUNENBURG	0	0	0	0
73	Madison	0	0	0	0
74	Mecklenburg	0	0	0	0
75	Norfolk (city)	0	0	0	0
76	Northumberland	0	0	0	0
77	Nottoway	0	0	0	0
78	PAGE	0	0	0	0
79	Patrick	0	0	0	0
80	Prince George	0	0	0	0
81	Richmond	0	0	0	0
82	Rockbridge	0	0	0	0
83	Russell	0	0	0	0
84	Scott	0	0	0	0
85	Smyth	0	0	0	0
86	Southampton	0	0	0	0
87	Spotsylvania	0	0	0	0
88	Stafford	0	0	0	0
89	Sussex	0	0	0	0
90	Tazewell	0	0	0	0

Rank	County or City	Total On-Site Management (Pounds)	Total Energy Recovery On-Site (Pounds)	Total Recycled On-Site (Pounds)	Total Treated On-Site (Pounds)
91	Virginia Beach (city)	0	0	0	0
92	Westmoreland	0	0	0	0
93	Wythe	0	0	0	0
94	York	0	0	0	0

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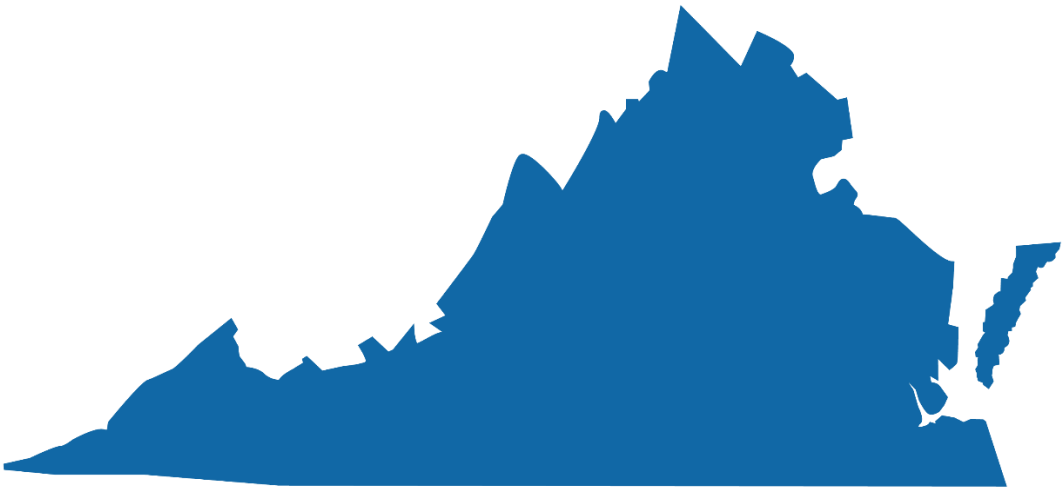
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

EASTERN VIRGINIA GROUNDWATER MANAGEMENT ADVISORY COMMITTEE 2025 ANNUAL REPORT

Commonwealth of Virginia

Department of Environmental Quality



December 2025

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EXECUTIVE SUMMARY

The Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) was originally established in 2015 and reestablished effective July 1, 2020 by the Virginia General Assembly with language stating that the committee would sunset in 2025.[1] The 2025 Virginia Acts of Assembly amended and reenacted § 62.1-256.2 of the Code of Virginia to extend the sunset date for the EVGMAC from July 1, 2025 to July 1, 2030.[2] The Director of the Department of Environmental Quality (DEQ) appoints members of the EVGMAC. DEQ convenes the EVGMAC at least four times each fiscal year, and during each meeting DEQ updates the EVGMAC on activities related to groundwater management in the Eastern Virginia Groundwater Management Area and solicits EVGMAC members to present topics and analysis at future meetings. DEQ prepares and submits this report of the EVGMAC's examinations to the Governor, the General Assembly, and the State Water Commission pursuant to § 62.1-256.2 of the Code of Virginia. Pursuant to § 10.1-1183.1 of the Code of Virginia this report is submitted as part of DEQ's Consolidated Report.

INTRODUCTION

The Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) was originally established by legislation adopted by the 2015 Virginia General Assembly. [3] Pursuant to the 2015 legislation, the first iteration of the EVGMAC completed its activities in 2017 and the committee's enabling legislation expired on January 1, 2018. The final report submitted by the first iteration of the EVGMAC is available on DEQ's Eastern Virginia Groundwater Management Advisory Committee website. The EVGMAC was reestablished effective July 1, 2020 pursuant to legislation enacted following the 2020 Virginia General Assembly session.[4] On March 18, 2025, the Governor approved Chapter 32 of the 2025 Virginia Acts of Assembly which amended and reenacted § 62.1-256.2 of the Code of Virginia, extending the Sunset Date for the EVGMAC from July 1, 2025 to July 1, 2030.

The purpose of the EVGMAC is to serve "as an advisory committee to assist the State Water Commission and the Department [of Environmental Quality (DEQ)] in the management of groundwater in the Eastern Virginia Groundwater Management Area."[5] The Eastern Virginia Groundwater Management Area includes all of the Commonwealth east of Interstate 95, except for the Eastern Shore, which is a separate groundwater management area.[6]

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[1] 2020 Va. Acts Ch. 805.
[2] 2025 Va. Acts Ch. 32.
[3] 2015 Va. Acts Chs. 262 and 613.
[4] 2020 Va. Acts Ch. 805.
[5] Va. Code Ann. § 62.1-256.2.
[6] 9VAC25-600-20 A ("The board hereby orders the declaration of the eastern part of Virginia as a groundwater management area. This area shall be known as the Eastern Virginia Groundwater Management Area. This area encompasses the counties of Charles City, Essex, Gloucester, Isle of Wight, James City, King George, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northumberland, Prince George, Richmond, Southampton, Surry, Sussex, Westmoreland, and York; the areas of Caroline, Chesterfield, Fairfax, Hanover, Henrico, Prince William, Spotsylvania, and Stafford counties east of Interstate 95; and the cities of Chesapeake,

MEMBERSHIP

Members of the Eastern Virginia Groundwater Management Advisory Committee (EVGMAC) are appointed by the Director of the Department of Environmental Quality (DEQ) pursuant to § 62.1-256.2 of the Code of Virginia. Membership of the EVGMAC is to "be composed of nonlegislative citizen members consisting of representatives of industrial and municipal water users; representatives of public and private water providers; developers and representatives from the economic development community; representatives of agricultural, conservation, and environmental organizations; state and federal agency officials; and university faculty and citizens with expertise in water resources-related issues."[7]

The membership of the EVGMAC during the July 1, 2024 through June 30, 2025 state fiscal year is included below.

Nina-Mary Butler – WestRock (Alternate: Jim Taylor)	Jason Early - Stantec
Dan Holloway – Hampton Roads Sanitation District (HRSD) (Alternate: Jenny Reitz)	Whitney Katchmark – Hampton Roads Planning District Commission (Alternate: Ivy Ozmon)
Stewart Leeth – Smithfield Foods, Inc.	Kellan Singleton – Accomack-Northampton Planning District Commission
Andrea W. Wortzel – Mission H2O (Alternate: Shannon Varner)	Mike Gerel – Chesapeake Bay Foundation (Alternate: Patrick Fanning)
Cathy Binder - King George Service Authority	Robert Pickett – VA Association of Soil & Water Conservation Districts – Northern Neck SWCD (Alternate: Kathy Clarke)
John Aulbach – Aqua Virginia (Alternate: Devon Ann Scallan)	Jake Tabor – Virginia Farm Bureau Federation (Alternate: Martha Moore)
Joey Hiner – Southeast Rural Community Assistance Project, Inc. (SERCAP) (Alternate: Hope Cupit)	Nathan Thomson – James River Association (Alternate: Tom Dunlap)
Bob Carteris - City of Norfolk (Alternate - Vicki Smith)	Dana Adkins, Environmental Director – Chickahominy Tribe
David Jurgens – City of Chesapeake Utilities (Alternate: Erin Trimyer)	Mark Bennett – USGS (Alternate: Doug Moyer)

Franklin, Hampton, Hopewell, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.").

[7] Va. Code Ann. § 62.1-256.2.

[7] *Id.*

[8] *Id.*

Paul Retel – City of Suffolk & Western Tidewater Water Authority (Alternate: Chris Pomeroy)	Jonathan Rak – Virginia Department of Environmental Quality (Alternate: Alex Samms)
John O'Dell – Virginia Well Drillers Association	Dr. Karen Shelton – Virginia Department of Health (Alternate: Anthony Creech)
Doug Powell – James City County Service Authority (Alternate: Mike Youshock)	Dr. Kevin McGuire – Virginia Water Resources Research Center (Alternate: Daniel McLaughlin)
Ethan Betterton – Virginia Chamber of Commerce (Alternate: Keith Martin)	Robert Wayland – Citizen-at-Large
Andrew Clark – Home Builders Association of Virginia (Alternate: Craig Toalson)	

MEETINGS

The Department of Environmental Quality (DEQ) is to convene meetings of the Eastern Virginia Groundwater Management Committee (EVGMAC) at least four times each fiscal year.[7] During each meeting, DEQ is required to "(i) update the [EVGMAC] on activities pertaining to groundwater management in the Eastern Virginia Groundwater Management Area and (ii) [to] solicit members to present topics and analysis for examination at future meetings.[8] The first meeting of the EVGMAC in the fiscal year covered by this report took place on September 30, 2024 with additional meetings held on December 16, 2024, March 27, 2025, and June 26, 2025.

FY25 Meeting #1:

The September 30, 2024 meeting was attended by 13 members and 7 alternates of the EVGMAC. Mr. Weedon Cloe (DEQ) moderated the meeting and provided administrative and operational updates from the agency. Ms. Jamie Heisig-Mitchell, Chief of Water Quality for the Hampton Roads Sanitation District (HRSD) delivered a presentation entitled *HRSD SWIFT: Progress Update for the Eastern Virginia Groundwater Management Advisory Committee*.

Ms. Heisig-Mitchell provided an overview and updates on the capital improvement projects being completed by HRSD. HRSD is a regional wastewater authority that maintains 14 treatment facilities in Southeast Virginia, providing service to 20 cities and counties (about 20% of the population of the Commonwealth). The Sustainable Water Initiative for Tomorrow (SWIFT) program is a management solution designed to address multiple water challenges by injecting highly treated wastewater into the Potomac Aquifer. These injections reduce wastewater discharges to the Chesapeake Bay, help to reduce land subsidence, and aid in creating a sustainable source of groundwater.

Feasibility studies for this program began in 2014 and by 2018 the SWIFT research center was completed. This is demonstration scale facility has one recharge well with a capacity of injecting 1.0 million gallons per day (mgd). Two full-scale facilities are currently under construction. The 16 mgd James River facility is at 57% completion with recharging scheduled to begin in 2026 and the newly designed Nansemond facility is targeted for completion in 2029 with a capacity of 34

mgd. Both these facilities will be co-located at new wastewater treatment plants bearing the same names. Once operational, HRSD will monitor and assess the SWIFT injections success and will add more facilities if needed. Ms. Heisig-Mitchell also briefed the committee on other major initiatives being undertaken by HRSD. These included the closure of the Boat Harbor Wastewater Treatment Plant and its subsequent conversion to a pump station. The treatment plant's current inflows will be shifted to the 47% completed Nansemond Wastewater Treatment Plant which, like the James River plant, will have Advanced Nutrient Reduction Improvements. The new Boat Harbor Pump Station achieves HRSD's goals for cost effective treatment, nutrient management, and resiliency.

Questions raised by the committee focused on the presence and potential injection of PFAS into the Potomac Aquifer. Ms. Heiseg-Mitchell responded by talking about the PFAS monitoring conducted by HRSD as part of its regulatory monitoring. She also mentioned the advanced removal of PFAS and other organics by the use of granular activated carbon. Tight control is kept over the carbon to ensure that PFOA is less than 4 nanograms per liter. PFAS is closely monitored by the Potomac Aquifer Recharge Monitoring Laboratory.

Mr. Scott Morris, Director of DEQ's Water Division, gave an update on the most recent Potomac Aquifer Recharge Oversight Committee (PAROC) meeting where groundwater monitoring wells, gaps in the system, and plans to address those gaps were discussed. He discussed ongoing planning with PAROC and the United States Geological Survey (USGS), including timing, funding, and spatial evaluation of possible existing usable wells. Mr. Morris requested that the group postpone any discussions on groundwater trading until a presentation on existing wells could be completed, as well as the completion of the SJ 25 Groundwater Study (January 2026) as these tasks will affect any modeling and funding discussions. DEQ committed to providing updates at future EVGWMAC meetings. Mr. Morris fielded questions from the committee, which focused on keeping the members informed about these issues and keeping the discussion open and on future meeting agendas.

<u>FY25 Meeting #2:</u>

The December 16, 2024, meeting was attended by 14 members and 9 alternates of the EVGMAC. Mr. Weedon Cloe (DEQ) moderated the meeting and provided administrative and operational updates from the agency. Mr. Todd Wood with Aquaveo presented an overview of the *2023-2024 – Annual Simulation of Reported Use and Total Permitted Use: Virginia Coastal Plain and Eastern Shore.*

Mr. Wood reported virtually from the Aquaveo offices in Utah and provided the committee with a status of their efforts in updating the Coastal Plain and Eastern Shore groundwater models. These two models, originally developed by the USGS, simulate groundwater levels and are updated annually. Estimated groundwater use in the Coastal Plain for 2023 was 63.80 million gallons per day, slightly less than the five-year average of 64.53 mgd. Similarly, the estimated groundwater u se on the Eastern Shore was modeled at 7.81 mgd, slightly less than both the 2021 (7.87 mgd) and 2022 (8.05 mgd) values. This equates to 66.9% of the total permitted withdrawal volumes for the Coastal Plain and 66.3% of the total permitted withdrawal volumes on the Eastern Shore. Critical cell formation and distribution were discussed in detail, as well as various withdrawal simulations for individual aquifers. Finally, the modeled effects of withdrawals on chloride concentratio ns in the Yorktown-Eastover aquifer on and around the Eastern Shore were shown and discussed.

Questions raised by the committee members focused on noticeable changes observed from the 2022 and 2023 simulations in both the Coastal Plain and Eastern Shore as well as the presence and spatial distribution of critical cells.

During the new business of the committee, a motion was made and supported by the members to extend the sunset date of the EVGMAC by five years as the advisory committee had a legislative sunset date of June 2025. As a follow up to this motion, the committee members, by general consensus, supported the inclusion of specific topics for the group to consider, including the concept of groundwater trading, data center water use, and the consideration of agricultural concerns, during future meetings.

FY25 Meeting #3:

The March 27, 2025, meeting was attended by 10 members and 8 alternates of the EVGMAC. Mr. Weedon Cloe (DEQ) moderated the meeting and provided administrative and operational updates from the agency. Mr. Matt Kearns with the United States Geological Survey (USGS) presented the results of a pending publication entitled the *Estimated Hydrogeologic, Spatial, and Temporal Distribution of Self-Supplied Domestic Groundwater Withdrawals for Aquifers of the Virginia Coastal Plain.*

Mr. Kearns began the presentation with an overview the objectives of the study, which was designed to update, describe, and quantify groundwater withdrawals from domestic self-supply (private) wells. Domestic groundwater withdrawals account for around 1/3 of the water demand across the Coastal Plain and are estimated to include 200,000 wells. Since the withdrawals are individually small, they do not require a permit, however collectively they add up to quite a large cumulative draw. Better understating of the domestic withdrawal helps to better manage the resource. Mr. Kearns provided an overview of the hydrology of the Virginia Coastal Plain, domestic well distribution within specific aquifers, and improvements in analyzing the spatial distribution of wells based on population. He also discussed changes in water use over time (monthly), demonstrating an increase in withdrawal volumes during summer months. Mr. Kearn's research estimates that 80 gallons per day are used per capita and a total of 38 million gallons per day is withdrawn from the Virginia Coastal Plain by private domestic well users.

Mr. Jason Pope of the USGS and co-author of the report joined remotely to assist in answering questions from the attendees. Questions raised by the committee resulted in robust discussions on data sources, methodology, and how the study's findings will be included in future modeling of groundwater availability. Further discussion focused on private domestic wells and their use relative to the availability of public water supply in the Hampton Roads area. The presentation was well received and DEQ made the presentation available on the department website. The meeting concluded with questions surrounding the impacts of the federal administration's cost savings initiatives on the current Climate Response Network and Chloride Monitoring well network installations. It was noted that while work on these had been temporarily suspended by these budget cuts, the program was working toward resuming operations in the late August/early September timeframe.

FY25 Meeting #4:

The June 26, 2025, meeting was attended by nine (9) members and seven (7) alternates/designees of the EVGMAC. Mr. Weedon Cloe (DEQ) moderated the meeting and provided administrative and operational updates from the agency. Mr. Brian Campbell, P.G., DEQ's Groundwater Monitoring and Characterization Program Manager, delivered a presentation entitled *Coastal Plain Groundwater Monitoring Network Assessment*.

Mr. Campbell informed the committee that the presentation was the product of four sub-committee meetings of the Potomac Aquifer Oversight Committee (PAROC), initiated by questions from that group concerning DEQ's existing well network's ability to support the future monitoring objectives of the Sustainable Water Initiative for Tomorrow (SWIFT) program, notably injections. Mr. Campbell led with an overview of Virginia's Coastal Plain Aquifer System and discussed the importance of geologic and geographical scale in the region. He discussed considerations for effective monitoring and an idealized approach to that effort. Mr. Campbell presented a historical case study to illustrate how the Potomac Aquifer may respond to SWIFT injections. The case study focused on the 2010 Franklin Mill shutdown and the immediate hydraulic effects that were observed, both within near and distant monitoring wells. Mr. Campbell shared a graph plotting time (days) when the levels began to rise in wells resulting from the shutdown versus the wells' distance (miles) from the mill. This relationship, coupled with groundwater level contour mapping demonstrated a response rate of approximately 70 miles per year. He followed this discussion with corroborating evidence from groundwater flow modeling. Mr. Campbell concluded his presentation with a summary of current and future water demands, supplemental coverage from existing USGS wells, and possible new or additional monitoring locations within the Virginia Coastal Plain. Questions raised following the presentation related largely to the case study. Among these were how major changes spur the need for recalibration of groundwater models and how SWIFT may affect them, future analysis of data gaps, well permitting, and the initial operating dates of the mill.

During the new business of the committee, Mr. Anthony Creech, Virginia Department of Health (VDH), informed the committee of two ongoing VDH projects, one related to private well applications at a naval base in Chesapeake, and one for a review of a proposed EPA Underground Injection Permit on the Eastern Shore for the disposal of poultry waste products. Additionally, several committee members brought up the topic of groundwater trading and requested its inclusion on future EVGMAC meeting agendas.

APPENDIX A - § 62.1-256.2 OF THE CODE OF VIRGINIA

§ 62.1-256.2. (Expires July 1, 2030) Eastern Virginia Groundwater Management Advisory Committee established; sunset.

A. The Department of Environmental Quality (the Department) shall establish the Eastern Virginia Groundwater Management Advisory Committee (the Committee) as an advisory committee to assist the State Water Commission and the Department in the management of groundwater in the Eastern Virginia Groundwater Management Area. Members of the Committee shall be appointed by the Director of the Department and shall be composed of nonlegislative citizen members consisting of representatives of industrial and municipal water users; representatives of public and private water providers; developers and representatives from the economic development community; representatives of agricultural, conservation, and environmental organizations; state and federal agency officials; and university faculty and citizens with expertise in water resources-related issues. The Department shall convene the Committee at least four times each fiscal year. Members of the Committee shall receive no compensation for their service and shall not be entitled to reimbursement for expenses incurred in the performance of their duties.

B. During each meeting of the Committee, the Department shall (i) update the Committee on activities pertaining to groundwater management in the Eastern Virginia Groundwater Management Area and (ii) solicit members to present topics and analysis for examination at future meetings. The Committee may develop specific statutory, budgetary, and regulatory recommendations, as necessary, to enhance the effectiveness of groundwater management in the Eastern Virginia Groundwater Management Area.

C. The Department shall annually report the results of the Committee's examinations and related recommendations, and any responses from the Department, to the State Water Commission, the Governor, and the General Assembly no later than November 1 of each year.

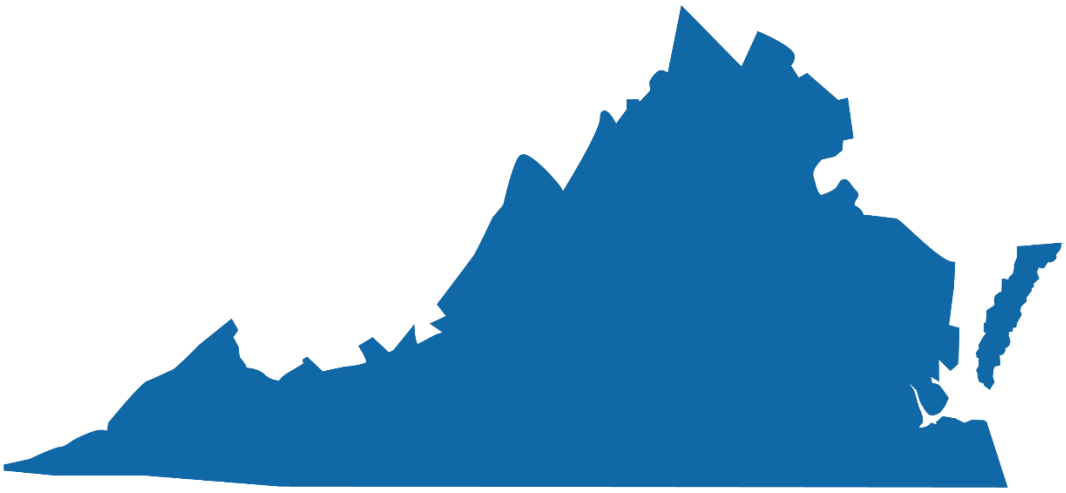
D. The provisions of this section shall expire on July 1, 2030.

G

VIRGINIA ROANOKE RIVER BASIN ADVISORY COMMITTEE
2025 ANNUAL REPORT

Commonwealth of Virginia

Roanoke River Basin Advisory Committee



December 2025

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EXECUTIVE SUMMARY

The Virginia Roanoke River Basin Advisory Committee (VRRBAC) was established in the executive branch of state government as an advisory committee to the Virginia delegation to the Roanoke River Basin Bi-State Commission. Duties and powers of the VRRBAC are pursuant to Virginia Code § 62.1-69.34.

This report provides information regarding the VRRBAC's activities during the 2024 calendar year. The VRRBAC did not meet from December 2023 to December 2024.

VRRBAC members recommended in 2017 that the next meeting focus on strategic planning to improve the effectiveness of the Committee. The leadership positions will rotate at the next meeting and a new 2nd Vice-Chair will be appointed by membership.

This constitutes the Chairman's executive summary of activity and work of the advisory committee, pursuant to Virginia Code § 62.1-69.35:2. Pursuant to § 10.1-11831 of the Code of Virginia, this report is to be included in the Consolidated Report submitted by the Department of Environmental Quality (DEQ).

INTRODUCTION

The Virginia Roanoke River Basin Advisory Committee (VRRBAC) was established as an advisory committee to the Virginia delegation to the Roanoke River Basin Bi-State Commission. VRRBAC assists the Virginia delegation in fulfilling its duties and carrying out the objectives of the Commission pursuant to Virginia Code § 62.1-69.34. VRRBAC is composed of 23 members that include one ex-officio U.S. Representative, six ex-officio Virginia legislative members, 13 non-legislative citizen members, and three ex-officio members from North Carolina. The planning district commissions (PDCs) located in the Roanoke River Basin (Basin) recommend 11 of the non-legislative citizen members of the advisory committee, while the Senate Committee on Rules and the Speaker of the House of Delegates each appoint one non-legislative citizen member. These non-legislative citizen members reside within the Basin's watershed, represent the diversity of interests within the Basin area, and have demonstrated interest, experience, or expertise in water-related Basin issues.

ORGANIZATION

Billy Martin assumed the VRRBAC Chair position on June 29, 2017 consistent with the VRRBAC By-Laws. Al Zimmerman is the 1st Vice Chair. The leadership positions will rotate at the next meeting, with Al Zimmerman becoming Chair.

CURRENT MEMBERSHIP OF THE VRRBAC

Virginia Code § 62.1-69.34 of the Code of Virginia establishes the details for membership on the Advisory Committee.

There are currently 8 members on the VRRBAC. North Carolina is permitted by Virginia statute to provide three ex-officio members to the VRRBAC. To date, **these** members have not been appointed. A list of current members is provided below.

Congressman John McGuire
Senator L. Louise Lucas

Delegate Sam Rasoul
Delegate Daniel W. Marshall III
Delegate Terry L. Austin
Delegate Will P. Davis
Al Zimmerman
Stephen Terry McGuire

STANDING AND AD HOC COMMITTEES

Pursuant to Va. Code § 62.1-69.40, the VRRBAC has subcommittees that complement those established by the Roanoke River Basin Bi-State Commission: Agriculture, Forestry, and Soil and Water Conservation Districts; Permit Holders; Public Officials and Government Entities; and Roanoke River Basin Interests. The VRRBAC also has a Lake Interests Sub-Committee. These subcommittees mirror the structure of the North Carolina Advisory Committee in order for the groups to easily interface. Ad hoc committees may be established as needed. The subcommittees are designed to bring together the most knowledgeable people on an issue to accomplish the work of VRRBAC. An effort is made to maintain a geographical and urban/rural balance in membership. VRRBAC members serve as the chairs and vice-chairs of these subcommittees. The VRRBAC is engaging in planning efforts to reenergize the subcommittees. Members would like the subcommittees to serve as beneficial components in advising the Roanoke River Basin Bi-State Commission and meet more regularly. No subcommittees met in calendar year 2024.

MEETINGS AND LOCATIONS

The VRRBAC did not meet in the 2024 calendar year.

APPENDIX A - CHAPTERS 5.4 AND 5.5 OF TITLE 62.1 OF THE CODE OF VIRGINIA

Chapter 5.4

§ 62.1-69.34. Virginia Roanoke River Basin Advisory Committee established; purpose; membership; terms; meetings.

A. The Virginia Roanoke River Basin Advisory Committee, hereinafter referred to as the "Committee," is hereby established in the executive branch of state government as an advisory committee to the Virginia delegation to the Roanoke River Basin Bi-State Commission. The Committee shall assist the delegation in fulfilling its duties and carrying out the objectives of the Commission, pursuant to § 62.1-69.39. The advisory committee shall be composed of 23 members as follows: two members of the Senate, whose districts include a part of the Virginia portion of the Roanoke River Basin, to be appointed by the Senate Committee on Rules; four members of the House of Delegates, whose districts include a part of the Virginia portion of the Roanoke River Basin, to be appointed by the Speaker of the House of Delegates in accordance with the principles of proportional representation contained in the Rules of the House of Delegates; one nonlegislative citizen member at large appointed by the Senate Committee on Rules; one nonlegislative citizen member at large appointed by the Speaker of the House of Delegates; 11 nonlegislative citizen members selected by the legislative members of the advisory committee such that two are chosen from recommendations of each of the following: the Central Virginia Planning District Commission, the West Piedmont Planning District Commission, the Southside Planning District Commission, the Piedmont Planning District Commission, and the Roanoke Valley Alleghany Planning District Commission; and one member selected by the legislative members of the advisory committee from among recommendations submitted by the New River Valley Planning District Commission; and the Virginia member of the United States House of Representatives, whose district includes the largest portion of the Basin, or his designee, and three representatives of the State of North Carolina appointed in a manner as the General Assembly of North Carolina may determine appropriate. Except for the representatives of North Carolina, all nonlegislative citizen members shall be citizens of the Commonwealth of Virginia. The Virginia member of the United States House of Representatives, the members of the Virginia General Assembly, and the representatives of North Carolina shall serve ex officio without voting privileges. Of the recommendations submitted by planning district commissions authorized to recommend two members, one member shall be a nonlegislative citizen who resides within the respective planning district. However, the New River Valley Planning District Commission may recommend either one nonlegislative citizen at large who resides within the planning district or one member, who at the time of the recommendation, is serving as an elected member or an employee of a local governing body, or one member of the board of directors or an employee of the planning district commission. All persons recommended by the planning district commissions to serve as members of the advisory committee shall reside within the Basin's watershed, represent the diversity of interests in the jurisdictions comprising the respective planning district commissions, and demonstrate interest, experience, or expertise in water-related Basin issues.

B. State and federal legislative members and local government officials appointed to the advisory committee shall serve terms coincident with their terms of office. Nonlegislative citizen members

appointed by the Senate Committee on Rules and the Speaker of the House of Delegates to serve on the advisory committee, and ex officio members representing the State of North Carolina shall serve a term of two years. Initially, planning district commissions authorized to recommend two nonlegislative citizen members to the advisory committee shall recommend one member for a term of two years and one member for a term of one year. However, the nonlegislative citizen member recommended to serve on the advisory committee by the New River Valley Planning District Commission shall serve a term of one year. After the initial staggering of terms, the term of office of nonlegislative citizen members recommended by the planning district commissions shall be for two years. Nonlegislative citizen members recommended by planning district commissions shall be eligible for reappointment, if such members shall have attended at least one-half of all meetings of the Commission during their current term of service. Appointments to fill vacancies, other than by expiration of a term, shall be made for the unexpired terms. Vacancies shall be filled in the same manner as the original appointment.

The advisory committee shall elect a chairman and a vice-chairman from among its voting members. A majority of the voting members shall constitute a quorum. The meetings of the advisory committee shall be held at the call of the chairman or whenever the majority of the voting members so request.

§ 62.1-69.35. Compensation and expenses.

Legislative members of the advisory committee shall receive such compensation as provided in § 30-19.12 and non-legislative members shall receive such compensation for the performance of their duties as provided in § 2.2-2813. All members shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§ 2.2-2813 and 2.2-2825. Funding for the costs of compensation and expenses of members shall be paid from such funds as may be provided to the Department of Environmental Quality in the appropriations act for this purpose.

§ 62.1-69.35:1. Staffing.

The Department of Environmental Quality shall provide staff support to the advisory committee. All agencies of the Commonwealth shall provide assistance to the advisory committee, upon request.

§ 62.1-69.35:2. Chairman's executive summary of activity and work of the advisory committee.

The chairman of the advisory committee shall submit to the Governor and the General Assembly an annual executive summary of the interim activity and work of the advisory committee no later than the first day of each regular session of the General Assembly. The executive summary shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports and shall be posted on the General Assembly's website.

Chapter 5.5

§ 62.1-69.36. Definitions.

As used in this chapter, unless the context requires a different meaning:
"Basin" means the Roanoke River Basin.
"Roanoke River Basin" means that land area designated as the Roanoke River Basin by the Virginia State Water Control Board, pursuant to § 62.1-44.38, and the North Carolina Department of Environment and Natural Resources.

§ 62.1-69.37. Roanoke River Basin Bi-State Commission established; purpose.

The Roanoke River Basin Bi-State Commission is hereby established as a bi-state commission composed of members from the Commonwealth of Virginia and the State of North Carolina and hereinafter referred to as the Commission. The Commission shall:
1. Provide guidance, conduct joint meetings, and make recommendations to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate, regarding the use, stewardship, and enhancement of the Basin's water and other natural resources;
2. Provide a forum for discussion of issues affecting the Basin's water quantity, water quality, and other natural resources;
3. Promote communication, coordination and education among stakeholders within the Basin;
4. Identify Basin-related problems and recommend appropriate solutions; and
5. Undertake studies and prepare, publish, and disseminate information through reports, and other communications, related to water quantity, water quality and other natural resources of the Basin.

§ 62.1-69.38. Membership; terms.

A. The Commission shall be composed of 18 voting members that include nine members representing the Commonwealth of Virginia and nine members representing the State of North Carolina. The Virginia delegation shall consist of the six legislative members appointed to the Virginia Roanoke River Basin Advisory Committee, and three nonlegislative citizen members appointed to the Virginia Roanoke River Basin Advisory Committee, who represent different geographical areas of the Virginia portion of the Roanoke River Basin, to be appointed by the Governor of Virginia. The North Carolina delegation to the Commission shall be appointed as determined by the State of North Carolina. All members appointed to the Commission by the Commonwealth of Virginia and the State of North Carolina shall reside within the Basin's watershed. Members of the Virginia House of Delegates and the Senate of Virginia, the North Carolina House of Representatives and Senate, and federal legislators, who have not been appointed to the Commission and whose districts include any portion of the Basin, shall serve as nonvoting ex officio members of the Commission.

B. Legislative members of the Virginia delegation, federal legislators, and local government officials, whether appointed or ex officio, shall serve terms coincident with their terms of office. Nonlegislative citizen members shall be appointed to serve two-year terms, unless the member is reappointed by the appointing authorities of each state. Appointments to fill vacancies, other than by expiration of a term, shall be made for the unexpired terms. Vacancies shall be filled in the same manner as the original appointment.

C. Each state's delegation to the Commission may meet separately to discuss Basin-related issues affecting their state, and may report their findings independently of the Commission. A majority of the voting members shall constitute a quorum.

§ 62.1-69.39. Roanoke River Basin Bi-State Commission powers and duties.

A. The Commission shall have no regulatory authority.

B. To perform its duties and objectives, the Commission shall have the power to:

1. Develop rules and procedures for the conduct of its business or as may be necessary to perform its duties and carry out its objectives, including, but not limited to, selecting a chairman and vice-chairman, rotating chairmanships, calling meetings and establishing voting procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the Commission members;
2. Establish standing and ad hoc advisory committees, which shall be constituted in a manner to ensure a balance between recognized interests. The purpose of each advisory committee shall be determined by the Commission;
3. Seek, apply for, accept and expend gifts, grants and donations, services and other aid from public or private sources. With the exception of funds provided by the planning district commissions and funds appropriated by the General Assemblies of Virginia and North Carolina, the Commission may accept funds only after an affirmative vote by a majority of the members of the Commission or by following such other procedures as may be established by the Commission for the conduct of its business;
4. Establish a nonprofit corporation to assist in the details of administering its affairs and in raising funds;
5. Enter into contracts and execute all instruments necessary or appropriate; and
6. Perform any lawful acts necessary or appropriate for the furtherance of its work.

§ 62.1-69.40. Standing and ad hoc committees.

To facilitate communication among stakeholders in the Roanoke River Basin, and to maximize participation by all interested parties, the Commission shall establish both standing and ad hoc committees. The Commission shall appoint the members of the standing and ad hoc committees, in accordance with guidelines adopted by the Commission. The standing committees shall include, but not be limited to, the following:

1. Permit holders. The Commission shall identify those entities that hold permits issued by a federal, state or local regulatory agency pertaining to the water of the Basin. Such entities may recommend a representative to be appointed to the committee by the Commission;
2. Roanoke River Basin interest groups. The Commission shall identify interest groups that may recommend a representative to be appointed to the committee by the Commission;
3. Public officials and government entities. The committee shall be composed of representatives of each county, city and town located completely or partially within the Basin, and any other governmental entities that the Commission deems appropriate may recommend one member to be appointed to the committee by the Commission. The committee may also include the U.S. Senators from Virginia and North Carolina or their designees, and any member of the U.S. House of Representatives or his designee, whose district includes any portion of the Basin, if such members elect to serve on the committee; and

4. Agriculture, forestry and soil and water conservation districts. The Commission shall identify persons who represent agricultural and forestry interests throughout the Basin and representatives from the soil and water conservation districts within the Basin and shall appoint representatives from these groups to the committee.

§ 62.1-69.41. Staffing and support.

The Virginia Department of Environmental Quality and the North Carolina Department of Environment and Natural Resources shall provide staff support to the Commission. Additional staff may be hired or contracted by the Commission through funds raised by or provided to it. The duties and compensation of such additional staff shall be determined and fixed by the Commission, within available resources. All agencies of the Commonwealth of Virginia and the State of North Carolina shall cooperate with the Commission and, upon request, shall assist the Commission in fulfilling its responsibilities. The Virginia Secretary of Natural Resources and the North Carolina Secretary of the Department of Environment and Natural Resources or their designees shall each serve as the liaison between their respective state agencies and the Commission.

§ 62.1-69.42. Funding.

A. The Commission shall annually adopt a budget, which shall include the Commission's estimated expenses. Funding for the Commission shall be shared and apportioned between the Commonwealth of Virginia and the State of North Carolina. The appropriation of public funds to the Commission shall be provided through each state's regular process for appropriating public funds. The Virginia planning district commissions within the Basin shall bear a proportion of Virginia's share of the expenses, which may be in the form of in-kind contributions.

B. The Commission shall designate a fiscal agent.

C. The accounts and records of the Commission showing the receipt and disbursement of funds from whatever source derived shall be in such form as the Virginia Auditor of Public Accounts and the North Carolina State Auditor prescribe, provided that such accounts shall correspond as nearly as possible to the accounts and records for such matters maintained by similar enterprises. The accounts and records of the Commission shall be subject to an annual audit by the Virginia Auditor of Public Accounts and the North Carolina State Auditor or their legal representatives, and the costs of such audit services shall be borne by the Commission. The results of the audits shall be delivered to the appropriate legislative oversight committees in each state.

§ 62.1-69.43. Compensation and expenses.

A. Legislative members of the Virginia delegation to the Commission shall receive such compensation as provided in § 30-19.12, and non-legislative members shall receive such compensation for the performance of their duties as provided in § 2.2-2813. All voting members shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§ 2.2-2813 and 2.2-2825. However, all such expenses shall be paid from existing appropriations and funds provided to the Commission or, if unfunded, shall be approved by the Joint Rules Committee.

Members of the Virginia House of Delegates and the Senate of Virginia, and members of the Virginia Congressional delegation, who have not been appointed to the Commission, whose districts include any portion of the Basin, and who serve as nonvoting ex officio members of the Commission shall serve without compensation and expenses.

Nonlegislative citizen members appointed to any standing committees or ad hoc committees shall serve without compensation and expenses.
B. The North Carolina members of the Commission shall receive per diem, subsistence, and travel expenses as follows:
1. Ex officio legislative members who are members of the General Assembly at the rate established in North Carolina G.S. 138-6;
2. Commission members who are officials or employees of the State or of local government agencies at the rate established in North Carolina G.S. 138-6; and
3. All other members at the rate established in North Carolina G.S. 138-5.

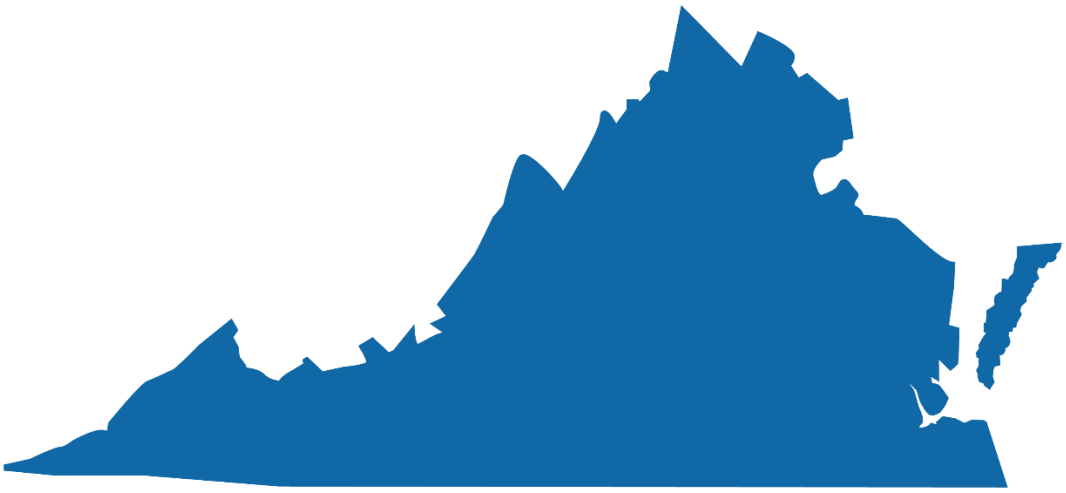
§ 62.1-69.44. Annual report required.
The Commission shall submit an annual report, including any recommendations, to the Governor and General Assembly of Virginia and the Governor and General Assembly of North Carolina.

H

ROANOKE RIVER BASIN BI-STATE COMMISSION
2025 ANNUAL REPORT

Commonwealth of Virginia

Roanoke River Basin Bi-State Commission



December 2025

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EXECUTIVE SUMMARY

The Roanoke River Basin Bi-State Commission was established in the executive branch of state government. Duties and powers of the Roanoke River Basin Bi-State Commission are pursuant to Virginia Code §§ 62.1-69.37 and 62.1-69.39.

This report, which is required by Virginia Code § 62.1-69.44, provides information regarding the Roanoke River Basin Bi-State Commission's activities during the 2025 fiscal year. Pursuant to § 10.1-11831 of the Code of Virginia, this report is to be included in the Consolidated Report submitted by the Department of Environmental Quality (DEQ). The Bi-State Commission meets throughout the Roanoke River Basin, alternating states, in an effort to make the meetings available to all Basin constituents. The Virginia delegation of the Bi-State Commission did not meet during the 2025 fiscal year. Neither the standing committees nor the ad hoc committee associated with the Bi-State Commission met in the 2025 fiscal year.

In accordance with the By-Laws, the Commission will undergo a succession of officers at the next meeting as the leadership rotates each year.

INTRODUCTION

The Roanoke River Basin Bi-State Commission (RRBBC) is composed of members from the Commonwealth of Virginia and the State of North Carolina. Pursuant to Virginia Code § 62.1-69.37, the purpose of the Bi-State Commission is to:

"1. Provide guidance, conduct joint meetings, and make recommendations to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate, regarding the use, stewardship, and enhancement of the [Roanoke River] Basin's water and other natural resources.

2. Provide a forum for discussion of issues affecting the Basin's water quantity, water quality, and other natural resources.

3. Promote communication, coordination and education among stakeholders within the Basin.

4. Identify Basin-related problems and recommend appropriate solutions; and

5. Undertake studies and prepare, publish, and disseminate information through reports, and other communications, related to water quantity, water quality and other natural resources of the Basin."

ORGANIZATION

By-Laws, adopted in August 2009, provide for the Chair to rotate annually between Virginia and North Carolina.

CURRENT MEMBERSHIP

Section 62.1-69.38 of the Code of Virginia establishes membership on the Bi-State Commission as follows:

"The Commission shall be composed of 18 voting members that include nine members representing the Commonwealth of Virginia and nine members representing the State of North Carolina. The Virginia delegation shall consist of the six legislative members appointed to the Virginia Roanoke River Basin Advisory Committee, and three nonlegislative citizen members appointed to the Virginia Roanoke River Basin Advisory Committee, who represent different geographical areas of the Virginia portion of the Roanoke River Basin, to be appointed by the Governor of Virginia."

The nonlegislative members are recommended by the Virginia Roanoke River Basin Advisory Committee and appointed by the Governor. Legislative members are appointed by the Senate Committee on Rules and the Speaker of the House of Delegates. The North Carolina delegation is appointed in a similar fashion.

There are currently 16 members on the Bi-State Commission, seven from Virginia and nine from North Carolina. There are currently two vacancies from Virginia. A list of current members is provided below.

Virginia	North Carolina
Senator L. Louise Lucas	Senator Ernestine Brazemore
Senator Tammy Brankley Mulchi	Senator Milton Fitch, Jr.
Delegate Sam Rasoul	Representative Kyle Hall
Delegate Daniel W. Marshall III	Nate Hall, nonlegislative member
Delegate Terry L. Austin	Senator Joyce Krawiec
Delegate Will P. Davis	Randall Lee, nonlegislative member
Gerald V. Lovelace, nonlegislative member	Linda Worth, nonlegislative member
Vacant, nonlegislative member	Representative Michael Wray
Vacant, nonlegislative member	Representative Larry Yarborough

STANDING AND AD HOC COMMITTEES

Pursuant to Va. Code § 62.1-69.40, the Bi-State Commission has four legislated standing committees: Permit holders; Roanoke River Basin interest groups; Public officials and government entities; and Agriculture, forestry, and soil and water conservation districts. Pursuant to the enabling legislation, the Bi-State Commission must establish the above-mentioned standing committees but may also establish other standing and ad hoc committees the Bi-State Commission deems necessary and appropriate. In 2009, the Bi-State Commission created the Water Allocation Ad Hoc Committee to develop alternatives for allocating water supply storage from Kerr Reservoir. Neither the standing committees nor the ad hoc committee met in fiscal year 2025.

MEETINGS AND LOCATIONS

The Bi-State Commission did not meet during the 2025 fiscal year (July 1, 2024 – June 30, 2025).

APPENDIX A - CHAPTERS 5.4 AND 5.5 OF TITLE 62.1 OF THE CODE OF VIRGINIA

Chapter 5.4

§ 62.1-69.34. Virginia Roanoke River Basin Advisory Committee established; purpose; membership; terms; meetings.

A. The Virginia Roanoke River Basin Advisory Committee, hereinafter referred to as the "Committee," is hereby established in the executive branch of state government as an advisory committee to the Virginia delegation to the Roanoke River Basin Bi-State Commission. The Committee shall assist the delegation in fulfilling its duties and carrying out the objectives of the Commission, pursuant to § 62.1-69.39. The advisory committee shall be composed of 23 members as follows: two members of the Senate, whose districts include a part of the Virginia portion of the Roanoke River Basin, to be appointed by the Senate Committee on Rules; four members of the House of Delegates, whose districts include a part of the Virginia portion of the Roanoke River Basin, to be appointed by the Speaker of the House of Delegates in accordance with the principles of proportional representation contained in the Rules of the House of Delegates; one nonlegislative citizen member at large appointed by the Senate Committee on Rules; one nonlegislative citizen member at large appointed by the Speaker of the House of Delegates; 11 nonlegislative citizen members selected by the legislative members of the advisory committee such that two are chosen from recommendations of each of the following: the Central Virginia Planning District Commission, the West Piedmont Planning District Commission, the Southside Planning District Commission, the Piedmont Planning District Commission, and the Roanoke Valley Alleghany Planning District Commission; and one member selected by the legislative members of the advisory committee from among recommendations submitted by the New River Valley Planning District Commission; and the Virginia member of the United States House of Representatives, whose district includes the largest portion of the Basin, or his designee, and three representatives of the State of North Carolina appointed in a manner as the General Assembly of North Carolina may determine appropriate. Except for the representatives of North Carolina, all nonlegislative citizen members shall be citizens of the Commonwealth of Virginia. The Virginia member of the United States House of Representatives, the members of the Virginia General Assembly, and the representatives of North Carolina shall serve ex officio without voting privileges. Of the recommendations submitted by planning district commissions authorized to recommend two members, one member shall be a nonlegislative citizen who resides within the respective planning district. However, the New River Valley Planning District Commission may recommend either one nonlegislative citizen at large who resides within the planning district or one member, who at the time of the recommendation, is serving as an elected member or an employee of a local governing body, or one member of the board of directors or an employee of the planning district commission. All persons recommended by the planning district commissions to serve as members of the advisory committee shall reside within the Basin's watershed, represent the diversity of interests in the jurisdictions comprising the respective planning district commissions, and demonstrate interest, experience, or expertise in water-related Basin issues.

B. State and federal legislative members and local government officials appointed to the advisory committee shall serve terms coincident with their terms of office. Nonlegislative citizen members appointed by the Senate Committee on Rules and the Speaker of the House of Delegates to serve on the advisory committee, and ex officio members representing the State of North Carolina shall serve a term of two years. Initially, planning district commissions authorized to recommend two nonlegislative citizen members to the advisory committee shall recommend one member for a term of two years and one member for a term of one year. However, the nonlegislative citizen member recommended to serve on the advisory committee by the New River Valley Planning District Commission shall serve a term of one year. After the initial staggering of terms, the term of office of nonlegislative citizen members recommended by the planning district commissions shall be for two years. Nonlegislative citizen members recommended by planning district commissions shall be eligible for reappointment, if such members shall have attended at least one-half of all meetings of the Commission during their current term of service. Appointments to fill vacancies, other than by expiration of a term, shall be made for the unexpired terms. Vacancies shall be filled in the same manner as the original appointment.
The advisory committee shall elect a chairman and a vice-chairman from among its voting members. A majority of the voting members shall constitute a quorum. The meetings of the advisory committee shall be held at the call of the chairman or whenever the majority of the voting members so request.

§ 62.1-69.35. Compensation and expenses.
Legislative members of the advisory committee shall receive such compensation as provided in § 30-19.12 and non-legislative members shall receive such compensation for the performance of their duties as provided in § 2.2-2813. All members shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§ 2.2-2813 and 2.2-2825. Funding for the costs of compensation and expenses of members shall be paid from such funds as may be provided to the Department of Environmental Quality in the appropriations act for this purpose.

§ 62.1-69.35:1. Staffing.
The Department of Environmental Quality shall provide staff support to the advisory committee. All agencies of the Commonwealth shall provide assistance to the advisory committee, upon request.

§ 62.1-69.35:2. Chairman's executive summary of activity and work of the advisory committee.
The chairman of the advisory committee shall submit to the Governor and the General Assembly an annual executive summary of the interim activity and work of the advisory committee no later than the first day of each regular session of the General Assembly. The executive summary shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports and shall be posted on the General Assembly's website.

Chapter 5.5

§ 62.1-69.36. Definitions.

As used in this chapter, unless the context requires a different meaning:
"Basin" means the Roanoke River Basin.
"Roanoke River Basin" means that land area designated as the Roanoke River Basin by the Virginia State Water Control Board, pursuant to § 62.1-44.38, and the North Carolina Department of Environment and Natural Resources.

§ 62.1-69.37. Roanoke River Basin Bi-State Commission established, purpose.

The Roanoke River Basin Bi-State Commission is hereby established as a bi-state commission composed of members from the Commonwealth of Virginia and the State of North Carolina and hereinafter referred to as the Commission. The Commission shall:
1. Provide guidance, conduct joint meetings, and make recommendations to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate, regarding the use, stewardship, and enhancement of the Basin's water and other natural resources.
2. Provide a forum for discussion of issues affecting the Basin's water quantity, water quality, and other natural resources.
3. Promote communication, coordination and education among stakeholders within the Basin.
4. Identify Basin-related problems and recommend appropriate solutions; and
5. Undertake studies and prepare, publish, and disseminate information through reports, and other communications, related to water quantity, water quality and other natural resources of the Basin.

§ 62.1-69.38. Membership; terms.

A. The Commission shall be composed of 18 voting members that include nine members representing the Commonwealth of Virginia and nine members representing the State of North Carolina. The Virginia delegation shall consist of the six legislative members appointed to the Virginia Roanoke River Basin Advisory Committee, and three nonlegislative citizen members appointed to the Virginia Roanoke River Basin Advisory Committee, who represent different geographical areas of the Virginia portion of the Roanoke River Basin, to be appointed by the Governor of Virginia. The North Carolina delegation to the Commission shall be appointed as determined by the State of North Carolina. All members appointed to the Commission by the Commonwealth of Virginia and the State of North Carolina shall reside within the Basin's watershed. Members of the Virginia House of Delegates and the Senate of Virginia, the North Carolina House of Representatives and Senate, and federal legislators, who have not been appointed to the Commission and whose districts include any portion of the Basin, shall serve as nonvoting ex officio members of the Commission.

B. Legislative members of the Virginia delegation, federal legislators, and local government officials, whether appointed or ex officio, shall serve terms coincident with their terms of office. Nonlegislative citizen members shall be appointed to serve two-year terms, unless the member is reappointed by the appointing authorities of each state. Appointments to fill vacancies, other

than by expiration of a term, shall be made for the unexpired terms. Vacancies shall be filled in the same manner as the original appointment.

C. Each state's delegation to the Commission may meet separately to discuss Basin-related issues affecting their state and may report their findings independently of the Commission. A majority of the voting members shall constitute a quorum.

§ 62.1-69.39. Roanoke River Basin Bi-State Commission powers and duties.

A. The Commission shall have no regulatory authority.

B. To perform its duties and objectives, the Commission shall have the power to:

1. Develop rules and procedures for the conduct of its business or as may be necessary to perform its duties and carry out its objectives, including, but not limited to, selecting a chairman and vice-chairman, rotating chairmanships, calling meetings and establishing voting procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the Commission members.
2. Establish standing and ad hoc advisory committees, which shall be constituted in a manner to ensure a balance between recognized interests. The purpose of each advisory committee shall be determined by the Commission.
3. Seek, apply for, accept and expend gifts, grants and donations, services and other aid from public or private sources. With the exception of funds provided by the planning district commissions and funds appropriated by the General Assemblies of Virginia and North Carolina, the Commission may accept funds only after an affirmative vote by a majority of the members of the Commission or by following such other procedures as may be established by the Commission for the conduct of its business.
4. Establish a nonprofit corporation to assist in the details of administering its affairs and in raising funds.
5. Enter into contracts and execute all instruments necessary or appropriate; and
6. Perform any lawful acts necessary or appropriate for the furtherance of its work.

§ 62.1-69.40. Standing and ad hoc committees.

To facilitate communication among stakeholders in the Roanoke River Basin, and to maximize participation by all interested parties, the Commission shall establish both standing and ad hoc committees. The Commission shall appoint the members of the standing and ad hoc committees, in accordance with guidelines adopted by the Commission. The standing committees shall include, but not be limited to, the following:

1. Permit holders. The Commission shall identify those entities that hold permits issued by a federal, state, or local regulatory agency pertaining to the water of the Basin. Such entities may recommend a representative to be appointed to the committee by the Commission.
2. Roanoke River Basin interest groups. The Commission shall identify interest groups that may recommend a representative to be appointed to the committee by the Commission.
3. Public officials and government entities. The committee shall be composed of representatives of each county, city and town located completely or partially within the Basin, and any other governmental entities that the Commission deems appropriate may recommend one member to be appointed to the committee by the Commission. The committee may also include the U.S. Senators from Virginia and North Carolina or their designees, and any

member of the U.S. House of Representatives or his designee, whose district includes any portion of the Basin, if such members elect to serve on the committee; and
4. Agriculture, forestry and soil and water conservation districts. The Commission shall identify persons who represent agricultural and forestry interests throughout the Basin and representatives from the soil and water conservation districts within the Basin and shall appoint representatives from these groups to the committee.

§ 62.1-69.41. Staffing and support.
The Virginia Department of Environmental Quality and the North Carolina Department of Environment and Natural Resources shall provide staff support to the Commission. Additional staff may be hired or contracted by the Commission through funds raised by or provided to it. The duties and compensation of such additional staff shall be determined and fixed by the Commission, within available resources.

All agencies of the Commonwealth of Virginia and the State of North Carolina shall cooperate with the Commission and, upon request, shall assist the Commission in fulfilling its responsibilities. The Virginia Secretary of Natural and Historic Resources and the North Carolina Secretary of the Department of Environment and Natural Resources or their designees shall each serve as the liaison between their respective state agencies and the Commission.

§ 62.1-69.42. Funding.
A. The Commission shall annually adopt a budget, which shall include the Commission's estimated expenses. Funding for the Commission shall be shared and apportioned between the Commonwealth of Virginia and the State of North Carolina. The appropriation of public funds to the Commission shall be provided through each state's regular process for appropriating public funds. The Virginia planning district commissions within the Basin shall bear a proportion of Virginia's share of the expenses, which may be in the form of in-kind contributions.

B. The Commission shall designate a fiscal agent.

C. The accounts and records of the Commission showing the receipt and disbursement of funds from whatever source derived shall be in such form as the Virginia Auditor of Public Accounts and the North Carolina State Auditor prescribe, provided that such accounts shall correspond as nearly as possible to the accounts and records for such matters maintained by similar enterprises. The accounts and records of the Commission shall be subject to an annual audit by the Virginia Auditor of Public Accounts and the North Carolina State Auditor or their legal representatives, and the costs of such audit services shall be borne by the Commission. The results of the audits shall be delivered to the appropriate legislative oversight committees in each state.

§ 62.1-69.43. Compensation and expenses.
A. Legislative members of the Virginia delegation to the Commission shall receive such compensation as provided in § 30-19.12, and non-legislative members shall receive such compensation for the performance of their duties as provided in § 2.2-2813. All voting members shall be reimbursed for all reasonable and necessary expenses incurred in the performance of their duties as provided in §§2.2-2813 and 2.2-2825. However, all such

expenses shall be paid from existing appropriations and funds provided to the Commission or, if unfunded, shall be approved by the Joint Rules Committee.
Members of the Virginia House of Delegates and the Senate of Virginia, and members of the Virginia Congressional delegation, who have not been appointed to the Commission, whose districts include any portion of the Basin, and who serve as nonvoting ex officio members of the Commission shall serve without compensation and expenses.
Nonlegislative citizen members appointed to any standing committees or ad hoc committees shall serve without compensation and expenses.

B. The North Carolina members of the Commission shall receive per diem, subsistence, and travel expenses as follows:
1. Ex officio legislative members who are members of the General Assembly at the rate established in North Carolina G.S. 138-6.
2. Commission members who are officials or employees of the State or of local government agencies at the rate established in North Carolina G.S. 138-6; and
3. All other members at the rate established in North Carolina G.S. 138-5.

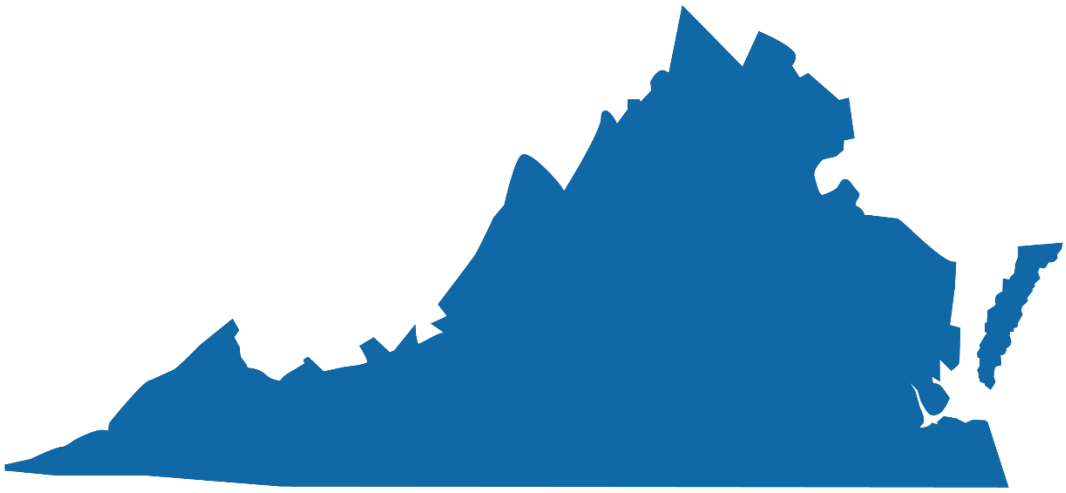
§ 62.1-69.44. Annual report required.
The Commission shall submit an annual report, including any recommendations, to the Governor and General Assembly of Virginia and the Governor and General Assembly of North Carolina.

I

EVALUATION OF ADMINISTRATIVE FEES FOR ABOVEGROUND STORAGE TANK FACILITIES, PIPELINE FACILITIES AND TANK VESSELS THAT STORE AND HANDLE OIL

Commonwealth of Virginia

Department of Environmental Quality



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EVALUATION OF ADMINISTRATIVE FEES FOR ABOVEGROUND STORAGE TANK FACILITIES, PIPELINE FACILITIES AND TANK VESSELS THAT STORE AND HANDLE OIL

INTRODUCTION

This report was prepared by the Virginia Department of Environmental Quality (DEQ) pursuant to § 62.1-44.34:21 of the *Code of Virginia*. This report provides an evaluation of DEQ's implementation of the fee programs established under Article 11 (Virginia Code § 62.1-44.34:14. *et seq*.) of the State Water Control Law (SWCL) for aboveground storage tank facilities, pipeline facilities, and tank vessels that store and handle oil for the 2022 and 2023 fiscal years. Due to a legislative change, Virginia Code § 10.1-1183.1 directs DEQ to publish this fee program evaluation by October 1 of each odd-numbered year as part of DEQ's consolidated annual report.

BACKGROUND

Article 11 of the SWCL prohibits the discharge of oil into or upon state waters, lands, and storm drain systems within the Commonwealth. Article 11 also governs the requirements for regulation of aboveground storage tank facilities, pipeline facilities, and tank vessels that store and handle oil.

The Facility and Aboveground Storage Tank (AST) Regulation (9 VAC 25-91) establishes requirements for facility operators of ASTs and pipelines to prevent the discharge of oil to state waters. An oil discharge contingency plan (ODCP) is required for all facilities with a storage capacity of 25,000 gallons or more of oil. Approved ODCPs are required to ensure that a facility can take steps necessary to protect the environment and to contain, clean up, and mitigate an oil discharge within the shortest feasible time. The operator of the facility also is required to register all ASTs with a capacity greater than 660 gallons of oil. The Aboveground Storage Tank and Pipeline Facility Financial Responsibility Requirements Regulation (9 VAC 25-640) establishes financial responsibility requirements for facility operators of ASTs and pipelines having a maximum storage capacity of 25,000 gallons or greater of oil. These operators are required to demonstrate the ability to provide financial resources to meet the containment and cleanup requirements as a condition of operation.

The following is a summary of the regulated AST and pipeline facilities in Virginia:

Total number active ASTs:	11,063
Total number AST facilities:	4,341
Facilities with only one AST:	2,357
AST Facilities with ODCPs (≥ 25,000 gallons):	567
Average new AST facilities per year:	108
Total number active AST owners:	2,288
AST storage capacity of all active facilities:	1.16 billion gallons
Regulated interstate pipeline facilities:	2

Article 11 of the SWCL also requires that operators of tank vessels transporting or transferring oil in state waters have an ODCP and provide evidence of financial responsibility to ensure the operator has the capability to clean up a major oil spill. Article 11 of the SWCL allows operators of tank vessels to

comply with this requirement by having an approved U.S. Coast Guard Vessel Response Plan and a U.S. Coast Guard Certificate of Financial Responsibility. No additional approval by DEQ is required. The Tank Vessel Oil Discharge Contingency Plans and Financial Responsibility Requirements Regulation (9 VAC 25-101) establishes requirements for approval of ODCPs and evidence of financial responsibility for these vessels.

ARTICLE 11 AUTHORITY FOR COLLECTION OF FEES

Section 62.1-44.34:21 of the *Code of Virginia* authorizes DEQ to collect administrative fees for the approval of facility and tank vessel ODCPs and for demonstrating evidence of financial responsibility. The statute limits fees to the costs of implementing these two programs.

Section 62.1-44.34:19.1 of the *Code of Virginia* requires DEQ to compile an inventory of AST facilities with a capacity of more than 1,320 gallons of oil or individual ASTs having a storage capacity of more than 660 gallons of oil and authorizes the collection of a fee not to exceed $100 per facility or $50 per tank, whichever is less. These registration fees were discontinued by regulatory amendments effective November 1, 2015. Section V discusses this change in more detail.

PROGRAM COSTS AND REVENUES

The following table shows the operating costs for the programs in Fiscal Years (FYs) 2024 and 2025. Operating costs for these programs fluctuate over a five-year cycle based on regulatory requirements for facilities to renew ODCPs and registrations. As workload fluctuates year to year, inspection resources are assigned, resulting in a corresponding increase or decrease in operating costs. The marked increase in AST Registration program costs between 2024 and 2025 is attributed to a combination of increased registrations processed, additional staff, and a shift in the type of staff reviewing the registrations, as well as employee raises. Registration workload also fluctuates since operators are required to renew their registrations on a five-year cycle.

Table 1: Operating Costs associated with Article 11 Programs

PROGRAM	FY 24 Operating Costs	FY 25 Operating Costs
PERSONNEL		
Facility ODCP, Inspection and Compliance	$109,605	$97,614
Facility Financial Responsibility	$29,380	$33,952
AST Registration	$126,844	$282,298
Tank Vessel ODCP	$0	$0

PROGRAM	FY 24 Operating Costs	FY 25 Operating Costs
NON-PERSONNEL		
Administrative (all programs)	$17,914	$24,665
TOTAL	$283,743	$438,528

DEQ collects fees for AST, pipeline and tank vessel ODCP applications. Almost all ODCP application revenue is generated by AST facility applications. **Table 2** below lists revenue for FYs 2024 and 2025.

Table 2: Revenue generated by Article 11 Programs

Program	FY 2024	FY 2025
ODCP Applications	$2,154	$11,972

In addition, the Virginia Petroleum Storage Tank Fund (Fund) generated revenue of $31.1 million in FY 2024 and $32 million in FY 2025 from fees collected on petroleum products sold in Virginia. Although the Fund was established primarily for the cleanup of petroleum contamination from leaking underground and aboveground storage tanks (reimbursement of tank owner cleanup up costs and program costs), Article 10 of the SWCL also allows use of the Fund for the costs of implementing the regulatory programs established in Article 11. Since the inception of Article 11, the Fund has been used to offset the difference between operating costs for the ODCP, Financial Responsibility and Registration Programs and the fees that are collected.

OIL DISCHARGE CONTINGENCY PLAN FACILITY FEES

An ODCP is required for all facilities with a storage capacity of 25,000 gallons or more pursuant to 9 VAC 25-91. The regulation limits ODCP fees to submittal of new plans and no fee is charged for ODCP renewal reviews. The ODCP fees structure ranges from $718 to $3,353 as follows:

a. For a facility with an aggregate aboveground maximum storage or handling capacity from 25,000 gallons up to and including 100,000 gallons of oil, the fee is $718;

b. For a facility with an aggregate aboveground maximum storage or handling capacity from 100,001 gallons up to one million gallons of oil, the fee is $2,155;

c. For a facility with an aggregate aboveground maximum storage or handling capacity of one million gallons or greater of oil, the fee is $3,353; and

d. For a pipeline, the average daily throughput of oil is determined and the fee is calculated using a, b or c above.

ABOVEGROUND STORAGE TANK REGISTRATION FEES

ASTs with a storage capacity greater than 660 gallons of oil must be registered pursuant to 9 VAC 25-91. While the statute authorizes collection of a registration fee, the vast majority of program operating costs have historically been covered by revenue other than these registration fees. Given the small amount of revenue generated by the fees and the availability of other revenues to cover these costs, the administrative burden to collect and account for the fees was not justified. As a result, revisions to the regulation effective November 1, 2015 eliminated AST registration fees.

TANK VESSEL OIL DISCHARGE CONTINGENCY PLAN FEES

For the small number of tank vessels that are not required to maintain an approved U.S. Coast Guard Vessel Response Plan, the following fee structure applies for the initial ODCP submittal to DEQ pursuant to 9 VAC 25-101. Renewals are not subject to the fee.

a. For a tank vessel with a maximum storage, handling or transporting capacity of 15,000 gallons and up to and including 250,000 gallons of oil, the fee is $718;

b. For a tank vessel with a maximum storage, handling or transporting capacity greater than 250,000 gallons and up to and including 1,000,000 gallons of oil, the fee is $2,155; and

c. For a tank vessel with a maximum storage, handling or transporting capacity greater than 1,000,000 gallons of oil, the fee is $3,353.

TANK VESSEL FINANCIAL RESPONSIBILITY FEES

For the small number of tank vessels that are not required to maintain an approved U.S. Coast Guard Certificate of Financial Responsibility, an initial application fee of $120 (a $30 fee is required for each additional tank vessel requiring a copy of the accepted evidence of financial responsibility) pursuant to 9 VAC 25-101. Renewals are not subject to the fee.

ABOVEGROUND STORAGE TANK AND PIPELINE FACILITY FINANCIAL RESPONSIBILITY FEES

The regulations do not establish a fee schedule for approval of AST and pipeline financial responsibility demonstration.

VIRGINIA PETROLEUM STORAGE TANK FUND

Article 10 of the SWCL established the Fund and allows use of the Fund for the costs of carrying out the provisions of the regulatory programs of Article 11. Since the inception of Article 11, the Fund has been used to offset the difference between operating costs for the ODCP, Financial Responsibility and Registration Programs and the fees that are collected. To provide revenue for the Fund, Article 10 imposes a one-fifth to three-fifths of one cent per gallon fee on regulated petroleum products sold in Virginia. This fee is monitored and is increased to three-fifths of one cent when the Fund has been, or is likely to be, reduced below $3 million. The fee is reduced to one-fifth of one cent per gallon when the Fund has been restored to $12 million.

Article 10 of the SWCL authorizes delays in claims payments to maintain the Fund balance. Although the Fund was in delayed payment status in recent years, due to declining cleanup reimbursement claim demand, the Fund is now paying reimbursement claims within 30 days of decision.

J

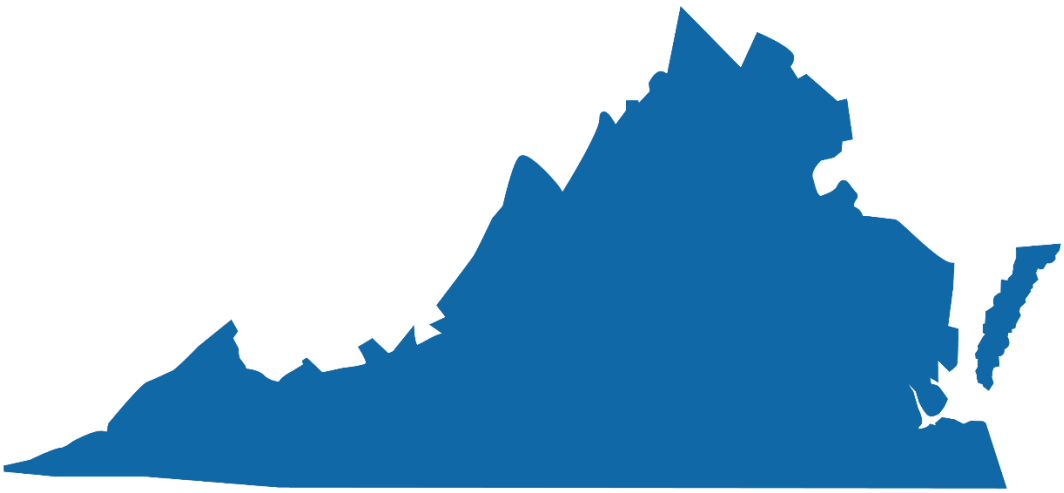
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

REDUCTION OF TOXICS IN STATE WATERS

2025 BIENNIAL REPORT

Commonwealth of Virginia

Department of Environmental Quality



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https://www.deq.virginia.gov/our-programs/water/water-quality/monitoring/toxics-report

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Glossary of Acronyms, Abbreviations, and Technical Terms

Ambient Monitoring	The monitoring of physical and chemical characteristics within the Commonwealth's rivers, streams, lakes, and estuaries. Ambient monitoring and assessment characterize ecological stressors and evaluate their potential impact on aquatic organisms and other wildlife, and on human health and recreational use of Virginia's waters.
BSA	Benthic Stressor Analysis
CBPO	Chesapeake Bay Program Office
CEC	Contaminants of emerging concern
Compliance Monitoring	The monitoring of in-pipe concentrations of permitted discharges, which is one element in the prevention of contamination by toxics. Compliance monitoring evaluates whether the concentrations of potential pollutants in industrial, municipal or other permitted discharges are within the allowable limits specified in their permits.
CWA	Federal Clean Water Act which first described the scope and purpose of water quality standards and defined the authority and responsibility of EPA and the various states in relation to the requirements for, submission of, and establishment of such standards.
CY	Calendar Year (January 1 – December 31)
DEQ	Virginia Department of Environmental Quality
DDT	dichlorodiphenyltrichloroethane
DDE	dichlorodiphenyldichloroethylene
DMR	Discharge Monitoring Report
EMP	Environmental Management Plans
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ER-M	Effects Range-Median
FY	Fiscal year
HB	House Bill
HAB	Harmful Algal Bloom
HFPO-DA:	Hexafluoropropylene oxide dimer acid (commonly known as GenX)
ICPRB	Interstate Commission for the Potomac River Basin
Integrated Report	Abbreviation for the 305(b)/303(d) Water Quality Assessment Integrated Report
MCL	Maximum Contaminant Levels
NCCA	National Coastal Condition Assessment
NFWF	National Fish and Wildlife Foundation
NOAA	National Oceanic and Atmospheric Administration
OPP	Office of Pollution Prevention
P2	Pollution Prevention Program
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated biphenyl

PEAC	PFAS Expert Advisory Committee
PEC	Consensus-based *Probable Effects Concentrations* for chemical contaminants in freshwater sediments (MacDonald et al. 2000). See also CV, above.
PFAS	Per- and Polyfluoroalkyl Substances
PFOA:	Perfluorooctanoic acid
PFOS:	Perfluorooctane sulfonic acid
PFHxS:	Perfluorohexane sulfonic acid
PFNA:	Perfluorononanoic acid
PFBS:	Perfluorobutane sulfonic acid2
Picogram	(pg) One trillionth of a gram
PMP	A Pollutant Minimization Plan is a step-by-step strategy with a set schedule and goal to reduce toxic discharges (particularly for PCBs) from a permitted source. It replaces the need for fixed numerical limits that may be unattainable.
SaMS	Salt Management Strategy
SB	Senate Bill
SPMD	Semi-Permeable Membrane Device
START	Superfund Technical Assessment and Response Team
SV	Screening Value
TMDL	Total Maximum Daily Load
TRI	Toxic Release Inventory - The Toxics Release Inventory documents the total quantities of EPA-listed toxic compounds that are released annually (to the waters, the air, and the land) by permitted facilities within the Commonwealth. Changes in the quantities of toxics released are indicative of the effectiveness of pollution prevention programs, but are not an adequate or representative measure of environmental impact or impairment.
USGS	United States Geological Survey
VDH	Virginia Department of Health
VEEP	Virginia Environmental Excellence Program
VGTA	Virginia Green Travel Alliance
VPDES	Virginia Pollutant Discharge Elimination System
WLA	Waste Load Allocation
WOE	Weight-of-evidence
WQM	Water Quality Monitoring
WQS	Water Quality Standard
WTP	Water Treatment Plant

1.0 INTRODUCTION

The Virginia Department of Environmental Quality (DEQ), on behalf of the State Water Control Board, submits a Toxics Reduction in State Waters (Toxics) Report to the Governor and designated committees of the Virginia General Assembly. The report is due by October 1st of each odd-numbered year and submitted with DEQs annual consolidated report, in accordance with § 62.1-44.17:3 and § 10.1-1183.1 of the Code of Virginia.

1.1 The Report: Toxics Reduction in State Waters

The primary objective of the Toxics Report is to document the state's commitment to improving water quality, specifically in relation to chemical contamination which may induce toxic effects on aquatic life, other wildlife, or on human health.

This commitment includes the following actions:

- The prevention of contamination of the Commonwealth's waters by toxics,
- The persistent monitoring of those waters for the presence of toxics, and
- The implementation of remedial measures to reduce and/or eliminate toxics found in the state's waters.

Although the reduction of toxics in the state's waters is primarily the responsibility of DEQ, various other agencies and organizations participate in the process, including the Virginia Department of Conservation and Recreation (DCR), the Virginia Department of Health (VDH), the U.S. Environmental Protection Agency's (EPA) Chesapeake Bay Program Office (CBPO), and the U.S. Geological Survey (USGS). This report summarizes the results of recent activities directed toward toxics reduction and provides guidance on how to access further resources and information on specific subjects. DEQ submitted the first Toxics Report in January 1998. The January 1999 report provided basic background information related to the report's objectives and a basic model for its continued evolution.

Reports now provide a summary of the toxics-related prevention, monitoring, and remediation activities of the prior two Calendar Years (CY) for which data are available at the time of report preparation. The current Toxics Report, dated October 2025, covers a three-year period from CY 2022 through CY 2024 (January 1, 2022 – December 31, 2024). While the Toxics Report is typically issued biennially, this edition spans three years due to a legislative change. In 2024, § 10.1-1183.1 of the Code of Virginia was amended to standardize the submission dates for certain DEQ reports to the Governor and the General Assembly. As a result, the due date was moved to October 1, and the reports were consolidated into a single annual submission. This adjustment extended the reporting period by an additional year.

The 2023 Toxics Report is available on the DEQ website at:
https://www.deq.virginia.gov/news-info/about-us/reports.

1.2 Functional Definitions: Toxics and Toxicity

The Code of Virginia (Chapter 3.1, Title 62.1, § 62.1-44.17:2) defines "'toxics' or 'toxic substance'" as "any agent or material listed by the USEPA Administrator pursuant to § 307(a) of the Clean Water Act and those substances on the 'toxics of concern' list of the Chesapeake Bay

Program as of January 1, 1997." It further defines "toxicity" as "the inherent potential or capacity of a material to cause adverse effects on a living organism, including acute or chronic effects on aquatic life, detrimental effects on human health or other adverse environmental effects." This definition is rather broad, since an excess or even a deficit of many non-toxic substances can also cause adverse effects, both acute and chronic, on living organisms.

Consequently, this report restricts the definition of "toxicity" to include only those substances that are directly and chemically detrimental to living organisms when they are in excess. Direct chemical effects would exclude the physical effects of excess sedimentation or the indirect effects of nutrient enrichment, for example, both of which would also be detrimental to aquatic life. Furthermore, the concept of "other adverse environmental effects" must be defined in biological terms, since toxicity can only be observed, described, and quantified in relation to living organisms.

The classification of chemical substances (i.e., a material) within the category of toxics (i.e., those that cause toxicity) is always based on the observed effects of their presence on specific living organisms. In fact, the concept of excess itself is defined in terms of the concentrations at or above which living organisms experience detrimental effects. Toxicity varies considerably among chemical substances and can increase or decrease (synergism and antagonism) in the environment based on interactions within pollutant mixtures. Toxicity is generally a function of chemical concentration or dose, and duration of exposure time. In addition, species, life stage, and environmental variables (e.g., temperature, water hardness, organic carbon) can influence toxicity. The Federal Clean Water Act (CWA) defined the responsibility of the EPA in identifying the critical concentrations at which distinct chemical substances begin to elicit a specified degree of deleterious effect and establishing the associated water quality criteria that the states adopt as water quality standards to identify impaired waters.

1.3 Federal Water Quality Criteria

The CWA first described the scope and purpose of water quality standards and defined the authority and responsibility of EPA and the various states in relation to the requirements for, submission of, and establishment of, such standards. Since then, EPA has published various lists of toxic materials for which the movement, use, and/or release into the environment must be documented or for which concentrations in the environment must be monitored and their effects assessed and subsequently controlled. EPA reviews the results of peer-reviewed published studies and conducts its own research to determine what concentrations of chemical substances are detrimental to aquatic life, other wildlife, and human health, and to what degree. Based on the results of this evaluation, water quality criteria may be established for freshwater, saltwater, or drinking water, identifying the concentrations that induce direct chronic (long-term exposure) or acute (short-term exposure) toxic effects on aquatic life, subsequent poisonous effects on wildlife or humans, or long term carcinogenic (cancer producing) effects on human health.

On December 22, 1992, the EPA published in the Federal Register a comprehensive list of 126 chemical substances for which it had established water quality criteria related to aquatic life in freshwater and saltwater and/or to human health risks. Subsequent studies often (1) identified additional toxics for which criteria were established, or (2) resulted in the establishment of new criteria for previously defined toxics. The list has been repeatedly modified during the ensuing years. For example, in 2016, the Frank R. Lautenberg Chemical Safety for the 21st Century Act updated the Toxic Substances Control Act, which governs how EPA addresses existing and new

toxic chemicals. Additional modifications of existing criteria, as well as the establishment of criteria for new substances, continue to update the EPA list and help maintain or improve the quality of the nation's waters.

Supplemental Information: Federal Water Quality Criteria

EPA provides its most recent complete list of nationally recommended water quality criteria for both priority (P) and non-priority (NP) toxic pollutants in electronic form on the EPA website at: https://www.epa.gov/wqc

For information about updates to the Toxic Substances Control Act (TSCA), please visit: https://www.epa.gov/laws-regulations

Detailed information on recent updates concerning Aquatic Life may be found at: https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

1.4 Virginia's Water Quality Standards

Once recommended federal water quality criteria have been established for a chemical substance, it is the responsibility of the individual states to establish water quality standards (WQSs) for each waterbody. A WQS includes a specification of how that waterbody is to be used (designated use) and the water quality criteria to protect that use. The most common designated uses include the support of aquatic life, other wildlife, fish consumption, shellfish consumption, human primary contact (swimming) or secondary contact (fishing, boating) recreation, and public water supplies (where applicable). The Commonwealth of Virginia has established and periodically revises WQSs, which EPA reviews and must approve prior to their application. These standards are set forth at 9VAC25-260 (Virginia Administrative Code Title 9. Environment, Agency 25. State Water Control Board, Chapter 260). Virginia's designated uses are recreational uses, e.g., swimming and boating; the propagation and growth of a balanced, indigenous population of aquatic life, including game fish, which might reasonably be expected to inhabit them; wildlife; and the production of edible and marketable natural resources, e.g., fish and shellfish.

The most recent revisions to the Water Quality Standards Regulation pertaining to toxics included amendments to 20 human health criteria, which represent specific levels of chemicals or conditions in a waterbody that are not expected to cause adverse effects to human health due to water or fish tissue ingestion. The amendments were based on updated exposure factors recommended by EPA in 2011, which reflected the latest scientific information and EPA policies, including revised body weight, drinking water intake, health toxicity values, fish consumption rate, bioaccumulation factors, and relative source contributions. EPA approved Virginia's human health criteria amendments, and they became effective on April 24, 2023. These criteria were first used for water quality assessment in the 2024 biennial 305(b)/303(d) Water Quality Assessment Integrated Report (Integrated Report) (See Chapter 5). An amendment related to Aluminum criteria became effective June 26, 2024, which will be assessed for the first time in the 2026 Integrated Report.

Virginia's Water Quality Standards are available online at: https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/

1.5 Federal Reporting Requirements

In addition to the biennial Integrated Report, federal law requires reporting procedures for the production, movement, storage, use, and release of many of these toxic substances. The annual Toxics Release Inventory (TRI) Report, discussed in Chapter 3, compiles and summarizes those reports, including discharges of toxic substances to waters of Virginia.

DEQ's activities directed toward the reduction of toxics in state waters fall into three general categories: the prevention of toxic inputs to the Commonwealth's waters, the monitoring for toxics in water, sediment, and fish tissues, and the implementation of remediation activities to reduce or eliminate toxics found in the state's waters.

2.0 ACTIVITIES DIRECTED TOWARD THE PREVENTION OF TOXIC INPUTS

The primary prevention activities carried out by DEQ may be characterized as regulatory, non-regulatory, and educational. The non-regulatory programs of DEQ's Office of Pollution Prevention (OPP) encourage industries, commercial enterprises, governmental, and private facilities throughout the Commonwealth to establish Environmental Management Plans (EMPs) to minimize the use of hazardous materials and to maximize the recycling of wastes and the use of "green products and services." This program, and two special programs associated with toxics, the Chesapeake Bay Program Toxic Contaminants Workgroup and the Salt Management Strategy (SaMS) initiative, are discussed in this section. The regulatory Virginia Pollutant Discharge Elimination System (VPDES) is discussed below, in Section 3.

2.1 Pollution Prevention Program

OPP contributes to the reduction of toxics in state waters through its multimedia (i.e., air, water, and waste) non-regulatory Pollution Prevention Program. The multimedia approach reduces the movement, use, and release of toxic materials. OPP relies heavily on outreach and education to help improve environmental performance and protect Virginia's resources. As part of this outreach OPP recognizes, rewards, and supports facilities that are going above and beyond regulatory compliance.

The Pollution Prevention Annual Report, submitted to the Governor and the General Assembly each year, provides an overview of OPP activities for that calendar year. Reports are available online:

The 2022 Pollution Prevention Annual Report is available from Virginia's Legislative Information System at:

https://rga.lis.virginia.gov/Published/2022/RD718

The 2023 Pollution Prevention Annual Report is available from Virginia's Legislative Information System at:
https://rga.lis.virginia.gov/Published/2023/RD808

The most recent Pollution Prevention Annual Report is available on DEQ's website at:
https://www.deq.virginia.gov/business-construction/pollution-prevention/case-studies

2.2 Virginia Environmental Excellence Program (VEEP)

The Virginia Environmental Excellence Program (VEEP) is a voluntary program that recognizes and rewards participants for going beyond regulatory compliance. There are two separate tracks in VEEP. The Environmental Management System (EMS) Track is facility-based and promotes the use of an EMS to improve environmental performance. An EMS is a formal plan for adopting, implementing and documenting environmentally responsible practices. The organization-based Sustainability Partners (SP) Track focuses on organizations that are striving for environmental sustainability but does not require an EMS.

The VEEP EMS Track has approximately 140 members, covering roughly 565 facilities. The VEEP SP Track is administered at the organization level, as participants are typically larger

organizations with multiple facilities, such as universities, municipalities, military installations, and some state agencies. In 2024, VEEP Sustainability Partners had eight members.

VEEP members take a multimedia approach to reducing environmental impacts that may directly or indirectly impact water quality. Some VEEP EMS Track successes include:

In CY22 VEEP members reported the following:

- Recycled water use increased by 464,031,282 gallons
- Greenhouse Gas emissions reduced by 21,132 tons
- Waste recycled increased by 120,866 tons

In CY23 members reported the following:

- Recycled water use increased by over 87,125,403 gallons
- Waste disposed was reduced by 6,090 tons
- Waste recycled increased by 23,864 tons

In CY24 members reported the following:

- Water use decreased by 149,523,694 gallons
- Water discharges were reduced by 7,890,853 pounds
- Waste disposed decreased by 6,201 tons

2.3 Virginia Green Travel

Virginia Green consists of a network of tourism-related organizations that are committed to protecting the environment while promoting responsible tourism. The statewide program works to reduce the environmental impacts of the Commonwealth's tourism industry and raises awareness about green tourism.

The program is a partnership between DEQ, the Virginia Tourism Corporation, the Virginia Restaurant, Lodging and Travel Association and the Virginia Green Travel Alliance (VGTA). OPP provides technical resources and oversight of the certification content. The VGTA manages the certification process and helps members promote their green efforts.

Virginia Green Travel Partners commit to implementing sustainable practices in core areas, including:

- Waste Reduction
- Recycling
- Eliminating polystyrene disposables
- Energy conservation and efficiency
- Water conservation and efficiency
- Green events and meetings
- Consumer engagement

As of 2024, over 1,900 tourism operations have self-certified their environmental practices and been recognized as Certified Virginia Green Travel Partners.

For more information visit:
https://www.deq.virginia.gov/our-programs/pollution-prevention/virginia-green

2.4 Case Studies

OPP has compiled a set of pollution prevention case studies that show real world examples and identify technologies and techniques that have been successful in reducing environmental impacts. These examples showcase the effectiveness of pollution prevention projects by quantifying pollution reduction, cost savings, and other benefits. The entities highlighted in the success stories have improved environmental performance by going above and beyond the industry standard.

For more information visit:
https://www.deq.virginia.gov/business-construction/pollution-prevention/virginia-green

2.5 Outreach

Outreach, education, and recognition of performance are primary tools used by OPP for raising environmental awareness and driving beyond compliance improvement across the Commonwealth. Aside from the voluntary programs described elsewhere in this report, OPP maintains many web-based resources including:

- The Governor's Environmental Excellence Awards which recognize successful and innovative efforts that improve Virginia's environment: https://www.deq.virginia.gov/business-construction/pollution-prevention/governor-s-environmental-excellence-awards
- DEQ is committed to the Commonwealth's Greening of Government efforts: https://www.deq.virginia.gov/business-construction/pollution-prevention/greening-of-government
- OPP also maintains Resources and Examples to help develop an Environmental Management System and access to past webinars coordinated by OPP to assist facilities moving toward environmental sustainability: https://www.deq.virginia.gov/business-construction/pollution-prevention/virginia-environmental-excellence-program/resources-and-examples

2.6 Chesapeake Bay Program

EPA's Chesapeake Bay Program hosts a Toxic Contaminants Workgroup on which DEQ staff collaborate and contribute. The main objectives of the workgroup are toxics research, policy, and prevention in the Chesapeake Bay and its watershed.

Specific policies and objectives are described in the Toxic Contaminants Policy and Prevention Outcome Management Strategy 2015–2025 which can be found at:
https://www.chesapeakebay.net/documents/22048/toxic_contaminanats_policy_and_prevention_management_strategy_v3.pdf

Additional information specific to progress on implementing the outcomes presented in the Management Strategy can be found at:
https://www.chesapeakebay.net/who/group/toxic_contaminants_workgroup

2.7 Salt Management Strategy (SaMS)

SaMS is Virginia's first comprehensive effort by a diverse stakeholder body to design, in a cohesive and collaborative manner, a strategy seeking to improve the balance between the impacts and benefits of salt application. Recognizing the public safety and economic benefits of salt use, SaMS seeks to strike a better balance between these benefits and the associated negative costs and impacts from winter salt to our drinking water, environment, infrastructure, vehicles and human health.

The SaMS initiative is a non-regulatory, voluntary, and largely proactive approach to address this emerging issue in Northern Virginia. It is guided by the below three goals, developed by the Stakeholder Advisory Committee and embodied in the SaMS Toolkit.

- Uses a stakeholder-driven process to proactively address salt loads in the region and address the Accotink Creek chloride (salt) Total Maximum Daily Load (TMDL).
- Generates increased public awareness that leads to positive behavior changes, and long-term support for the continual improvement of deicing/anti-icing practices and actions.
- Ensures continued protection of public safety, improves water quality and terrestrial habitat, and lessens the effects of deicing/anti-icing salts on drinking water resources, property and road infrastructure through information sharing and implementation of best practices over time.

The SaMS Toolkit is a resource to aid the initiative and continually advance efforts towards achieving SaMS goals. It encompasses winter road maintenance, large and smaller scale winter property maintenance, commercial and residential communities and individual residents' winter maintenance of roads, driveways, steps, and sidewalks. It includes technical information as well as background and practices related to communications. It is designed to meet the interests and needs of senior organizational decision makers, maintenance supervisors, maintenance professionals, and individuals. It is also intended to be adaptive and continually improved upon as knowledge is gained over time.

More information on SaMS and the SaMS Toolkit is available at:
https://www.novaregion.org/1399/Northern-Virginia-Salt-Management-Strate
https://www.novaregion.org/1498/SaMS-Toolkit

3.0 PERMITTED DISCHARGERS & COMPLIANCE MONITORING

3.1 Virginia Pollutant Discharge Elimination System Permit Program

The Virginia Pollutant Discharge Elimination System (VPDES) permit program requires effluent limits be established for all potentially toxic substances in permitted discharges from industrial and municipal facilities. Permit effluent limits are set so that discharges do not cause or contribute to exceedances of water quality criteria contained in Virginia's Water Quality Standards for the pollutants being released into the receiving waterbody.

The record of permitted facilities discharging toxics to waters of the Commonwealth is determined through discharge monitoring reports (DMRs) submitted by each permittee at the end of each monitoring period specified in their permit. Monitoring periods may be, for example, monthly, quarterly, semiannually, annually, etc. as specified in the permit.

The number of facilities discharging toxics was quantified by compiling submitted DMR data for permits with any monitoring period or portion thereof falling within the CY22 – CY24 reporting period. Based on that DMR record, 225 facilities held 225 permits for discharging toxics into Virginia waters during CY22 – CY24 and did so through 687 outfalls (Table 1).

Table 1. Number of facilities during the CY22 – CY24 reporting period holding active permits to discharge toxic parameters and submitting discharge monitoring reports.

Facilities	Permits	Outfalls
225	225	517

Appendix 1 of this report lists facilities that were authorized under a VPDES permit to discharge toxics during the CY22 – CY24 reporting period and for which we received DMRs reporting those discharges. The geographic location, river basin, and receiving waterbody for each facility and outfall are included in Appendix 2.

A VPDES permit has a five-year term. The permits are evaluated and reissued at the end of each permit term. Some permits may be delayed in the reissuance process. These permits are granted an administrative continuance which continues the authorization to discharge while the reissuance process occurs. Appendix 1 identifies all facilities with authorization to discharge toxics to surface waters, including administratively continued permits. Several facilities had permits expiring or reissued during the CY22 – CY24 reporting period. The full list of facilities and toxic parameters permitted to discharge during CY22 – CY24, along with their discharge limits, can be found in Appendix 3. Table 2 shows the number of permits issued or reissued during the CY22-CY24. A full list of these permits can be found in Appendix 4.

Table 2. Number of reissued permits during CY22 through CY24.

Year	Reissued Permits
2022	20
2023	32
2024	49

The number of outfalls associated with each permit can vary among facilities according to their size and complexity. Permits for military installations, power stations, and large industrial facilities tend to have a greater number of outfalls discharging toxics (Table 3).

Table 3. Facilities with the greatest number of outfalls authorized to discharge toxics during CY22 – CY24. Facility locations can be found in Appendix 2.

Facility	Permit No.	Number of Outfalls
Huntington Ingalls Incorporated - NN Shipbldg Div	VA0004804	68
US Navy - Norfolk Naval Shipyard	VA0005215	20
US Army - Fort Belvoir	VA0092771	17
Goodyear Tire and Rubber Co - Danville	VA0001201	10
Lyon Shipyard Incorporated - Norfolk Facility	VA0092495	10
Perdue AgriBusiness LLC – Chesapeake	VA0004448	7
DuPont Specialty Products USA LLC - Spruance Plant	VA0004669	8
AdvanSix Resins and Chemicals LLC	VA0005291	8
Colonna's Shipyard Inc	VA0053813	8
Dominion Energy – Chesapeake Energy Center	VA0004081	8

Some of these facilities were under administrative continuances during all or part of CY22 – CY24, indicating that they received authorization to continue their discharges without yet receiving a permit reissuance. Permits with administrative continuances for military installations and large industrial facilities generally have the most outfalls. Details of administrative continuance status for each permit are included in Appendix 2.

During CY22 – CY24, facilities with active permits (including administratively continued permits) that had one or more limits for toxics in their permits and submitted discharge monitoring reports (DMRs) are available in Appendix 3. Table 4 shows the number of facilities, permits, outfalls, and DMRs for CY22 – CY24. The effective effluent limits and reporting frequencies for toxic parameters may vary, depending upon the chemical parameters involved. Note that in some years, permit limits may be modified, reissued, or adjusted relative to limits within the past year. Details of toxics parameters included in each permit active in CY22 – CY24, along with their limits and required DMR frequencies, are also listed in Appendix 3. Additionally, the number of DMRs submitted for each calendar year are available in Appendix 5.

Table 4. Count of facilities, permits, and discharge monitoring reports (DMRs) applicable for each year in the reporting period.

Calendar Year	Facilities	Permits	Outfalls	DMRs
2022	210	210	478	2,154
2023	206	206	467	2,154
2024	207	207	465	2,016

In CY22 – CY24, there were 133 reported exceedances of average concentration and/or maximum concentration limits on discharges of a toxic substance. The permit compliance monitoring results for each permitted facility and outfall during the reporting period are found in Appendix 6.

3.2 Virginia Toxics Release Inventory

Under the provisions of Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, Virginia manufacturing and federal government facilities that release certain chemicals to the air, water, or land, or that transfer these chemicals for off-site treatment, disposal, recycling, or energy recovery, are required to submit reports to EPA. This information is reported on Form R - Toxic Chemical Release Inventory Reporting Form and is collectively referred to as the Toxic Release Inventory (TRI). Although the Report itself is a “hindsight” monitoring tool, the intent of the program is to minimize the quantity, movement, and disposal of toxic materials.

This summary of the TRI includes the most recent reports available since those covered in the 2023 Toxics Report: the 2021 TRI Report published March 2023, the 2022 TRI report published March 2024, and the 2023 TRI report published October 2025. The 2024 TRI was not available prior to the preparation of this report. The number of reporting facilities decreased by 21 from 422 in 2021 to 401 in 2023. Individual reports decreased by 90 from 1259 in 2021 to 1169 in 2023 (Table 5).

Table 5. Count of facilities, submitted reports, and total chemical classes for the previous three TRI publicly available reports.

Calendar Year	Reports	Facilities	Chemical Categories
2021	1,259	422	132
2022	1,249	430	124
2023	1,169	401	129

Releases to surface waters within the boundaries of the facilities decreased from 2021 to 2022, and increased in 2023, both in pounds released, and as a percent of total releases (i.e., air, water, land) (Table 6).

Table 6. Reported on-site releases of TRI chemicals to surface waters 2021-2023.

Calendar Year	Million lbs.	% Water Releases
2021	11.92	44.05
2022	10.13	39.63
2023	13.84	52.87

The top ten chemicals and/or classes of chemicals released each year are summarized in Table 7 along with the relative changes in the quantities released between 2021 and 2023. The top ten chemicals or chemical categories contributed approximately 99.7%, 99.7%, and 99.8% of the total releases to water in 2021, 2022, and 2023 respectively. The top ten chemicals were the same in 2021 and 2022. In 2023, acetaldehyde replaced nitroglycerin in the top ten list (Table 7).

Nitrate compounds, which are typically of more concern because of nutrient enrichment rather than for direct toxicity, constituted approximately 11.5 million pounds (97.08%), 9.8 million pounds (96.85%) pounds, and 97.9 million pounds (97.9 %) of the total release of TRI chemicals to water in 2021, 2022, and 2023 respectively. This was followed by ammonia, another nitrogen compound, with approximately 92 thousand pounds (0.77%), 78 thousand pounds (0.78%), and 60 thousand pounds (0.43%) in 2021, 2022, and 2023 respectively. The industrial wastewater treatment process is the largest source of surface water pollution from nitrate compounds.

Additional information on specific groups of chemicals and the quantities and other details of their releases is available in the original reports at https://www.deq.virginia.gov/land-waste/superfund-amendments-and-reauthorization-act-sara/toxics-release-inventory.

Table 7. Top ten TRI Chemicals released to water on-site in CY 2021 - 2023. Chemicals are sorted in descending order based on CY 2023 releases. N/A indicates that the chemical was not in the Top 10 in the year, but it would still be captured in the Other category.

	CY 2021		CY 2022		CY 2023		
Chemical/ Group	**Thousand lbs. Released to Water**	**% of Total Toxics Released to Water**	**Thousand lbs. Released to Water**	**% of Total Toxics Released to Water**	**Thousand lbs. Released to Water**	**% of Total Toxics Released to Water**	**% Change in lbs. Released to Water**
Nitrate Compounds	11,580	97.08	9,810	96.85	13,550	97.925	17.01
Manganese & Manganese compounds	101	0.85	103	1.02	100	0.7240	-0.99
Ammonia	92	0.77	78	0.78	60	0.434	-34.78
Cyclohexanol	32	0.27	27	0.27	29	0.206	-9.38
Dimethylamine	26	0.22	31	0.31	26	0.190	0
Zinc & Zinc compounds	18	0.15	21	0.21	24	0.175	33.33
Methanol	8	0.07	9	0.09	13	0.091	62.50
N-Methyl-2-pyrrolidone	5	0.04	5	0.05	5	0.034	0
Acetaldehyde	N/A	N/A	N/A	N/A	5	0.033	N/A
Copper & Copper compounds	4	0.04	5	0.05	4	0.032	0
Nitroglycerin	35	0.29	11	0.11	N/A	N/A	-68.57
Other	26	0.22	27	0.27	22	0.156	15.38
Total	*11,927*		*10,127*		*13,838*		*16.02*

Supplemental Information: Toxics Release Inventory

Current and past Virginia TRI Reports are available on the DEQ website at: https://www.deq.virginia.gov/land-waste/superfund-amendments-and-reauthorization-act-sara/toxics-release-inventory

TRI Toxics Tracker is an interactive web application hosted by EPA. Virginia's TRI data are available through this application which can be queried by facility and watershed, available at: https://edap.epa.gov/public/extensions/TRIToxicsTracker/TRIToxicsTracker.html

Additional sources of information on the TRI: Community Right-to-Know, including the access and use of TRI data and fact sheets for individual states, are available on EPA's website at: https://www.epa.gov/toxics-release-inventory-tri-program

4.0 AMBIENT MONITORING

Samples analyzed for toxics were collected during CY22 – CY24 as part of 20 different monitoring programs, TMDLs, and Special Studies. Depending on the experimental design and research objectives, toxics were analyzed in water column, sediment, and/or fish tissue samples. The vast majority of DEQ samples collected and analyzed for toxics were water column samples. Parameters included metals, major ions (calcium, magnesium, sodium, potassium, chloride, sulfate), nitrogen compounds (nitrate, nitrite, ammonia), pesticides, polycyclic aromatic hydrocarbons (PAHs), and Polychlorinated biphenyls (PCBs).

4.1 The Annual Water Quality Monitoring Plan

The Annual Water Quality Monitoring Plan provides a complete list of the ambient WQM stations that will be actively sampled during the corresponding calendar year and the types of samples that will be collected at each. This includes samples for non-toxic parameters in addition to the toxic substances that were included in this report. The DEQ monitoring year corresponds to the calendar year in order to synchronize various ambient monitoring program schedules with one another, with the ecological and water year cycles, and with the assessment window or monitoring period considered for each Integrated Report (see Chapter 5).

The current Annual Water Quality Monitoring Plan and contact information for obtaining older plans are available at:
https://www.deq.virginia.gov/water/water-quality/monitoring/water-quality-monitoring-plan

4.2 Monitoring Toxics in the Water Column (excluding PCBs)

During CY22 – CY24, 1,070 unique monitoring stations were sampled for toxic substances through 20 different DEQ monitoring programs collecting 11,506 water samples. During the CY22 – CY24 reporting period, 68,982 water column data points were obtained for one of 143 different parameters consisting mostly of trace metals, nitrogen compounds, and organochlorine pesticides. The full list of water column parameters is in Appendix 7. PCBs collected in the water column, and toxics measured in sediment or fish tissue are described in Sections 4.3 and 4.4, respectively. Program codes and descriptions for all water column samples are in Appendix 8. Results of non-PCB water column monitoring are in Appendix 9.

The top five DEQ programs ranked by number of stations monitored for toxics in the water column account for 68% of the 1,070 total program-station combinations sampled during the reporting period (Table 8). These programs constitute the most extensive monitoring efforts of DEQ, covering the greatest number of monitoring locations across the Commonwealth. Such programs, like the Freshwater and the Estuarine Probabilistic Monitoring programs, may only sample a station once, but provide information about water quality across a broad geographic area. In contrast, the most intensive monitoring efforts are programs with a more constant network of fewer stations, but which are monitored more frequently. This includes programs monitoring the Chesapeake Bay and its non-tidal tributaries – programs with goals that include characterizing water quality parameters that can change frequently, such as nitrogen compound concentrations. Consequently, the top five most intensive DEQ programs account for 85% of all samples collected during the CY22 – CY24 reporting period (Table 8).

Water column results for all parameters (excluding PCBs) including the Station ID, watershed name, and coordinates for monitoring stations can be found in Appendix 9. Water column metals samples are assessed against Virginia's Water Quality Standards during the biennial 305(b)/303(d) water quality assessment. The CY22 data presented in this report was used in the 2024 Water Quality Assessment. Data from CY23 and CY24 will be used for the 2026 Water Quality Assessment.

Table 8. Top five most intensive (most samples) and top five most extensive (most stations) DEQ programs, ordered by decreasing number of samples analyzed during CY22 – CY24 for toxic parameters in the water column. The numbers of samples and stations, as well as code descriptions for all programs are in Appendix 8.

Number of toxics samples analyzed	Number of toxics monitoring stations	DEQ Program Code	DEQ Program Description
2745	49	CB	Chesapeake Bay Program Water Quality
2068	172	RL	Reservoir and Lake Monitoring
1898	38	BN	Chesapeake Bay Non-Tidal Network Monitoring
1623	103	TR	Long Term Trend Network
1432	136	TM	TMDL Planning
297	168	FP	Freshwater Probabilistic
163	148	C2	Estuarine Probabilistic

4.3 Monitoring PCBs for TMDLs and Special Studies

Sediment and/or water samples were analyzed for PCBs at seven different monitoring stations in CY22 for TMDLs and special studies. No samples were collected to monitor PCBs for TMDLs or special studies in CY23 or CY24. This information is used in the development of TMDLs to address waters listed as impaired due to fish consumption advisories. A total of eight PCB samples were collected, the majority of which were sediment samples (Table 9). The location of each monitoring station where TMDL and Special Study PCB sampling occurred in CY22, along with sample results, can be found in Appendix 10. Narrative overviews of each individual PCB TMDL and Special Study can be found in Chapter 6 below.

Table 9.Count of TMDL and Special Study PCB monitoring stations and samples for each matrix type from CY22.

Sample Matrix	PCB Stations	PCB Samples
Sediment	6	7
Water (whole)	1	1

4.4 Monitoring for Fish Tissue and Sediment Contamination

During CY22 – CY24, DEQ conducted fish tissue monitoring for Total PCBs (1,204 samples) and 17 metal analytes (1,204 samples) at 299 monitoring stations (Table 10). Fish were collected at routine annual statewide (Routine Statewide) sites to support multiple Special Studies and

TMDLs. Additionally, in CY22 fish were collected for what was the final year of a National Fish and Wildlife Foundation (NFWF) grant funded project to sample selected sites in the Dan River and Roanoke River watersheds.

The CY22 results are for samples collected mainly within watersheds of:

- Potomac River tributaries - 48 sites (non-tidal and tidal, impoundments, etc.)
- Chowan and Dismal Swamp - 7 sites (Great Dismal Swamp and Currituck Sound tributaries, etc.)
- Big Sandy River impoundments - 3 sites (North Fork Pound Lake, Flannagan Reservoir, Laurel Lake)
- Special monitoring studies were also conducted in the Dan River and Roanoke River watersheds.

The CY23 results are for samples collected mainly within watersheds of:

- Rappahannock River tributaries - 29 sites (non-tidal and tidal, impoundments, etc.)
- Chowan River tributaries - 34 sites (Blackwater River, Nottoway River and Meherrin River, etc.)
- Roanoke River and tributaries - 15 sites (North Fork and South Fork, Dan River, Lake Gaston, etc.)
- Big Sandy River tributaries - 10 sites (Flannagan Reservoir, etc.)
- James River - 8 sites (non-tidal and tidal, impoundments, etc.)

The CY24 results are for samples collected mainly with the watersheds of:

- James River - 37 sites
- Roanoke-Dan River - 35 sites (Multiple collections at 3 of the sites).
- Shenandoah River - 30 sites
- Big Sandy River (Flannagan Reservoir). 3 follow up sites

Collections for the NFWF project were performed at sites located on the Dan River, Roanoke River, and the following impoundments: Leesville Lake, Carvins Cove, Philpott Reservoir, J. H. Kerr Reservoir, and Lake Gaston.

Table 10. Number of sites and samples analyzed in CY22 - CY24 for routine statewide fish tissue monitoring, and on behalf of the National Fish and Wildlife Foundation grant.

Year	Project	Sample Sites	No. Fish Samples for Total PCBs	No. Fish Samples for Metals
2022	Routine Statewide	87	372	372
	NFWF Dan/Roanoke River Study	14	65	65
2023	Routine Statewide	93	357	357
2024	Routine Statewide	105	410	410

The fish tissue monitoring program may also collect sediment samples for analysis of PCBs and metals as study objectives dictate. In CY22 and CY23, 37 and 53 sediment samples, respectively, were collected for PCB analysis as part of the routine statewide monitoring program. Sediments were not collected for PCB analysis in CY24. Monitoring results for fish tissue PCBs are in Appendix 11 and results for fish metals are in Appendix 12. Results for sediment PCBs are in Appendix 13.

Following receipt and review of fish tissue data, DEQ shares the data with the Virginia Department of Health (VDH), posts results on the DEQ website, and issues formal announcements of the availability of fish tissue data in the Virginia Town Hall and Virginia Register of Regulations. VDH is responsible for issuing Fish Consumption Advisories and Restrictions for Virginia Waterways based upon its review of fish tissue results. After reviewing fish tissue data from CY22 – CY23, VDH concluded no changes to fish consumption advisories for PCBs or mercury were warranted.

4.4.1 Total PCBs in Fish Tissue

Eating contaminated fish is the most significant pathway for PCB uptake in humans. All fish tissue data are evaluated by VDH and could result in the agency lifting current fish consumption advisories or in the issuing of new ones. For consumption advisories based on Total PCB concentrations, exceedances of VDH screening values are considered when setting advisories (Table 11).

Table 11. Number of fish samples having exceedances of Total PCB screening values compared against DEQ (18 ppb) and VDH (Lower = 100 ppb, Upper = 500 ppb) thresholds. Exceedances for each year include both Routine Statewide and NFWF sites. Results from the samples collected in CY24 were not complete prior to preparing and publishing this report.

Year	PCB Concentration Range (ppb)	Exceedances	Percent of Total Annual Samples
2022	> 18 & ≤ 100	110	25.17
	> 100 & ≤ 500	23	5.28
	> 500	1	0.23
2023	> 18 & ≤ 100	29	8.12
	> 100 & ≤ 500	15	4.2
	> 500	4	1.12
2024	*Results were not available prior to report preparation and publication of this report*		

In 2022 and 2023, only 0.23% and 1.12% of the total fish samples, respectively, exceeded the upper VDH threshold of 500 ppb Total PCBs. Five stations each had 1 sample that exceeded the highest VDH Total PCB consumption screening value of 500 ppb. The highest value found was from an American eel collected at station 5ATRE033.87 in Three Creek near the Rt. 617 Bridge below Slagle which exceeded 1,800 ppb. The James River had two stations (station 2-JMS111.17 near Tredegar Iron Works, and station 2-JMS118.99 near Rt. 150 downstream of Boshers Dam); Dan River/Kerr Reservoir had 1 station (4AROA027.02 near the Ivy Hill Public Recreation Area) with 1 individual Flathead Catfish specimen exceeding 600 ppb Total PCBs. Results from the samples collected in CY24 were not complete prior to preparing and publishing this report. Results of CY22 and CY23 fish tissue PCB sampling are in Appendix 11.

Samples are usually composites of multiple fish of the same species and similar size class. With larger species such as Carp and Flathead Catfish, a single fish is analyzed more frequently than a composite. Benthopelagic (i.e., bottom dwelling) fish often accumulate PCBs in higher concentrations than pelagic (i.e., open water) fish (Table 12).

DEQ compares fish tissue contaminant levels against fish consumption hazard screening values for the biennial Integrated Report. The 2024 Integrated Report used CY21 fish tissue data which was provided with the 2023 Toxics Report. CY22 and CY23 fish tissue data will be assessed in the 2026 Integrated Report. CY24 fish tissue data will be assessed in the 2028 Integrated Report. In addition, VDH is responsible for issuing Fish Consumption Advisories and Restrictions for Virginia Waterways based upon the results from the DEQ Fish Tissue and Sediment Monitoring Program and other sources. Fish tissue advisories are also considered in the biennial Integrated Report.

Table 12. Number of fish samples by species that exceeded VDH lower screening value (100 ppb) for Total PCBs. The number of samples are summed for 2022 and 2023. Results from the samples collected in CY24 were not complete prior to preparing and publishing this report.

Species	No. Samples	Species	No. Samples
Blue Catfish	11	Longnose Gar	2
Flathead Catfish	6	Bluegill Sunfish	1
Carp	4	Gizzard Shad	1
Largemouth Bass	4	Hybrid Bass (White/Striped)	1
American Eel	3	Redear Sunfish	1
Channel Catfish	3	Striped Bass	1
Walleye	3		
Black Crappie	2		

4.4.2 Metals in Fish Tissue

Fish tissue metal levels are compared to screening values (SVs) for fish consumption risk to human health. Metal levels are screened against 16 DEQ SVs and 9 VDH SVs (Table 13).

Table 13. DEQ and VDH screening values (SV) and practical quantification limit (PQL) for metals in fish tissue. All values are displayed in mg metal per kg wet weight fish sampled (i.e., mg/kg or ppm). Lead is the only metal without a screening value for DEQ or VDH.

Metal	DEQ SV	VDH SV	PQL	Metal	DEQ SV	VDH SV	PQL
Aluminum	3600	5286	0.5	Manganese	510	53	1
Antimony	1.5	-	0.5	Mercury	0.3	0.5	0.5
Arsenic	0.24	0.09	0.5	Nickel	73	-	0.5
Barium	720	-	0.5	Selenium	18	26	0.5
Beryllium	7.2	-	0.5	Silver	18	-	0.5
Cadmium	3.6	0.53	0.5	Thallium	0.25	-	0.5
Chromium	11	4.76	0.5	Vanadium	36	-	0.5
Copper	36	52	0.5	Zinc	1100	1585	1
Lead	-	-	0.5				

Arsenic and mercury were the only metals to exceed VDH and/or DEQ SVs in CY22 and CY23 (Table 14). CY24 data was not available prior to preparing and publishing this report. Of 885 fish tissue metals samples collected during CY22 – CY23, 17.2% exceeded the VDH screening value threshold for arsenic. It is important to note that VDH and DEQ screening values are based on the amount of inorganic (i.e., hazardous) arsenic present in fish tissue, whereas DEQ fish tissue results are reported as total arsenic. Generally, the proportion of inorganic arsenic is less than 10% of the total arsenic found in fish tissue, thus rendering the screening values exceptionally protective. Sample results for metals in fish tissue can be found in Appendix 12. After assessing the fish tissue metals results from CY22 and CY23, VDH concluded the data did

not warrant any changes or additions to VDH fish consumption advisories. DEQ assessed CY21 fish tissue data as part of its 2024 Water Quality Assessment, the broad results of which are discussed in the context of toxics-related designated use impairments in Chapter 5 of this report. The CY22 data, along with CY23 data, will be assessed by DEQ as part of its 2026 Water Quality Assessment.

Table 14. Fish tissue screening value exceedances for all metals in 2022 and 2023. Screening values for arsenic are based on the amount of inorganic arsenic in fish tissue. Exceedances below were counted against total arsenic in fish tissue and represent overly cautious estimates of human health risk.

Year	Metal	Screening Value (ppm)	Number of Screening Value Exceedances	Percent of Total Annual Samples
2022	Arsenic	DEQ (0.24)	24	5.1
		VDH (0.09)	84	17.7
	Mercury	DEQ (0.30)	96	20.2
		VDH (0.50)	33	6.9
2023	Arsenic	DEQ (0.24)	40	9.8
		VDH (0.09)	69	16.8
	Mercury	DEQ (0.30)	139	33.9
		VDH (0.50)	54	13.2

Supplemental Information: Fish Tissue Monitoring
For more information about DEQ's fish tissue monitoring program visit:
https://www.deq.virginia.gov/water/water-quality/monitoring/fish-tissue-monitoring

The latest Water Quality Assessment Guidance Manual is available at:
https://www.deq.virginia.gov/water/water-quality/assessments/wqa-guidance

To search an interactive table of waters with current VDH fish consumption advisories visit:
https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/fish-consumption-advisory/

To view an interactive map of waters with current VDH fish consumption advisories visit:
https://virginiahealth.maps.arcgis.com/apps/webappviewer/index.html?id=9ac625009b224f818268c3fdd4e5cb9d

NOAA Screening Quick Reference Tables
https://repository.library.noaa.gov/view/noaa/9327

4.4.3 Total PCBs in Sediment

In CY22 and CY23, the fish tissue monitoring program collected 37 and 53 sediment samples, respectively, that were analyzed for Total PCBs (Appendix 13). Sediment samples were not analyzed for CY24.

DEQ compares sediment contaminant levels against SVs for the biennial Integrated Report. The SVs identify the range of sediment PCB concentrations that are likely to cause adverse effects in benthic communities. Virginia primarily uses two SV classes to characterize sediments: 1) consensus-based Probable Effects Concentrations (PECs) for freshwater sediments and 2) Effects Range Median (ER-M) concentrations for estuarine and marine sediments. Screening values for Total PCBs and other contaminants can be found in DEQ's Water Quality Assessment Guidance Manual and are consistent with NOAA's Screening Quick Reference Tables (see links in Supplemental Information in Section 4.5). The CY22 sediment PCB data were assessed in the 2024 Integrated Report, while the CY23 data will be assessed with the 2026 Integrated Report.

PCBs were detected in 34 of the sediment samples with no site exceeding the Effects Range Median (180 ppb) or PEC (>676), the screening value indicating a high probability of causing adverse effects to benthic organisms (Table 15).

Table 15. Count of Total PCB sediment samples and exceedances of Effects Range Median (ER-M) and Probable Effects Concentrations (PEC) screening values.

Year	No. PCB Sediment Samples	No. PCB Sediment Stations	No. Samples with PCBs Detected	ER-M Exceedances (> 180 ppb)	PEC Exceedances (> 676 ppb)
2022	37	35	22 (59%)	0	0
2023	53	50	12 (23%)	0	0

4.5 Estuarine Probabilistic Monitoring of Sediment Toxics

DEQ's estuarine probabilistic monitoring program is a geographically extensive one, collecting water and sediment from July 1 – September 30 at approximately 50 monitoring stations randomly selected each year and spread across the estuarine waters of Virginia. In CY22, 48 monitoring stations were sampled, and 50 were sampled in both CY23 and CY24. Each station was sampled once.

Sediment samples are analyzed for PCBs, PAHs, metals, and pesticides. Approximately 113 toxic analytes are measured from each sediment sample (Appendix 14). Information about each monitoring station, including location, can be found in Appendix 15. Water sample results are addressed in Section 4.2 of this report, and results are in Appendix 9, under Survey Program Code C2 (Appendix 9 column FDT_SPG_CODE). Sediment chemistry results are presented separately, in Appendix 16.

Weight-of-Evidence Assessments

Virginia does not have numeric criteria or sediment standards for which to assess sediment and alternatively uses a weight-of-evidence (WOE) based approach to evaluate sediment quality in estuarine waters during the biennial 305(b)/303(d) water quality assessment process. The three lines of evidence in the WOE are sediment chemistry, sediment toxicity testing, and benthic

community condition. In most cases two or more lines of evidence must show adverse effects before the station is listed as impaired in the Integrated Report. Benthic community is weighted most in the WOE because the objective of assessment is to protect the aquatic life designated use. The estuarine probabilistic monitoring program may also sample for metals in the water column at some stations as deemed essential and as budget allows (Appendix 9). Water column metals samples from probabilistic stations are assessed against Virginia's Water Quality Standards separately from the weight-of-evidence approach applied to sediment.

Supplemental Information: Estuarine Probabilistic Monitoring Program
The 2024 Integrated Report includes assessments of water column metals data, fish tissue data and completed WOE assessments for estuarine probabilistic monitoring data collected 2017-2022. The report can be found at:
https://www.deq.virginia.gov/water/water-quality/assessments/integrated-report

A detailed explanation of Virginia's Weight-of-Evidence (WOE) Aquatic Life Use Assessment in Estuarine Waters can be found in Appendix G of the DEQ 2024 Water Quality Assessment Guidance Manual available at:
https://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\GuidanceDocs\440\GDoc_DEQ_7624_v1.pdf

Information about the USEPA National Coastal Condition Assessment (NCCA), in which DEQ participates through its estuarine probabilistic monitoring program, is available on the USEPA NCCA website at: https://www.epa.gov/national-aquatic-resource-surveys/ncca

5.0 THE 305(B)/303(D) WATER QUALITY ASSESSMENT INTEGRATED REPORT

5.1 Overview

Under the CWA, EPA requires that each state develop a program to monitor the quality of its surface and ground waters and prepare a report every two years describing the status of its water quality. Each state identifies waters of concern as having observed effects and schedules additional monitoring, if appropriate, to determine if designated uses are being met. Referring to the applicable CWA sections, this 305(b)/303(d) process is the principal means by which the EPA, Congress, and the public evaluate current water quality, the progress made maintaining and restoring water quality, and the extent of remaining work to be done. The 305(b)/303(d) process is an integral part of Virginia's water quality management program, for which requirements are set forth in federal regulations (40 CFR 130).

Virginia bases its water quality assessments on the ability of the waters to support the associated designated uses. Designated use support is based on the waters meeting the criteria for each use as defined in the numeric and/or narrative water quality standards as described in the water quality assessment guidance manual that is published ahead of each biennial water quality assessment. During the assessment process, concentrations of toxic contaminants found in surface waters, sediment, and fish tissue are evaluated in accordance with the procedures described in the assessment guidance manual to determine the appropriate assessment category for the associated bodies of water. The results of Virginia's water quality assessments are summarized in a comprehensive biennial report called the 305(b)/303(d) Water Quality Assessment Integrated Report (Integrated Report). The Integrated Report summarizes

assessments made using data from the six consecutive years ending two years prior to the reporting year (e.g., the 2022 Integrated Report used data from 2015 through 2020).

On July 28, 2025, EPA approved Virginia's 2024 Integrated Report which summarizes the Commonwealth's water quality conditions from January 1, 2017, through December 31, 2022. As such, it includes activities and data relevant to the CY22–CY24 reporting period of this Toxics Report. While CY22 data were used for the most recent Integrated Report, the assessment results presented here are not based solely on CY22 data. Data from CY23 and CY24 will be assessed as part of the 2026 Integrated Report (data from 2019 – 2024), which is scheduled to be final by the end of 2026.

5.2 Toxics-Impaired Segments

Waterbodies may be assessed as impaired from non-toxic causes (e.g., sediment, bacteria), as well as from toxic causes (the focus of this report). The extent (waterbody length or surface area) of waters impaired for toxics was greater for the 2024 Integrated Report cycle as compared to the 2022 Integrated Report cycle, but the percentage of that extent impaired for toxics remains remarkably unchanged from cycle to cycle (Table 16). The name, location, and impairment cause for each toxics impaired segment for the 2024 Integrated Report cycle can be found in Appendix 17.

Table 16. Summary of waterbody length or surface area impaired for any cause compared to toxic causes. Each cycle represents a 6-year dataset.

Integrated Report Cycle	Impaired Extent All Causes			Impaired Extent Toxic Causes			% Extent Impaired Toxic Causes		
	Lake or Reservoir (ac)	River (mi)	Estuary (sq mi)	Lake or Reservoir (ac)	River (mi)	Estuary (sq mi)	Lake or Reservoir (ac)	River (mi)	Estuary (sq mi)
2006	31,820	1,247		24,186	141		76.0	11.3	
2008	30,253	7,025	1,787	25,348	1,304	1,724	83.8	18.6	96.5
2010	96,651	12,101	2,157	85,926	2,830	2,088	88.9	23.4	96.8
2012	94,041	13,127	2,134	85,518	2,828	2,061	90.9	21.5	96.6
2014	94,754	15,677	2,136	86,000	3,657	2,058	90.8	23.3	96.3
2016	93,523	15,282	2,132	86,012	3,669	2,049	92.0	24.0	96.1
2018	95,366	15,553	2,133	87,262	3,744	2,049	91.5	24.1	96.1
2020	94,789	15,871	2,137	88,082	3,714	2,097	92.9	23.2	96.2
2022	101,172	16,205	2,138	88,332	3,718	2,058	87.3	22.9	96.3
2024	102,091	16,312	2,143	89,300	3,741	2,064	87.4	22.9	96.3

The overwhelming majority of the 1,694 toxics-impaired segments in the 2024 Integrated Report are the result of fish consumption advisories for PCBs in fish tissue or Mercury in fish tissue (1,524 segments), which together account for approximately 90% of toxics-impaired segments (Table 17). Both contaminants are persistent and likely to bioaccumulate in higher concentrations in fish tissues than in the surrounding environment. The number of segments

impaired for each toxic cause in the 2024 Integrated Report cycle is in Appendix 17. Note that a waterbody segment can be impaired for multiple causes simultaneously; 136 segments are impaired for both PCBs in fish tissue and Mercury in fish tissue.

Table 17. The top five toxic impairment causes by number of toxics-impaired segments for the 2024 Integrated Report cycle. Note 136 segments were impaired for both PCBs and Mercury in fish tissue.

Toxic Cause of Impairment	No. Impaired Segments
PCBs in fish tissue	1,179
Mercury in fish tissue	345
PCBs in Water	59
Dioxin	24
Copper	9

5.3 Toxics-Impaired Segment Delistings

For the 2024 Integrated Report cycle, 33 toxics-impaired segments were proposed to EPA for delisting (Appendix 17). The proposed delistings include:

- 23 segments for Mercury in fish tissue based on new data indicating decreased contaminant levels sufficient to meet water quality criteria.
- 7 segments for Pesticides (Chlordane, DDE, Aldrin, DDT) based on new data indicating decreased contamination levels sufficient to meet water quality criteria. One segment (originally listed for containing Mirex) was initially listed incorrectly.
- 1 segment for Chloride based on new data indicating decreased contaminant levels sufficient to meet water quality criteria.
- 2 segments for Harmful Algal Blooms (HAB) based on revised procedure for HAB Assessment causing the segments to no longer meet criteria for impairment.

Pending EPA approval, the proposed toxics-impaired segments will be removed from the impaired waters list.

Supplemental Information: 305(b)/303(d) Water Quality Assessment

The 2024 Integrated Report is available on DEQ's website at:
https://www.deq.virginia.gov/our-programs/water/water-quality/assessments/integrated-report

6.0 TOTAL MAXIMUM DAILY LOADS (TMDLS) AND SPECIAL STUDIES

6.1 Overview

Total Maximum Daily Loads (TMDLs) pinpoint the maximum pollutant load (i.e., loading capacity) a waterbody can receive and still meet water quality standards. TMDLs, once implemented, help lower the risk contaminants pose to humans and the ecosystem. Pollution limits, or load allocations (LAs) for nonpoint sources and waste load allocations (WLA) for point sources, are set to meet the loading capacity identified in the TMDL. To establish the LAs and WLAs for a contaminant such as PCBs, water and sediment samples are collected for use in the development of a PCB fate and transport model. The modeled output is used to set allocations of the different PCB sources from which reductions are assigned.

The TMDL Program is the primary program for addressing impairments caused by pollutants – including toxic substances – in aquatic environments on a watershed scale. TMDLs are prioritized for development based on the national 303(d) Program Vision (for additional information see link below). For PCB TMDLs, the WLA implementation process involves permitted dischargers developing Pollutant Minimization Plans (PMPs). PMPs are used to reduce or prevent releases of contaminants into a waterbody to achieve effluent quality at or below the applicable water quality standard or TMDL endpoint. Other implementation actions related to the LA portion of the TMDL equation may be possible depending on the PCB sources identified during the TMDL development process.

EPA approved 28 new TMDL equations between CY22 and CY24. The TMDLs approved during this period addressed a mixed group of pollutants that included excessive sedimentation and nutrients, bacterial contamination, and PCBs. The Lewis Creek (Shenandoah River basin) PCB TMDL and Mountain Run PCB TMDL (Rappahannock River Basin) were due to an impairment by a toxic contaminant. DEQ currently has various TMDL projects underway to address toxics (including PCBs) in fish tissue, including the upper and middle (non-tidal) portions of the James River extending from the headwaters to the Interstate 95 bridge, the tidal portion of the James River watershed that stretches to the mouth and includes the Elizabeth River watershed, and the Bluestone River (New River basin). In addition, DEQ is developing several TMDLs for benthic aquatic life use impairments. These impairments may be due to several potential stressors, including toxics. To identify the specific stressors, DEQ performs monitoring to support Stressor Analysis studies which are used to select the target pollutant for TMDL development.

Special Studies are often initiated independently at the DEQ Regional Office (RO) level in response to locally recognized problems. Often, these regional special studies are related to TMDL development for impaired waters based on impacts to aquatic life, but they may also be initiated to evaluate new monitoring or analytical methods, or to investigate potential problems with new practices. The TMDL Program is an important component of DEQ's efforts to remediate toxics in aquatic environments.

Supplemental Information: TMDLs

For information on EPA's Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program visit:
https://www.epa.gov/sites/default/files/2015-07/documents/vision_303d_program_dec_2013.pdf

Completed TMDLs are available via the search form on the "TMDL Development" link on the DEQ website at:
https://www.deq.virginia.gov/our-programs/water/water-quality/tmdl-development/approved-tmdls

The list of TMDLs under development is also available on the DEQ website at:
https://www.deq.virginia.gov/our-programs/water/water-quality/tmdl-development/tmdls-under-development

Information for developing Pollutant Minimization Plans (PMPs) can be found at:
https://www.deq.virginia.gov/our-programs/water/water-quality/tmdl-development/tmdls-under-development/pcb-tmdls

6.2 TMDL and Special Study Narratives

This section includes updates on activities and toxics data collected during CY22 – CY24 to support TMDLs and Special Studies regarding toxic parameters addressed by DEQ's ambient monitoring programs described in Chapter 4. Also included are stressor analysis studies because they often collect water samples for analysis of toxic parameters, even if toxic parameters are ultimately not identified as a probable cause of impairment. Raw data collected in CY22 – CY24 to support TMDL studies are included in the Appendix 9.

Statewide Special Study: Legacy Non-PCB Impairments
DEQ undertook a Special Study to conduct follow-up monitoring to determine the status of 46 fish tissue based impaired waters for non-PCB pollutants that had not been monitored in approximately 14 years. These legacy toxic fish consumption impairment listings have been included in past Integrated Reports for non-PCB organic contaminants. Statewide, 35 distinctive water segments with 46 listings were identified from fish tissue samples collected from 1996 through 2007. The pollutants associated with the 46 listings include one or more contaminants from the following groups: PAHs, [Benzo[a]pyrene, Benzo[b]fluoranthene, and Benzo[k]fluoranthene], chlorinated pesticides [Aldrin, Chlordane, Heptachlor Epoxide, DDD, DDE and DDT], and/or dioxin. Fish had not been monitored for these pollutants since 2007 as the Fish Tissue Monitoring Program was suspended in FY 2008 due to the lack of funding needed to cover programmatic costs. When the program was reactivated in 2012, the target areas and contaminants were limited to existing PCB fish tissue impairments, so no follow-up monitoring of the non-PCB contaminants had occurred.

The sampling design for this project was to revisit the appropriate fish tissue stations that were analyzed for the contaminants of interest from 1996-2007. Samples were collected at 27 stations for pesticides, 12 for PAHs, and 4 for dioxin (Appendix 18). The targeted fish species largely included those that were identified as containing levels of contamination above the fish tissue threshold values (TVs). In situations where identical species could not be collected, replacement fish included those that had a similar trophic status and feeding strategy. Fish collection procedures adhered to DEQ's standard procedures.

The analytical methods utilized have reporting levels below the fish tissue TVs of interest that allow a direct comparison. Knowing that the impairments are old and several of the pollutants are considered legacy, the objective was to determine if these waters can be delisted, but only as supported by the data. Since VDH identified and listed the dioxin consumption advisory, tissue residue data covering a two-year period are required to remove the advisory.

Fish tissue samples were collected during the latter period of the CY20 – CY21 timeframe, with results first available in CY22. The data generated from this effort were used for the 2024 Integrated Report, resulting in delisting 6 waters from the impaired list (Appendix 17).

Mountain Run: PCB TMDL

The Mountain Run impairment extends from the Route 15/29 bridge crossing, near the City of Culpeper, approximately 19 miles downstream to the confluence with the Rappahannock River. This waterbody was included in the 2004 VDH PCB fish consumption advisory and was first listed with a fish consumption impairment in DEQ's 2006 Integrated Report. The Special Study monitoring has entailed sampling throughout the watershed to identify potential areas of elevated PCB concentrations in both water column and sediment. In 2017, a review of the existing data was performed to assist with the selection of additional stations around the Culpeper area to target areas of potentially elevated PCB concentrations. Collections of the initial round of samples occurred during April 2018. In July 2018, DEQ completed the main sampling effort concentrating data collection around the Culpeper area.

The Mountain Run PCB TMDL was completed, and EPA approved the report on September 25, 2024. The TMDL endpoint of 310 pg/L was derived using a site-specific bioaccumulation factor. The selected allocation scenario includes a 99% reduction in PCB loads from contaminated sites, a 55% reduction in loads from Industrial Stormwater permitted facilities, and 55% reduction in direct drainage from non-regulated areas. Following completion of the TMDL study, DEQ began planning for follow up monitoring to identify unknown sources in the watershed. Water and sediment data collected between 2017 and 2019 were used to identify tributaries to target with follow up monitoring. No samples were collected during CY22 or CY24.

Lewis Creek: PCB TMDL

Lewis Creek was listed as impaired for PCBs due to exceedances of VDH fish consumption threshold in 2004, and the DEQ fish tissue-screening value in 2012. The PCB impairment begins near its headwaters and extends downstream 12.53 miles through the City of Staunton to its confluence with Middle River near Verona. Lewis Creek is in the Shenandoah River basin.

The Lewis Creek PCB TMDL was completed, and EPA approved the report on February 4, 2022. The TMDL endpoint of 440 pg/L was derived using a site-specific bioaccumulation factor. The selected allocation scenario includes a 99% reduction in PCB loads from contaminated sites, a 91% reduction in loads from MS4 service areas, and an 82% reduction in direct drainage from non-regulated areas. Following completion of the TMDL study, DEQ began planning for follow-up monitoring to identify unknown sources in the watershed. Sediment samples were collected from Lewis Creek in CY22 at stations 1-BXLW000.04, 1-BXLS000.06, 1-BXLI000.06, 1-BXLE000.16, 1-BLEW002.91 and 1-BLEW000.47. No samples were collected during CY23 or CY24.

Middle and Upper non-tidal James River, Maury River and Jackson River: PCB TMDL
The middle and upper non-tidal James River and its tributaries have VDH fish consumption advisories for PCBs and have been listed as impaired for that use. Ambient water samples were collected from locations throughout the watershed during 2009 – 2013 with primary focus on "dry" weather and "wet" weather conditions. Several additional samples were collected during the spring of 2016 at the Richmond fall line. A low-level analytical procedure, capable of parts per quadrillion detection level was used to analyze all samples. The results are being used in support of TMDL development by delineating possible source areas and to provide information for model development to establish the fate and transport of PCBs in the watershed.

The draft TMDL report was completed in CY24 and is undergoing state and federal review to obtain final approval in 2025. The selected allocation scenario includes a 99% reduction in PCB loads from contaminated sites, and 68% and 92% reduction from Combined Sewer Systems in the upper and middle James River sections respectively. Also, permitted sites will have reductions of <1%, 99%, 88%, and 97% in the Jackson River, Maury River, Middle and Upper James River Sections respectively. No samples were collected during CY22 or CY24.

Bluestone River PCB Source Investigation
The Bluestone River is in the New River Basin in southwestern Virginia. Currently a VDH fish consumption advisory exists from the Route 460 bridge just south of Bluefield, Virginia downstream to Virginia/West Virginia state line near the town of Yards in Tazewell County, Virginia. This advisory exists for carp, white sucker, rock bass, and largemouth bass. Initial TMDL studies to delineate the geographic distribution and possible sources of the PCB contamination began in 2002.

As part of the initial source assessment evaluation in fall of 2005, semi-permeable membrane devices (SPMDs) were deployed during low flow conditions. A PCB report for the Bluestone River in Tazewell County was released by USGS in 2007. The results of this PCB study were also presented at the 7th Passive Sampling Workshop and Symposium in Reston, Virginia (April 24-26, 2007), which was cosponsored by the Columbia Environmental Research Center, USGS, and DEQ.

These previous investigations resulted in EPA removal actions at two facilities in West Virginia known to have been releasing PCB contamination (the Lin Electric Site and the former Joy Manufacturing Site, also known as the Route 52 Site). In December 2008, sampling results indicated that the stormwater migrating from the Lin Electric Site was found to contain the highest levels of PCBs compared to other surface water samples collected in the area. Surface water monitoring completed by DEQ since the removal actions indicates that the concentration of PCBs migrating from the Lin Electric Site has steadily declined. However, concentrations of the PCBs detected in the Bluestone River have remained somewhat consistent.

DEQ water sampling during periods of high and low flows in 2017 and 2018 along Whitley Branch, a tributary of the Bluestone River, shows improving PCB conditions, likely as a result of EPA PCB removal efforts at the Lin Electric site. However, corresponding samples collected along Beaverpond Creek continue to show elevated PCB concentrations.

The Route 52/Joy Electric site property is located just upgradient of the Beacon Cave system. PCB contamination was likely to have been released into the environment by the operators of the former Joy Manufacturing Site resulting in the release of unknown quantities of PCB

contaminated oil into the Beacon Cave system. The Beacon Cave system is a karst groundwater system that begins in West Virginia. Groundwater moves rapidly through this system and exits to surface water in Virginia. The still elevated PCB concentrations in Beaverpond Creek suggest that the Beacon Cave system itself could be the current source of the PCB contamination impacting this creek and migrating via surface water to the Bluestone River. There may be an additional unknown source impacting the Beacon Cave System.

EPA Region 3 tasked Tetra Tech, Inc.'s Superfund Technical Assessment and Response Team (START) to assist with conducting a removal site evaluation at the Bluefield Beacon PCB Groundwater Site. On September 28, 2021, START collected: (1) sediment and surface water samples from Beaverpond Creek and the Bluestone River, (2) a sediment and groundwater sample within the Beacon Cave, and (3) composite soil samples from open sinkholes. The sampling was conducted during dry weather conditions. PCB contamination was limited for this dry weather sampling event showing a downward trend for the water column PCB result – with the exception of the sample collected at the cave resurgence which was slightly higher than previous sampling in 2018. A draft report of the September 2021 sampling was submitted to EPA by Tetra Tech, Inc. in March 2022.

Coordinated discussions continue among West Virginia DEP, DEQ, and EPA to address the Bluestone River PCB impairment.

For more information on Bluestone River PCBs, see this USGS 2007 PCB report for the Bluestone River in Tazewell County: https://pubs.usgs.gov/of/2007/1272/pdf/OFR2007-1272.pdf

Elizabeth River Supplemental Information

In 1997, in response to indications of water quality impairment by toxics in the Elizabeth River and its tributaries, DEQ and a group of stakeholders through the non-profit group Elizabeth River Project (ERP) collaborated to produce a comprehensive Water Quality Monitoring plan for the waterbodies of concern. Under guidelines included in that plan, a baseline environmental study began in January 1998 with the goal of allowing the future assessment of trends in contaminant concentrations and their effects. Scientists from the Virginia Institute of Marine Science, Old Dominion University, and DEQ worked with representatives from state, federal, and local authorities, and other stakeholders to design and conduct the monitoring. DEQ continues to monitor for conventional pollutants and nutrients, however, most studies specifically involving toxics and their effects in the Elizabeth River system have concluded.

In December 2023, ERP released its 2023 State of the River Scorecard, which concludes the river is holding steady overall with a "C" grade (on an A to F scale), the same as during the last assessment in 2020. Most branches generally remained steady since the last assessment; Out of the 10 parameters evaluated for 10-year river health trends in each branch (55 overall trends analyzed), all showed improving trends or no change in the trends. In addition to water quality parameters, the scorecard includes letter grades for biological indices such as benthic community health and cancer rates in fish (specifically, mummichogs). Dr. Daniel Dauer at Old Dominion University gave the benthic community in Elizabeth River an overall grade of "D" ("Degraded"), the same as in 1999. The ongoing research at Virginia Institute of Marine Science indicates liver cancer is more prevalent in the mummichogs that live in the most industrialized branches.

For more information on monitoring activities and water quality improvement strategies visit the Elizabeth River Project website: https://www.elizabethriver.org

The 2023 State of the Elizabeth River Scorecard is available on the Elizabeth River Project website at: https://elizabethriver.org/wp-content/uploads/2023/10/State_of_the_River_2023_w_Appendix.pdf

TMDL Benthic Stressor Analyses

In support of TMDL development, DEQ monitors streams to collect information in support of preparing a stressor analysis to identify the cause(s) of stream impairment. A stressor analysis is crucial for identifying the critical stressors – physical, chemical, or biological factors that are preventing the water body from meeting water quality standards. During CY22 – CY24, DEQ developed benthic stressor analysis (BSA) studies for 8 TMDL projects, that included stream monitoring for toxic parameters (Table 18). Some analyses have been completed, and the projects have proceeded to develop a TMDL report to address the impairment. In addition, DEQ conducted water sampling of toxic parameters in multiple watersheds to collect data for future benthic stressor analyses (Table 19). Appendix 9 provides the results of water samples collected for toxics analysis.

Table 18. TMDL Benthic Stressor Analyses developed during CY22-CY24 that included stream monitoring for toxic parameters analysis.

TMDL Project	Counties	Sample Year	Stream and Monitoring Station	BSA Status
Blackoak/ Obeys	Scott	CY23	Blackoak Branch: 6-BBLB000.77	In Development
Appomattox	Prince Edward	CY22	Briery Creek 2DBRI007.10	Complete
Broad Run	Loudon	CY22	Broad Run: 1-ABRB006.33, 1-ABRB002.15, 1-ABEM000.60, 1-ABRB015.38, 1-ARUS000.33, 1-ABRB009.44 Frying Pan Branch: 1-AFRY000.60; Horsepen Run: 1-AHPR003.87; Indian Creek: 1-AINI000.80; South Fork Broad Run: 1-ASOR000.59	Complete
Crooked/Stoney/ Pugh	Shenandoah	CY22	Crooked Run, 1BCKD000.38; Pugh Run, 1BPGH000.60; Stony Creek: 1BSTY004.24;	Complete
Custis/Rattrap	Accomack	CY22	Custis Creek: 7-CUS004.08; North Fork, 7-PNF001.98, 7-PAR003.09; Rattrap Creek: 7-RTT000.74; Ross Branch, 7-RSS001.40; Unnamed tributary to Folly Creek: 7-XDE000.40	In Development
Horsepen/Little Roanoke,	Charlotte	CY24	Spencer creek 4ASPC000.34	Complete

TMDL Project	Counties	Sample Year	Stream and Monitoring Station	BSA Status
Greendale Creek/ Fleenor UT	Washington	CY22	UT Fleenor Branch: 6CXEO000.25	Complete
Roanoke/Tinker	Roanoke	CY22	Wolf Creek: 4AWOR000.34; Tinker Creek: 4ATKR000.69; Roanoke River: 4AROA202.20; 4AROA198.08	In Development

Table 19. CY22 – CY24 water sampling of toxic parameters for future benthic stressor analyses.

TMDL Project	County/City	Year	Stream and Monitoring Station
Blackwater/ Tomahawk	Lynchburg	CY22	Tomahawk Creek: 2-THK000.03, 2-THK001.31; Blackwater Creek: 2-BKW005.95, 2-BKW000.40, 2-BKW004.87; Burtons Creek: 2-BUN000.04; Judith Creek: 2-JTH001.52 (probmon); Ivy Creek: 2-IVA005.75; 2-IVA012.13
Buck Island/Mechunk	Roanoke	CY22	Carroll Creek: 2-CRR000.27; East Prong Beaverdam Creek: 2-BEP000.80
Chuckatuck Creek	Isle of Wight	CY24	Chuckatuck Creek: 2-CKT001.53
Elk/Turkey	Grayson	CY23	Elk Creek: 9-ECS000.20, 9-EKC000.11, 9-EKC010.47, 9-EKC013.81; Middle Creek: 9-ECM001.01
Flat/Mollys	Cambell	CY23	Flat Creek: 4AFCA010.95, 4AFCA001.40
Mill/Little Cedar	Russel	CY24	Little Cedar Creek: 6-BLTL0007.66
Powhatan Creek	James City	CY24	Powhatan Creek: 2-POW004.48

7.0 OTHER INITIATIVES

In addition to the programs described for addressing chemicals meeting the codified definition of toxic substances, DEQ also undertakes various initiatives to monitor and evaluate risks from substances present in waters of the Commonwealth that are potentially toxic. These may include contaminants of emerging concern (CECs) – substances that historically have typically not been regulated as water pollutants, but which have been detected at levels of potential concern in waterbodies as indicated by advancing science that is revealing their potential to cause adverse effects to ecosystems and/or humans. Substances of potential toxic concern also include toxins produced by certain nuisance algae in waters with excessive nutrient pollution. This chapter describes two such initiatives undertaken by DEQ during the CY22 – CY24 reporting period to address such potentially toxic substances.

7.1 Toxins from Harmful Algal Blooms (HABs)

HABs produce toxins which may cause skin, eye, and digestive tract irritation, kidney and liver damage and neurotoxic effects. DEQ and VDH serve as lead partners on the HAB task force, along with Old Dominion University, Virginia Institute of Marine and members from other local, state, and federal agencies and universities. The HAB task force responds to public complaints, conducts scientific investigations on potential HAB events, and provides information to the public on HAB events and their associated health risks. HAB investigations inform VDH swim advisories and DEQ water quality assessments. DEQ serves the HAB task force primarily by conducting field investigations of potential HABs in freshwater systems. The aim of these investigations is to determine if cyanobacteria produce toxins that pose a risk to human health. Observations of cyanobacteria toxins in freshwater systems may result in VDH swimming advisories and subsequent DEQ assessments that a waterbody is impaired for the recreational designated use. DEQ also serves in an advisory role to task force partners on technical issues and policies related to HABs. As resources allow, DEQ also responds to reports in marine waters and may provide limited support for drinking water authorities.

In calendar years 2022 and 2023, DEQ collected samples for four cyanobacteria toxins as well as taxonomic identification and enumeration to determine the concentration of cells of potentially toxic cyanobacteria species. HAB task force partners collected 146 samples for HAB investigations. Of these, 62 samples in 2022 and 74 samples in 2023 were analyzed for microcystin, cylindrospermopsin, anatoxin-a and saxitoxin, for a total of 544 toxin analyses.

HAB task force activities in calendar years 2022 and 2023 resulted in the issuance of several HAB notifications to the public to avoid algae blooms while recreating, as well as 8 official VDH health advisories to the public to avoid primary contact recreation such as swimming. In 2022, VDH issued advisories for Chris Green Lake (Albemarle County; 1 advisory), Lake Anna (Spotsylvania, Louisa, and Orange Counties; 2 advisories) and Nottoway Lake (Nottoway County; 1 advisory). In 2023, VDH issued advisories for Lake Anna (3 advisories) and Smith Mountain Lake (1 advisory).

In DEQ's 2022 Integrated Report, the agency began using information on VDH HAB advisories to assess Virginia waters against the recreational designated use. The agency conducts assessments based on VDH advisory information from two to three years prior to each Integrated Report release (i.e. calendar years 2019 and 2020 for the 2022 Integrated Report). For 2022, 7 waterbodies for which VDH HAB advisories persisted for 30 days or longer were assessed as impaired, and not meeting the recreational designated use due to HABs. Impairments due to cyanobacteria blooms occurred in the following freshwater bodies: Lake Anna (Spotsylvania, Louisa, and Orange Counties), Mint Springs Lake (Albemarle County), Aquia Creek (Stafford County), Wilcox Lake (City of Petersburg), Woodstock Pond (James City County), Prince Edward Lake (Prince Edward County), and an unnamed tributary of the Chickahominy River (Henrico County).

In DEQ's 2024 Integrated Report, the following seven water bodies were listed as impaired for the recreational designated use based on VDH advisories in 2021 and 2022: Aquia Creek, an unnamed tributary of the Chickahominy River, Prince Edward Lake, Lake Nottoway, Wilcox Lake, Lake Anna, and Woodstock Pond.

The 2022 and 2024 Integrated Reports are available at: https://www.deq.virginia.gov/water/water-quality/assessments/integrated-report.

More information on DEQ water quality assessments is available in DEQ assessment guidance at:https://www.deq.virginia.gov/water/water-quality/assessments/wqa-guidanceThe VDH Division of Shellfish Safety and other HAB task force partners also conduct routine investigations for marine HABs and associated toxins. These investigations are primarily conducted to determine whether health criteria associated with algae and algal toxins in shellfish tissue are exceeded. Although toxin-producing algae do occur in Virginia's marine waters, to date there have been no exceedances of the VDH shellfish thresholds, no human illnesses attributed to HABs in shellfish, and no recreational advisories due to HABs in marine waters.

Changes to VDH HAB Advisory Guidance in 2025

Prior to 2025 – as described in the section above – DEQ and VDH monitored both the concentration of blue green algae (known as cell counts) and the concentration of toxins in water samples. When cell counts exceed 100,000 cells per milliliter (mL) of water, or when toxin concentrations exceed thresholds, VDH issued advisories recommending that the public avoid swimming and other activities that pose a risk of ingesting water. Note that these advisories are not closures; they are recommendations, but do not prohibit swimming in a waterbody under an advisory.

As of June 2025, cell count criteria are no longer considered for VDH advisories, and samples for cell counts are no longer collected during typical HAB investigations (see current VDH guidance at: https://www.vdh.virginia.gov/content/uploads/sites/178/2025/06/Final-2025-Guidance_for_Cyanobacteria_Recreational_Advisory_Mgt-2.pdf). Toxins generated by HABs are the primary concern with protecting public safety. Issuing advisories based on toxin concentrations are expected to increase certainty; when an advisory is issued, it will mean that there is a substantial health risk from HAB toxins.

HAB Special Studies

In 2022, the Virginia General Assembly allocated $3.5 million to the Commonwealth's 2022-2024 biennium budget to investigate potentially harmful algal blooms observed in Lake Anna and the Shenandoah River (see: 2022 Special Session I Virginia Acts Of Assembly, Chapter 2, Item 374, B.1, page 429 at: https://budget.lis.virginia.gov/get/budget/4623/HB30/). The agency has partnered with VDH, USGS and the Interstate Commission on the Potomac River Basin. (ICPRB) to complete these studies. The initial objectives of both the Lake Anna and Shenandoah River studies are to identify the environmental factors leading to HAB formation and to develop strategies for early detection and prediction of HABs. Data collection toward these objectives is complete. Data analysis and report development is ongoing as of the date of this report. DEQ and ICPRB are also undertaking a second phase for the Lake Anna Project (also currently ongoing), whose objective is to develop management strategies to reduce or prevent the occurrence of HABs in the system.

Supplemental Information: Harmful Algal Blooms

Data from HAB investigation sampling events may be requested from VDH by calling 804-864-7480 or visiting the division's contact page at: https://www.vdh.virginia.gov/environmental-health/environmental-health-services/shellfish-safety/shellfish-division-staff/

DEQ HAB Webpage: https://www.deq.virginia.gov/news-info/shortcuts/topics-of-interest/harmful-algal-blooms

VDH HAB Webpage: https://www.vdh.virginia.gov/waterborne-hazards-control/harmful-algal-blooms/

To report a potential Harmful Algae Bloom visit: https://www.vdh.virginia.gov/waterborne-hazards-control/harmful-algal-bloom-online-report-form/

For current HAB advisories, notifications and surveillance activities visit: https://www.vdh.virginia.gov/waterborne-hazards-control/algal-bloom-surveillance-map/

7.2 Per- and Polyfluoroalkyl Substances (PFAS)

Per- and Polyfluoroalkyl Substances (PFAS) are a class of chemicals distinguished by the presence of at least one fully fluorinated methyl (-CF3) or methylene carbon (-CF2-). These molecules are widespread in consumer products including cleaning products, water-resistant fabrics, grease-resistant paper, nonstick cookware, and personal care items, and have been found by EPA to have adverse human and environmental health effects. These compounds are considered emerging contaminants and federal regulations have rapidly responded to new scientific knowledge of how they behave.

Starting in late 2021, DEQ has monitored for the presence of these chemicals in Virginia's surface waters. There have been three targeted monitoring efforts supported by DEQ in the Middle Chickahominy River watershed, in the Roanoke River for the PFAS compound GenX, and in the watershed of the Occoquan Reservoir. In addition to supporting focused investigations DEQ has added PFAS analysis to its statewide monitoring network and has collected surface water and fish tissue samples in surface water from across the state to better understand the distribution of PFAS across the state and human exposure from fish consumption.

More information on DEQ's PFAS monitoring efforts is available on the agency's website: https://www.deq.virginia.gov/news-info/shortcuts/topics-of-interest/per-and-polyfluoroalkyl-substances-pfas Virginia DEQ, and all PFAS data are available to the public in a statewide dashboard: Statewide PFAS Sampling Dashboard https://experience.arcgis.com/experience/8f8b1ad32de44d4ebcfbb98669296877/.

In addition to the continued ambient monitoring of PFAS in the state's waters, DEQ was directed by the General Assembly to develop a program to identify sources of PFAS that may impact drinking water. The direction from the General Assembly came just ahead of the EPA announcing the first legally enforceable drinking water standards for PFAS. EPA issued Maximum Contaminate Levels (MCL) for 5 individual PFAS (PFOA, PFOS, PFHxS, PFNA, HFPO-DA) and a mixture of 4 PFAS (PFHxS, PFNA, HFPO-DA, PFBS). More information about those levels and how EPA is implementing this program is available on EPA's website. DEQ's program to implement HB1085/SB243 aims to reduce PFAS contamination in drinking water where PFAS concentrations are above the EPA MCLs through source identification and reduction efforts.

The bill directs the VDH to transfer to DEQ all validated monitoring results that indicate PFAS MCL exceedances. For each of these drinking water systems DEQ is to develop a source assessment whose goal is to identify any significant PFAS sources in the raw source waters of public water supplies and identify regulatory and non-regulatory options for addressing these sources. In addition to these goals, the legislation requires an annual report to be submitted to the

General Assembly each October 1. The first annual report was submitted in 2024 and is available here: https://rga.lis.virginia.gov/Published/2024/RD625/PDF

In addition to the General Assembly report, the legislation required DEQ to complete three additional activities; 1) establish a PFAS Expert Advisory Committee (PEAC), 2) develop a plan to prioritize source assessments, and 3) notify potential PFAS sources in the source waters of public water supplies DEQ was notified as having an PFAS exceedance prior to September 1.

The PEAC was established in consultation with VDH with a total of 21 members representing public drinking water and wastewater system owners, representatives of public health organizations, potential PFAS source categories, and conservation organizations with expertise in water treatment, water science, or PFAS chemistry, and other experts in PFAS from across the Commonwealth. The committee is required to meet twice each year and the minutes for both 2024 meetings of the committee are available at Virginia's Regulatory Town Hall. https://townhall.virginia.gov/L/meetings.cfm

The prioritization plan is a legislatively mandated plan to prioritize drinking water systems for receiving the PFAS source assessments. DEQ was mandated to create this plan within six months of receiving the first results and then update the plan annually thereafter. The plan ranked systems into high, medium and low priority based on the severity of the MCL exceedance and the population size the drinking water system serves. For further detail the plan is published at the following link: https://www.deq.virginia.gov/home/showpublisheddocument/27303/638850684997424628

For additional details on the plan's development please look at the PEAC's meeting minutes on Town Hall where the plan was a topic of discussion in the 2024 meetings.

One enactment clause of HB1085/SB243, the source assessment PFAS legislation, required DEQ to send self-reporting and monitoring notifications prior to December 1, 2024, for any drinking water systems DEQ received notification of having a PFAS experience prior to September 1. To meet this requirement, DEQ identified the area that may affect the source water. For surface water systems the area was the entire watershed upstream of the intake for the drinking water facility. For groundwater systems the area was a three-mile radius from the well. DEQ then looked for any facility in these source areas that a VPDES permit from the department that also had an NAICS code that is on the EPA's list of PFAS handling sectors. In total 185 facilities received a notification from DEQ. Those that were asked to self-report the use or manufacture of PFAS had until February 24, 2025, to do so. Those facilities receiving a notification to monitor for PFAS were asked to start monitoring during the second quarter of 2025. More information is available about Virginia's response to PFAS on VDH's PFAS webpage. For more information about PFAS in drinking water and the concentrations that have been measured across the state see the Office of Drinking Water's page and interactive map. https://vdh-odw.maps.arcgis.com/apps/webappviewer/index.html?id=c46f0b7b21e2481fafb2f3461ee58d0f

The 2025 General Assembly passed HB 2050, which is focused on reducing sources of PFAS in the Occoquan Watershed that is located above the dam for the Occoquan Reservoir. The Occoquan Reservoir is the source of water for Fairfax Water's Griffith Water Treatment Plant (WTP), which serves a large portion of Northern Virginia. In response to recent MCLs established by the EPA for specific PFAS compounds, HB 2050 is focused on reducing PFAS at

its source. HB 2050, which was approved April 2, 2025, became effective in the Code of Virginia on July 1, 2025. DEQ plans to notify those regulated entities which will need to comply with the new statutory requirements during the third quarter of 2025.

REFERENCES

A cumulative bibliography of general references and publications cited in this, and previous Toxics Reports is included in Appendix 19, available on DEQ's website at https://www.deq.virginia.gov/water/water-quality/monitoring/toxics-report.