Annual Report to the North Carolina General Assembly

Division of Waste Management
Division of Environmental Assistance & Customer Service

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N.C. Department of Environmental Quality

Division of Waste Management

Division of Environmental Assistance & Customer Service

https://deq.nc.gov/

Pursuant to G.S. 130A-309.06(c)

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Executive Summary:

In accordance with General Statute 130A-309.06(c), the N.C. Department of Environmental Quality's (DEQ) Division of Waste Management (DWM) and Division of Environment Assistance and Customer Service (DEACS) shall provide a report on the status of solid waste management efforts in the State. Session Laws (S.L.) 2017-10, s. 4.14.(a), 2020-78, s. 7.2.(b), and 2023-58, s. 2.(b) added additional programs to the report.

This report is to include:

- An analysis of solid waste generation and disposal.
- Total amounts of waste recycled and disposed during the previous calendar year.
- An evaluation of the development and implementation of local solid waste management programs and county and municipal recycling programs.
- A look at the successes of each county in meeting municipal solid waste reduction goals
- Recommendations concerning existing and potential programs for solid waste reduction and recycling that would be appropriate for units of local government and State agencies.
- Evaluation of the recycling industry, the markets for recycled materials, the recycling of polystyrene, and the success of State, local, and private industry efforts to enhance the markets for these materials.
- Recommendations to the Governor and the Environmental Review Commission to improve the management and recycling of solid waste in the State.
- A description of the review and revision of bid procedures and the purchase and use of reusable, refillable, repairable, more durable, and less toxic supplies and products by both the Department of Administration and the Department of Transportation.
- Review of North Carolina Scrap Tire Disposal Act implementation.
- A description of the management of white goods in the State.
- A summary of the report by the Department of Transportation on the amounts and types of recycled materials that were specified or used in contracts that were entered into by the Department of Transportation during the previous fiscal year.
- A description of the activities related to the management of abandoned manufactured homes in the State.
- A report on the recycling of discarded computer equipment and televisions.
- An evaluation of the Brownfields Property Reuse Act.
- A report on the Inactive Hazardous Waste Response Act.
- A report on the Dry-Cleaning Solvent Cleanup Act.
- A report on the implementation and cost of the hazardous waste management program.
- A report on the use of funds for Superfund cleanups and inactive hazardous site cleanups.
- A report on the decommissioning of utility-scale solar projects.

These requirements are fulfilled in the following report.

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Chapter I: Brownfields

A. Executive Summary

This report to the General Assembly is required by the Brownfields Property Reuse Act of 1997 (G.S. 130A-310.40 et seq.) and describes the activities and status of the DEQ DWM Brownfields Redevelopment Section for the period of January 1, 2024, through December 31, 2024. The Brownfields Redevelopment Section (Section) is pleased to report continued success in the State's efforts to revitalize and safely reuse brownfields properties.

B. Program Output

The Section produced 35 finalized brownfields agreements during the reporting period, bringing the total number of finalized agreements and major amendments since its inception to 795. For the current reporting period, totals for the measures tracked by the Section are:

- Program applications received: 65
- Brownfields agreements finalized: 35
- Acres of Brownfields being revitalized to safe, productive reuse: 530
- Estimated committed capital investment for projects completed during 2024: $3.37 billion
- Approximately 85 sites in active construction
- At least 280 requests/reports reviewed for post-recordation properties

All these economic development benefits are produced without any State-appropriated funds. The Section operates on fees from the prospective developers and cooperative agreement funding from the U.S. Environmental Protection Agency (EPA). Since the Program was authorized under statute in 1997, it has created thousands of jobs and facilitated nearly $30 billion in private investment in the redevelopment of brownfields properties across North Carolina, without cost to State taxpayers. A summary of the brownfield's agreements completed in 2024 is shown in Appendix 1-A.

C. Program Background

Brownfields are abandoned, idle or underused properties where environmental contamination hinders redevelopment due to concerns about environmental liability. Redevelopment of brownfields properties has become increasingly popular as developers and local governments realize that these properties offer viable opportunities to bring economic growth, public health protection, jobs and quality-of-life benefits to cities and rural areas. The Brownfields Property Reuse Act of 1997 (BPRA) gives DEQ the authority to enter into brownfields agreements with prospective developers who did not cause or contribute to site contamination. The BPRA modifies the environmental liability barrier for prospective developers, motivating them to bring these properties and their hindrances to the DEQ's attention. Under this authorization, the Section works in partnership with the prospective developer to evaluate the potential environmental risks associated with site contamination and then negotiates a brownfields agreement stipulating the steps necessary to make the site safe for a specific intended reuse or suite of uses. The result is a redevelopment project that fuels economic growth while protecting public health and the environment.

Redevelopment projects that are undertaken via the Section's brownfields agreement process, and the developers who advance these projects, enjoy several benefits. Developers work with the Section to define the actions they must complete to make the property safe for the intended reuse, and lenders are more willing to make loans on these projects because the cost to complete these actions is not an open-ended proposition. Additionally, if developers make and maintain the site safe for the intended reuse, they receive liability protection against future State enforcement for existing contamination.

The same liability protection extends by statute to lenders, tenants, occupants, and future owners as long as these entities did not cause or contribute to site contamination. Finally, owners of property with a brownfields agreement have access to a special property tax exclusion whereby property tax is phased in over five years, resulting in a property tax savings of approximately 50 percent over those first five years. These tax savings can be used to offset the costs to complete the actions required by the Section that make the property safe for reuse.

The BPRA allows DWM to distinguish between prospective developers of brownfields properties and the polluters of those properties. Instead of mandating that the site be remediated to unrestricted use standards, the BPRA requires

developers make the site safe for a specifically identified reuse. The Section evaluates site contamination and identifies the potential risks that residual contamination may pose to public health and the environment. DEQ then determines what actions the prospective developer must take to ensure safe redevelopment. These actions can range from land-use restrictions to cleanup, or a mixture of both. In addition to holding prospective developers accountable to their agreements, DEQ reserves the right to enforce against those parties responsible for the original contamination. The overall result is a winning scenario for both the environment and economic development. Risk reductions and cleanups are achieved at sites that could have harmed the public or environment, and prospective developers capitalize on opportunities to redevelop abandoned properties that once had little hope for productive reuse. The public benefits are job creation, improved quality of life in the surrounding neighborhoods, local tax base expansion and contribution to the general fund. From program inception through the end of calendar year 2024, an estimated $30 billion in capital investment will have been committed to redevelop these abandoned, idled, or underused brownfields properties that afflict both urban and rural landscapes.

The Section also supports smart growth and sustainability and motivates the real estate market to recycle these sites back into to safe, productive reuse, while preserving or reducing the use of pristine or undeveloped "greenfields" properties. Every project that reuses property – whether it is in an urban center or a rural area – preserves green space, reduces suburban sprawl, and supports sustainable urban development. The 795 properties that have received completed agreements (or major amendments to previous agreements that facilitate even higher uses in some cases) represents approximately 14,500 acres of recycled land and, wherever possible, buildings that have historic or aesthetic value. This is acreage that is being recycled into reuse, sparing more pristine lands from development and risk for future contamination.

D. Program Status

Production of new agreements and/or amendments totaled 35 in 2024; however, it is worth nothing that approximately 20 additional draft brownfields agreements were provided to our development partners; however, these were not able to be completed in this calendar year. Insecurity in the market as well as high interest rates caused a number of projects to be placed on hold by the developers. Consequently, the amount of work completed by the Section is consistent with past years. During calendar year 2024, the Section received 65 applications for projects seeking entry into the program, which is within the range for typical applications.

In 2022, the staffing shortage also caused a backlog of sites awaiting project managers to provide technical guidance to developers for conducting the necessary environmental assessments. The Section took steps to alleviate this by developing self-implementable guidance for brownfields assessments for prospective developers and assigning two experienced project managers to give initial assessment guidance to those sites in the backlog. The Section continued to use this project initiation approach through 2024 as it provided assessment guidance as quickly as possible for redevelopers on tight schedules. In addition, the Section was able to increase staff numbers in 2023 and 2024. These efforts have been successful in eliminating the backlog of sites awaiting guidance for assessment.

The Brownfields Redevelopment Section continued to manage the EPA Grant awarded January 2022 under the Bipartisan Infrastructure Law (BIL). The grant total was not to exceed $5.8 million over 5 years, with the award in June 2024 being $880,672. North Carolina's grant application was for the development of site stewardship processes that include land-use restriction monitoring through the Section's Property Management Branch. With the Section having completed 795 agreements and amendments, the compliance stewardship tasks are ever-growing. This grant not only helps the Section provide the needed resources for this stewardship, but has provided a potential model for the EPA to build upon. The existing positions within the Property Management Branch were converted over to this grant funding source to begin using these grant dollars. Three positions in the Property Management Branch were hired during 2024, and those new staff have gained traction and are positively affecting review times in the Property Management Branch.

During 2024, the Brownfields Redevelopment Section coordinated a small working group of our frequent stakeholders. The goal of these meetings is to garner feedback from the stakeholder community on a variety of issues from development of programmatic efficiencies to proposed fee modifications.

E. Program Inventory

An interactive map of the Program's cumulative inventory can be found online at the Section's website, www.ncbrownfields.org, or more specifically at this link: https://www.deq.nc.gov/about/divisions/waste-management/science-data-and-reports/gis-maps/brownfields-projects-map-inventory-and-document-download. The inventory includes the following categories of sites:

1. Recorded Brownfields Agreements

Recorded brownfields agreements are those projects whose brownfields agreements or major amendments to previous agreements have been completed, signed, and are recorded at their county register of deeds. Since its inception in October 1997, the Program has finalized 795 such brownfields agreements and amendments across the State; 35 of which were completed during calendar year 2024. A list of those brownfields agreements finalized during 2024 is provided in Appendix I-A.

2. Active Eligible Projects

Active eligible projects have been deemed eligible for a brownfields agreement under BPRA statutory criteria. Developers are working with DWM in some stage of data gathering, risk analysis, or agreement drafting/negotiation. As of December 31, 2024, there were approximately 267 active-eligible projects. Projects at this stage receive guidance from DWM as the developers gather the additional data needed to ensure protection of public health and the environment. Once site assessment is complete, the Section analyzes the data, evaluates risks, determines what actions must be taken to adequately address the risks, drafts and negotiates the terms of the brownfields agreement with the prospective developer, and then approves initiation of the statutory 30-day public comment period.

F. Improving Effectiveness

1. Leveraging Resources into Private Sector Investment

Another measure the Section tracks is committed private investment facilitated by brownfields agreements. Developers provide the estimated investment figure in their application for entry into the program. The total private investment facilitated by the program from its inception is approximately $30 billion, with $3.37 billion of that being added by projects for which brownfields agreements were finalized in calendar year 2024. Generally, investments in the redevelopment of these properties would not have happened without the liability relief provided by a brownfields agreement.

Throughout its existence, the program has provided a very high economic development value for North Carolina through a federal grant and not State appropriation. The high ratio to which the funds have been successfully leveraged into private development dollars for brownfields redevelopment is just one measure of the effectiveness of the BPRA. The economic activity and increased tax base generated by construction and subsequent use of these brownfields projects substantially exceeds the use of public funds.

2. New Data Management System Launched

The Section was designated the first DWM program to develop a data management system through DEQ's permit transformation process - Access Brownfields. The Section worked with the N.C. Department of Information Technology (DIT) to map its processes and lay the foundation for developers to develop a comprehensive data management and tracking system, including both internal and public facing components.

Work on this data management system continued through 2024, with beta testing of various system components beginning in January 2024 and the initial launch of the system to the public in August 2024. Additional modifications of the system are being implemented as improvements are found through its use. This system represents a significant technical stride in efficient data management, data transfer, electronic fee payment, and project tracking for both the Section and the Section's customers.

G. Outreach to Local Governments

The Section continues to successfully utilize its EPA Brownfields Assessment Grant (awarded $2 million over 5 years) to fund brownfields assessments in disadvantaged communities in the Appalachian region, the Lumber River Valley, and Northeastern Coastal Plan. The State has used these funds to conduct assessments at sixteen sites in 12 partner communities. Grant funds are nearly expended, and the Section anticipates the submittal of an application for additional assessment grant funds in the fall of 2025.

The assessments provided lay the foundation for their redevelopment via a brownfields agreement. Grant partners initially included Beaufort County, Belhaven, Mid-East Commission Council of Governments, North Wilkesboro, Rocky Mount, and the Town of Pembroke, the Mainspring Conservation Trust in Franklin, and the Eastern Cherokee Band of Indians. The Section has developed and expanded this group of local governments into "The Brownfields Community Network" (BCN) in support of brownfields assessments through the Multipurpose, Assessment, Revolving Loan Fund, and Cleanup (MARC) Grant Funds or other 14 EPA Grant funds. BCN continues to gain interest and new members as we deploy grant funds and support local governments in applying for their own EPA brownfields grant. The Section has not only utilized its MARC Grant for direct brownfields assessments for local governments, but it has also worked in support of many other local governments to educate, encourage and support their applications for their own EPA brownfields grants. These are nationally competitive grants provided directly to local governments by the EPA for activities related to brownfields properties, including environmental assessment, planning, and/or cleanup. The Section has provided interested local governments advice, contacts for technical grant writing assistance, and letters of support for grant applications to numerous applicants every grant cycle. Fifteen (15) communities applied for EPA brownfields grants in 2024. The Section will continue to work with interested community partners in support of their brownfields efforts. This includes providing training that summarizes the economic development benefits of brownfields redevelopment as well as providing practical advice for the EPA grant application process.

H. Meeting Technical Challenges in Vapor Intrusion

Over the last decade, contaminant vapor intrusion has become a focal point for numerous cleanup programs at commercial/industrial sites of all kinds. Facilities are often over or near groundwater contamination that can act as a source of contaminant vapors that enter buildings, much like radon. However, contaminant vapor detection and mitigation is more complex than radon. Contaminant vapor intrusion is a dynamic technical issue with new knowledge continuously arising for assessment, mitigation, toxicology, and risk assessment. Because site reuse is inherent in brownfields redevelopment projects, it is imperative that the program be technically sound regarding vapor intrusion to protect the users of these properties.

Because there are now more than 795 completed brownfields agreements, North Carolina has more varied experience with vapor intrusion than any other state in the South or mid-Atlantic region. The Section is meeting this challenge by ensuring stewardship of land-use restrictions through its Property Management Branch, and that vapor intrusion mitigation systems are properly designed and installed through professional engineers. In May 2024, the Section released guidance for stakeholders to provide consistency and predictability to the vapor intrusion assessment and mitigation on brownfields properties.

I. Evolution of Future Work

Because the Section has completed 795 agreements and amendments since 1998, the need for more post-agreement work continues to rise. This includes work on compliance assistance for all completed agreements as well as work that arises from new owners seeking land-use changes on existing agreements or new information regarding contaminants on properties that may affect public health. When public health protections rely on land-use restrictions, a robust compliance monitoring and assistance program is an absolute necessity. With the substantial and sustained increase in numbers of existing brownfields agreements, the Section saw a growing need to rebalance some of its expenditures toward compliance monitoring and assistance. As such, the Section created the Property Management Unit (now Branch) in 2018 to address all post-agreement activities to manage the continued effectiveness of the land-use restrictions at brownfields properties without compromising production of new agreements. The Section soon realized that additional funding would be needed for this and made this site stewardship effort its centerpiece for the BIL Grant it applied for from the EPA. The grant application was successful, and the Section was awarded BIL grant funds for this public health stewardship effort. Through these funds, and as noted above, the Property Management Branch has continued to grow to meet this challenge.

The emerging short-term risk of trichloroethene (TCE) and the subsequent Immediate Action Level guidance from the Secretaries' Science Advisory Board (SAB) has affected the resource requirements on brownfields agreements and their monitoring. Because TCE is a common vapor intrusion contaminant with potential short-term impacts on human development as well as longer term impacts on human health, sites with TCE in groundwater or soil vapor are requiring more assessment, more mitigation, and a higher level of effort from the Section and prospective developers than ever before to ensure risk mitigation. Through the BIL grant the Section has received, it was able to purchase portable monitoring equipment which is able to detect TCE at the necessary levels at or below the SAB Immediate Action level in real time. This will allow a significant technical advance in public health protection for sites with TCE vapor intrusion issues. Two monitoring units were purchased in 2024 and will be operational in 2025.

J. Fund Status

The Section receives no State appropriation and exists through two funding sources: federal cooperative agreement funds and Section fee receipts. All of the brownfields fees charged by the Section are deposited into the Brownfields Property Reuse Act Implementation Account and used to fund the Section's operating costs as required under the General Statutes. For the State fiscal reporting year from July 1, 2023, through June 30, 2024, the Brownfields Property Reuse Act Implementation Account had a beginning balance of $3,185,434, fee receipts of $1,025,500 and disbursements of $1,524,625. This yields a State fiscal year 2024 ending fund balance of $2,686,309. Table 1 below shows the fund status for the last 6 years.

Table I-1. Brownfield Property Reuse Act Implementation Account Balances

Date	Fund Balance
June 30, 2019	$2,674,401
June 30, 2020	$2,433,134
June 30, 2021	$2,320,586
June 30, 2022	$2,884,878
June 30, 2023	$3,185,434
June 30, 2024	$2,686,309

The statute authorizes fees equivalent to the cost to the State. The fund balance serves not only to generate brownfields agreements but also implementation and monitoring per the statute. For the long-term health of the fund, the Section is developing an appropriate fee increase that represents the cost to the State, as there has not been an increase since 2008. The Section also intends to track the cost to the State of resolving non-compliance issues with existing land-use restrictions. Not only will this help offset the cost of Property Management Branch staffing, but it will further incentivize owners to maintain compliance with existing land-use restrictions. Regardless, the Section plans to continue to fully use

its brownfields implementation account to increase its staff capacity as demand for brownfields agreements and their long-term stewardship continues to increase.

K. Further Information

For additional information on the Brownfields Redevelopment Section, please visit the Section's website at: www.ncbrownfields.org. The website contains a map of all completed and active sites in the program, which also serves as a portal to the electronic records for each site within the program. The Section also posts information about properties being redeveloped or other relevant programmatic news items via DEQ's Facebook and X (formerly known as Twitter) channels.

Chapter II: Dry-Cleaning Solvent Cleanup Act

A. Executive Summary

As required by the Dry-Cleaning Solvent Cleanup Act (DSCA) of 1997 and amendments (G.S. 143- 215.104A et seq.), this report provides an annual update on activities conducted in the DSCA program in fiscal year (FY) 2023-24. The DSCA of 1997 and its amendments created a fund for assessment and cleanup of dry-cleaning solvent environmental contamination at dry-cleaning and wholesale distribution facilities. It also authorized the program to develop and enforce rules relating to the prevention of dry-cleaning solvent releases at operating facilities.

Since the start of the DSCA Program began, 577 sites with known or suspected dry-cleaning solvent contamination have been reported to DWM. Of these, 527 have been certified into the DSCA Program. During FY 2023-24, the DSCA Program continued to make significant progress in all aspects of program implementation. Highlights of DSCA's accomplishments in remediating sites, protecting human health, and preventing future releases, include:

- Issuing No Further Action (NFA) notices for 2 remediated sites, with 14 additional sites identified as ready for NFA status;
- Installing subslab depressurization systems at one business and one residence to address vapor intrusion;
- Monitoring vapor mitigation systems and control measures at 23 residences and 34 businesses;
- Providing temporary water supply to 2 residences and providing permanent water supply hookup to one business and one residence;
- Maintaining well water filtration systems for five residences;
- Issuing a total of 327 work authorizations to the program's independent contractors for work at certified sites;
- Conducting 361 compliance inspections at 343 active dry cleaners;
- Performing 9 outreach visits to educate and assist new business owners/operators with environmental compliance; and
- Distributing 148 perchloroethylene compliance calendars to assist with dry cleaners with record-keeping requirements.
- Distributing 217 self-inspection packets to hydrocarbon dry cleaners.
-

The DSCA Fund continues to be solvent with an end-of-fiscal year fund balance of approximately $14.3 million and encumbered funds totaling $10.9 million. The program is using its resources efficiently, and expenditures are closely monitored to ensure adequate funding is maintained. Additional funds will be encumbered in FY 2024-25 as new contracts are implemented.

Based on data regarding site cleanup costs in North Carolina and the nation, cleaning up the 527 sites that have been certified in DSCA will cost an estimated $256 million. DEQ estimates there may be as many as 1,500 contaminated dry-cleaning sites in North Carolina. Projected costs to clean up 50 percent of those sites are expected to exceed $375 million. To ensure that the program and funding remain viable to adequately address sites certified and new sites yet to be discovered, S.L. 2019-237 (H399), effective November 1, 2019, extended the DSCA Program and funding for an additional 10 years.

B. Program Activity

The General Assembly enacted DSCA to 1) clean up contamination from dry-cleaning solvents at both retail dry cleaners and wholesale solvent distribution sites, and 2) protect human health and the environment by preventing future dry-cleaning solvent contamination. DEQ made significant progress during FY 2023-24 in implementing the cleanup and compliance components of DSCA.

1. Assessing Health Risk at Sites and Conducting Site Cleanups

During the past fiscal year, DWM directed significant energy toward the assessment and remediation of sites with contamination from dry-cleaning solvents. DWM continued to implement initiatives to ensure the protection of human health by assessing and mitigating vapor intrusion (indoor air pollution from solvent contamination in the soil or groundwater) and providing clean water supplies to affected residents. During FY 2023-24, DWM staff and the program's three independent contractors performed the following activities:

- screened sites for imminent hazards, such as threatened water supply wells and vapor intrusion into buildings;
- abated indoor vapor hazards from contaminated soils and groundwater;
- continued testing and maintenance of vapor mitigation systems installed at businesses and residences;
- investigated active and abandoned dry-cleaning sites with potential dry-cleaning solvent contamination;
- provided temporary clean water supplies;
- conducted comprehensive site assessments delineating the extent of contamination;
- remediated contaminated soil;
- remediated contaminated groundwater;
- performed operation and maintenance of remediation systems; and
- evaluated site risks and prepared sites for closure.

2. Sites in the Program

Fifteen new sites were certified into DSCA during FY 2023-24 as compared to 17 sites in FY 2022-23. Table II-1 provides current and cumulative statistics for sites certified into the DSCA Program. A site becomes certified when a petitioner enters into an assessment and remediation agreement with DWM. Figure II-1 depicts the number of contaminated dry-cleaning sites participating in the DSCA Program. A list of certified sites, along with current site status, is provided in Appendix A. Table II-2 provides the distribution of certified sites by classification and operating facility size.

The majority of certified sites, 77%, are entered into the DSCA program by property owners who purchase or own abandoned dry-cleaning properties and were not responsible for the contamination. The remaining petitioners are dry-cleaning business owners and/or operators.

Following certification, the risk to human health, safety and the environment are assessed, with specific emphasis on risk posed by contaminated well water and vapor intrusion into buildings. During FY 2023-24, the DSCA Program issued 327 authorizations and/or change orders to the program's independent contractors for work at certified sites, 214 of those were for assessment of impacted groundwater and/or vapor intrusion risk and 57 were for groundwater monitoring. Another 56 work authorizations issued were for interim actions such as soil excavation or installation of indoor air filtration units to mitigate vapor intrusion, operation and maintenance of remedial systems or water filtration systems, risk assessments and closure activities. The total number of work authorizations decreased from 362 in FY 2022-23 to 327 in FY 2023-24 but remain relatively stable.

Rules that establish a risk-based approach to assessing and cleaning up certified sites in the DSCA Program became effective on October 1, 2007. These rules and associated guidance allow program staff to determine the risk posed to human health and the environment at each site and, if necessary, to calculate the appropriate cleanup levels for soil and groundwater.

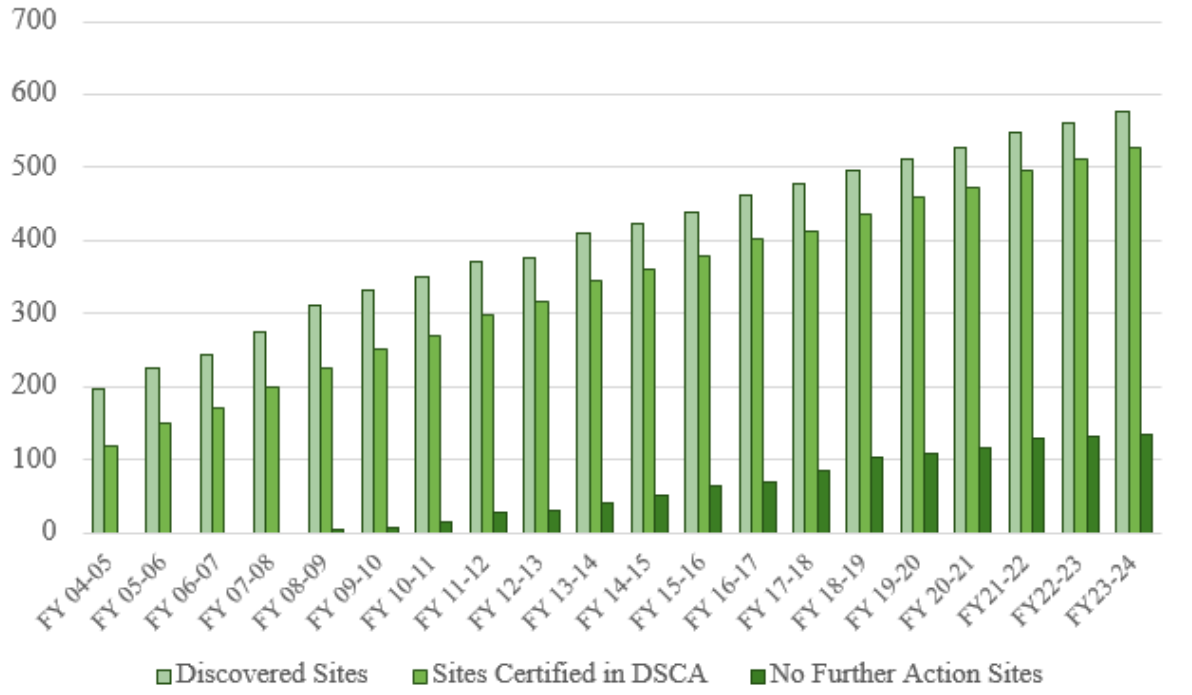
During FY 2023-24, DWM issued No Further Action (NFA) notices for 2 contaminated dry-cleaning sites in the program, bringing the total to 135 DSCA sites that have been given NFA status since the risk-based rules became effective in October 2007. DWM is recommending no further action at an additional 14 DSCA sites ("Sites Pending Closure" in Table II-1). The program anticipates issuing between 3 and 5 NFA notices in the coming fiscal year. Preparing a site for No Further Action involves completing an assessment of the extent and magnitude of contamination, evaluating the risks posed by the contaminants, mitigating any unacceptable risks, remediating contamination as needed, ensuring stability of the groundwater contaminant plume, preparing a risk management plan, soliciting public input, and recording notices to

ensure that site conditions remain protective. In accordance with DSCA statutes, the program provides the proposed risk management plan and associated notices to the appropriate local governments (counties and municipalities) and announces the availability of the plan to the public through local newspapers, direct mailings to property owners on or adjacent to the contamination site, and by posting a notice at the site.

2Table II-1 DSCA Certified Site Status (through June 30, 2024)

Certification Status	FY 2023-24	Cumulative
Contaminated Sites	15	577
Certified	15	527
Determined Ineligible	-	4
Not Certified	-	46
Certified Sites Pending Closure	14	-
Certified Sites Closed	2	135

1Figure II-1. Known dry-cleaning solvent contaminated sites in North Carolina



3 Table II-2. Classifications of DSCA Certified Sites (June 30, 2024)

Classifications	Number of Sites	Percentage
Abandoned	361	69
Wholesale Distribution	3	1
Operating	163	30
Small Size (1-4 employees)	91	56
Medium Size (5-9 employees)	42	26
Large Size (>10 employees)	30	18

Table II-3 provides a summary of the actions undertaken to address direct threats to human health and the environment. During FY 2023-24, DWM continued to supply clean water to five residences where municipal water is not available. In total, DWM has provided municipal water to 66 residences and 14 businesses that have had their water supply wells impacted or threatened by dry-cleaning solvent contamination from 25 DSCA sites.

4Table II-3. DSCA Site Cleanup Statistics

Accomplishments	FY 2023-24	Cumulative
Water Supply Provided		
Municipal Water Connection - residences	1	67
Municipal Water Connection - businesses	1	14
Temporary Water Supplied - residences	2	34
Temporary Water Supplied - businesses	1	7
Number of DSCA sites involved	-	25
Vapor Intrusion (VI) Mitigated		
VI Control System Installed - residences	1	23
VI Control System Installed - businesses	1	93
Number of DSCA sites involved	1	73
Active Remediation Implemented		
Number of DSCA Soil Remediations Implemented	1	111
Number of DSCA sites involved	1	99
Number of DSCA Groundwater Remediations Implemented	-	77
Number of DSCA sites involved	-	56

Addressing indoor air pollution from tetrachloroethylene (PERC) releases and breakdown contaminants continues to be a high priority since many DSCA sites have occupied structures on or adjacent to PERC contamination. During FY 2023-24, the program installed subslab depressurization systems at one business and one residence to address vapor intrusion. Since 2006, DWM has installed vapor control measures at 93 businesses and 23 residences because of dry-cleaning solvent contamination from 73 DSCA sites.

During FY 2023-24, the program monitored the effectiveness of groundwater remedies at 25 DSCA sites and maintained one active groundwater remediation system at one site. During the life of the DSCA Program, DWM has implemented 111 soil cleanup actions at 99 DSCA sites and conducted 77 groundwater cleanup actions at 56 DSCA sites.

3. Site Prioritization System
The DSCA Program requires that site cleanup disbursements be made on higher priority sites first. Data from the program's vapor intrusion investigations indicate that this type of direct human exposure is a threat at several DSCA sites. To ensure that this health concern receives appropriate attention, the program has revised its prioritization method to include potential indoor air threats. Due to the growing number of DSCA sites and the complex nature of assessing and remediating PERC contamination, the DSCA Program continues to evaluate and implement cost-efficient measures to ensure the fund's solvency.

4. Vapor Intrusion
Among states with dry-cleaning programs, the North Carolina DSCA Program continues to work at the forefront in addressing vapor intrusion issues at dry-cleaning solvent-contaminated sites.

Due to the volatility of PERC – one of the most common dry-cleaning solvents – the potential for vapor intrusion exists at many dry-cleaning sites. The DSCA Program has shared its large library of North Carolina vapor intrusion data with the EPA to supplement data it uses to establish attenuation factors and screening levels. The EPA welcomed North Carolina's data from commercial structures in the southeastern United States.

An issue that continues to affect some contaminated dry-cleaning sites involves the presence of trichloroethylene (TCE) in indoor air. Not only is TCE a chemical produced by the breakdown of PERC in the environment, but TCE is also a spotting agent in the dry-cleaning industry as well as a common solvent in many industrial settings. At contaminated sites, health threats from volatile contaminants in indoor air are often associated with long-term (chronic) exposure to chemicals migrating from the subsurface into indoor air. Recent studies along with other toxicological information suggest that short-term (acute) exposure to TCE in indoor air may raise the risk for fetal heart malformation during the first trimester of pregnancy. Staff from DWM's cleanup programs, including DSCA, worked with DEQ to develop protocols to promptly address acute exposure situations. When site data suggests that there is a potential for exposure to unacceptable levels of TCE in indoor air, staff provide immediate notification and educational resources to affected parties. The DSCA Program promptly mitigates risks to indoor air quality when dry-cleaning solvent contamination in the environment is causing unacceptable risks in indoor air. Since 2006, DWM has installed vapor control measures at 93 businesses and 23 residences because of dry-cleaning solvent contamination from 70 DSCA sites. DSCA is currently performing monitoring and maintenance of vapor mitigation systems and control measures at 23 residences and 34 businesses.

5. Investigation of Potential New Sites
In 2007, DSCA was amended to allow the program to spend up to 1 percent of the DSCA fund balance each year to investigate active and abandoned dry-cleaning sites that the program believes may be contaminated. If dry-cleaning solvent contamination is found, the potentially responsible party is given the choice of entering the program as a petitioner or allowing the site to be addressed under the Inactive Hazardous Sites Branch. If they choose the latter, the responsible party may be required to reimburse DSCA for the investigation costs.

There has been an increase each year in the number of sites with potential dry-cleaning solvent contamination identified or referred for investigation. A number of these do not get investigated due to the spending limit for investigations. S.L. 2022-74 (H103), effective July 11, 2022, included an amendment to G.S. 143-215.104C(d) which increased the amount of the fund that can be used for investigation of contaminated sites to 3%. Under this provision, the program conducted a limited investigation at one potential dry-cleaning contaminated site during FY 2023-24. Since 2007, DSCA has investigated 125 sites for potential dry-cleaning solvent contamination, with 91 of those sites becoming certified into the program.

The DSCA Program continues to partner with other agencies to identify new sites and coordinate assessment and cleanup efforts to ensure effective use of State resources. Data provided by DEQ's Underground Storage Tank Section, Brownfields Redevelopment Section, Inactive Hazardous Sites Branch, the DEQ Division of Water Resources Public Water Supply Section, and municipal environmental programs reveal monitoring wells and supply wells with contaminants that may be from dry-cleaning operations. DSCA staff compare contaminated well locations to known locations of more than 2,000 active and abandoned dry-cleaning facility sites to help identify potential dry-cleaning

contaminant sources. The program also shares data and coordinates assessment and cleanup activities with other DWM programs, such as the Brownfields Redevelopment and Underground Storage Tanks Sections, to ensure that remedial strategies are protective and implemented effectively.

6. Identified Contamination Sites

A total of 577 sites known or suspected to be contaminated by dry-cleaning solvents have been reported to the department. The DSCA Program has certified 527 of these sites into the cleanup program, as noted in Table II-1. Appendix A lists, by county, the sites with known or suspected dry-cleaning solvent contamination reported to DEQ and sites certified in the program. During FY 2023-24, the DSCA Program certified 15 new sites into the program. The program's 3 percent investigation allowance was used to identify contamination at one of the sites certified during the fiscal year. As noted above, the program anticipates that additional dry-cleaning solvent contamination sites will be discovered using the investigative allowance in FY 2024-25.

7. DSCA Contracts

The program currently manages three contracts with three State-lead environmental engineering firms, with a total end-of-fiscal year encumbrance of approximately $10.9 million. The contracts establish terms and conditions under which qualified environmental engineering firms assess and remediate contaminated dry-cleaning sites in the DSCA Program.

8. Customer Service Initiatives

During FY 2023-24, the program continued to promote the DEQ mission of excellent customer service by making public records more accessible, providing easy access to DSCA site locations, engaging communities affected by dry-cleaning solvent contamination, assisting property owners, lenders and interested parties with property transactions and sharing program updates with interested stakeholders on a regular basis. The program uses its website to provide a variety of information including, but not limited to, maps, public records access, forms, rules and statutes, updates on sites of interest, stakeholder meeting information, and staff contact information.

a) Public Records

Improving the accessibility to public records has been a high priority for all DWM programs. To date, all the DSCA Program's current and legacy records have been digitized, and the frequently requested document types have been uploaded to the Laserfiche document management system. Laserfiche is available through the DWM website and allows users the ability to search and download public records. In FY 2023-24, the DSCA Program also began efforts to enter all site laboratory data and results into the online EQuIS environmental data management system and will continue this process into FY 2024-25.

b) Site Location Information

The availability of site location information is important to the public and many decision-makers, including property buyers and sellers, lenders, municipalities, and State and local environmental programs. The program continues to maintain location data on a web-based map viewer on the DWM website. In addition, the program has consistently supported and been involved in the development of DWM's well-permitting support system, which is an online site locator tool based on the ARC-GIS Online platform.

c) Meetings and Presentations

DWM continues to encourage stakeholder involvement in the DSCA Program. The existing stakeholder group is comprised of representatives from the dry-cleaning industry, environmental organizations, attorneys, environmental consultants, and the public. Program representatives hold semi-annual meetings to report on accomplishments and initiatives, solicit feedback on topics that affect the program and present remediation projects of interest to the attendees. Virtual stakeholder meetings were held in November 2023 and May 2024. In upcoming FY 2024-25, it is anticipated that stakeholder meetings will continue to be held virtually or will be a hybrid of in-person and virtual meetings. The virtual stakeholder meetings have increased participation since stakeholders, particularly dry cleaner owners/operators can participate from their hometowns and do not have leave their businesses to travel to Raleigh to attend.

The DSCA Program continues to participate as one of the original members of the State Coalition for the Remediation of Drycleaners (SCRD). The coalition was established in 1998, with support from the EPA's Office of Superfund Remediation and Technology Innovation. It is comprised of representatives from 13 states with established dry-cleaning remediation programs, and 12 additional states with representatives who are considering developing a dry-cleaning remediation program or are managing dry-cleaner remediation under other authorities. The coalition conducts regular conference calls throughout the year to provide a forum to share and discuss program information, remediation technologies, case studies, state initiatives, or state and federal hot topics.

d) Property Assistance

The DSCA Program provides continuous assistance to property owners, prospective buyers/developers, lenders and interested parties to facilitate transactions which provide for the reuse of contaminated property. Correspondence and phone calls are frequently provided to explain the DSCA Program or the status of a site already in the program which allows a comfort level to interested parties to move forward with property transactions.

C. Facility Compliance

The Environmental Management Commission has been authorized under the Dry-Cleaning Solvent Cleanup Act to develop rules that operating dry-cleaning facilities must follow to prevent environmental contamination by dry-cleaning solvents. During FY 2023-24, the DSCA Program had three inspectors performing outreach visits, inspections and enforcement at dry-cleaning facilities and wholesale distribution facilities statewide.

In addition to the program's Minimum Management Practices (MMP) regulations, enforcement authority is delegated to DWM for violations of applicable air quality rules. DWM's Hazardous Waste Section has granted authority to the DSCA Compliance Program to inspect dry cleaners for compliance with the Resource Conservation and Recovery Act (RCRA) Hazardous Waste regulations. This allows one program in DEQ to ensure compliance with all environmental regulatory requirements and gives dry-cleaners and the public a single DEQ point-of-contact for compliance questions or concerns.

1. Educational Assistance Visits

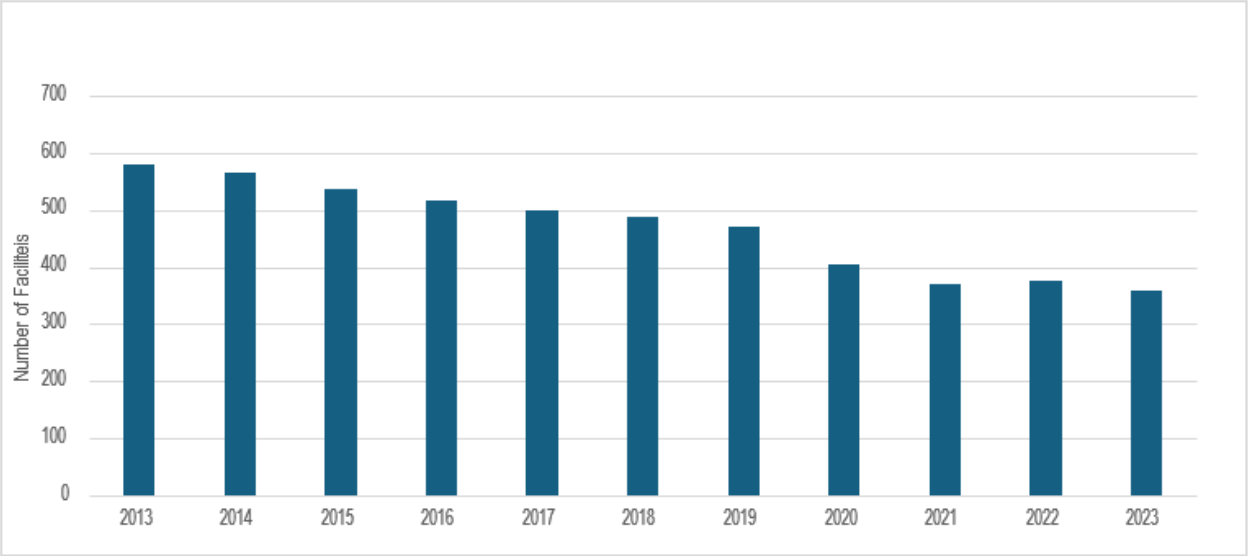
During FY 2023-24, DWM inspectors conducted 9 outreach educational assistance visits at active dry-cleaning facilities. Typically, outreach visits in the program currently are conducted when a new owner/operator takes over a facility or a new facility opens. The dry-cleaning industry is declining or stable and there are not new facilities opening on a regular basis. However, during routine inspections, DWM inspectors educate facility owners and operators on a variety of topics including record keeping, waste storage, filter changes, etc. To date, DSCA inspectors performed 95 educational outreach visits at active dry-cleaners, many of which had not previously been inspected by a DEQ program. These outreach visits were mainly conducted when the compliance program was implemented and in the immediate years afterward (2012-2015) to familiarize the facilities with new regulations. This outreach educates owners and operators regarding the MMPs, hazardous waste and air quality regulations.

2. Inspections and Enforcement

The DSCA Program conducts unannounced, full compliance inspections at regulated dry-cleaning facilities and wholesale distribution facilities to ensure that dry-cleaning facilities are compliant with all applicable regulations. In setting inspection priorities, the program considers multiple factors including facility-specific compliance history, business owner/operator changes, emerging solvents or equipment, and regulatory changes at the federal, State, or municipal level.

At the beginning of FY 2023-24, there were 358 dry-cleaning facilities subject to inspection by the DSCA Program. At the close of FY 2023-24, there were 331 dry-cleaning facilities subject to inspection by the DSCA Program. The number of dry-cleaning facilities operating continues to decline due to closures and many of the cleaners are switching to solvents that are not subject to inspection by the DSCA Program. The decline in the number of dry-cleaning facilities subject to inspection by the DSCA Program are shown in Figure II-2.

2Figure II-2. Dry-Cleaning Facilities Subject to Inspection



The goal of the compliance program is to inspect facilities at a minimum of once every 2 years. In May 2022, a self-inspection checklist and process was developed for dry-cleaning facilities using hydrocarbon solvents. These facilities pose less of a threat to the environment than facilities using perchloroethylene solvent and compliance can be managed in a more efficient manner allowing inspectors to concentrate on perchloroethylene cleaners. Following implementation of this self-inspection process for hydrocarbon dry-cleaning facilities, the goal will be to inspect all perchloroethylene dry-cleaning facilities at a minimum once a year.

During FY 2023-24, the DSCA Program staff conducted 361 inspections at 343 facilities. Some facilities require repeat visits accounting for the difference of 18 inspections/facilities. Common violations identified were the failure to install spill containment under dry-cleaning machines and waste solvent storage areas, failure to seal waste solvent containers, failure to inspect dry-cleaning equipment, and failure to record and maintain National Emission Standards for Hazardous Air Pollutants recordkeeping logs.

To be eligible to participate in the DSCA Program, all operating dry-cleaning facilities and wholesale distribution facilities must be compliant with the DSCA MMPs. During FY 2023-24, DSCA staff inspected 5 active facilities seeking entry into the cleanup program.

3. Additional Compliance Outreach

The DSCA Compliance Unit continues to evaluate and implement enhancements to improve compliance rates among the regulated community.

Since 2007, the DSCA Program has produced a PERC compliance calendar that provides all applicable rules, recordkeeping, guidance, and reference information in one document for the convenience of facility owners and operators. The calendar has received positive reviews from North Carolina dry-cleaners and industry officials in other states, where it has been praised for its comprehensive scope and functionality. In FY 2023-24, the program mailed or hand-delivered approximately 148 PERC calendars to dry-cleaning facilities statewide for the 2023 calendar year. The calendars include instructions in Spanish and Korean.

Since the 2016 calendar year, the program had also produced a petroleum solvent compliance calendar for cleaners who operate dry-cleaning machines that use regulated petroleum solvent. Through collaboration with stakeholders and DEQ small business assistance personnel, it was determined that a self-inspection checklist required to be submitted annually by dry-cleaning facilities using regulated petroleum solvent could be an efficient way to manage compliance at these facilities that pose less of a threat to the environment regarding contamination. The self-inspection checklist will be used by the compliance inspectors to prioritize inspections at these facilities. Submission of the checklist does not exclude any facility from inspection by the DSCA Program and it is still the goal of the program to inspect these facilities at a minimum once every two years. In FY 2023-24, the program mailed or hand-delivered approximately 217 self-inspection checklist packets to dry-cleaning facilities statewide to be returned January 2025. The packets also included informational materials, such as an emergency information form, facility change status form, regional inspector map, etc., to assist dry-cleaning facilities with compliance. The packets are also available in Spanish and Korean. The DSCA Program has access to a hazardous waste inspector who speaks Korean fluently and translates outreach materials and regulations to better serve North Carolina's regulated community. Reducing language and cultural barriers help improve communication and compliance among Korean-speaking dry-cleaning owners and operators. The Korean-speaking members of the dry-cleaning community have responded very positively to DSCA's efforts to improve communication. The program continues to evaluate ways to better enable compliance among all North Carolina dry-cleaners and wholesale distribution facilities.

D. Program Financial Status and Projections

1. Fund Receipts and Disbursements

The primary funding sources for the dry-cleaning solvent cleanup fund are a tax on dry-cleaning solvents, the State portion of the current sales tax on dry-cleaning, and co-payments from petitioners participating in the cleanup program. Disbursements consist primarily of payments to the program's independent contractors for site assessment and remediation and program administration costs. DSCA Fund receipts and disbursements for the FY 2023-24 and for the life of the DSCA Program are shown in Table II-4.

5Table II-4. DSCA Fund through FY 2023-24

Receipts	FY 2023-24 (through 6/30/24)	Duration of Program
Solvent Tax Revenue:	$ 59,366.99	$ 12,640,356.49
Sales Tax Revenue:	$ 9,323,838.07	$ 171,355,408.19
Petitioner Payments (fee/copay):	$ 109,575.87	$ 2,375,119.60
Miscellaneous:	$0	$ 195,051.93
Rebate:	$0	$ 28,870.11
Interest:	$0	$ 7,522,262.17
Total Receipts:	$ 9,492,780.93	$ 194,117,068.49
Disbursements	**FY 2023-24 (through 6/30/24)**	**Duration of Program**
Dept. of Revenue Admin:	$0	$ 57,272.02
Reimbursements/Payments:	$0	$ 1,963,993.23
Contracts:	$ 7,954,151.48	$ 140,061,653.49
Haz Waste Fees:	$ 58,975.00	$ 2,060,153.41
County Well Permit Fees:	$ 74,590.00	$ 871,120.00
Transfer to Inactive Haz Sites:	$0	$ 400,000.00
Transfer to Green Square Proj:	$0	$ 1,291,035.00
Transfer - Budget Shortfall:	$0	$ 6,475,812.93
DEQ Admin:	$ 1,673,736.86	$ 26,704,091.91
Total Disbursements:	$ 9,761,453.34	$ 179,885,131.99
Fund Balance as of 6/30/24:		**$ 14,261,936.50**
Encumbered in Contracts as of 6/30/24:		**$ 10,873,950.51**

2. Estimated Future Assessment and Remediation Expenditures

During FY 2023-24, fund expenditures directly related to the implementation of DSCA was like the previous fiscal year (see DSCA-Related Disbursements in Table II-5 and Figure II-3). The DSCA Program closely monitors expenditures to ensure adequate funding is maintained to assess all sites, perform mitigation and remediation activities when needed, and move sites toward closure. Site work expenditures have reduced the fund balance from its peak of $37.6 million in 2008 to a low of $5.6 million in 2016. DSCA Fund receipts for the past thirteen years have been relatively stable, ranging between approximately $8 million and $9 million per year. The total FY 2023-24 receipts from the solvent tax, sales and use tax, and petitioner payments increased approximately 11% from the FY 2022-23 receipts, compared to an increase of approximately 6% the previous fiscal year. The DSCA Fund receipts for FY 2024-25 are expected to be relatively stable and like FY 2023-24.

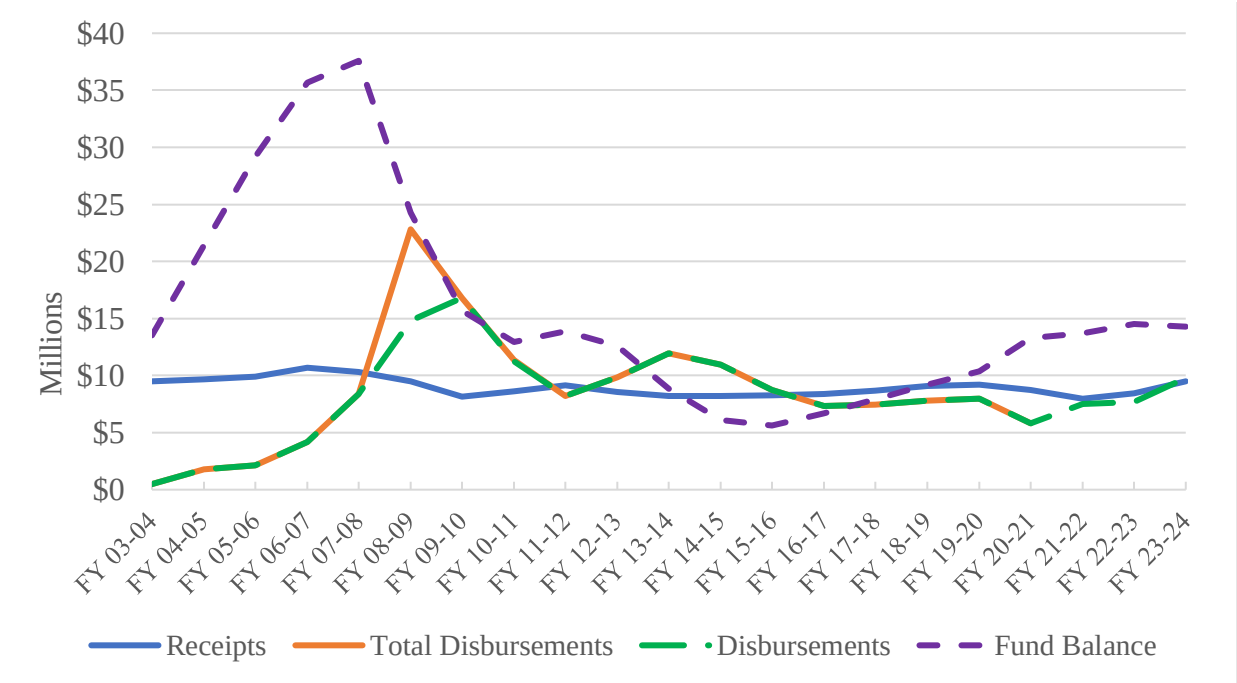
6Table II-5. Historic DSCA Fund Statistics

Fiscal Year	Receipts	Total Disbursements	DSCA-Related Disbursements	Fund Balance
FY 03-04	9,487,233.94	489,024.96	489,024.96	13,547,987.50
FY 04-05	9,660,612.84	1,806,911.93	1,806,911.93	21,401,688.41
FY 05-06	9,913,615.29	2,126,835.62	2,126,835.62	29,188,468.08
FY 06-07	10,687,669.06	4,184,051.63	4,184,051.63	35,692,085.50
FY 07-08	10,307,477.83	8,413,240.75	8,413,240.75	37,586,322.59

FY 08-09*	9,513,473.12	22,818,089.84	14,803,890.84	24,281,705.87
FY 09-10*	8,147,167.40	16,812,337.01	16,808,702.01	15,658,644.76
FY 10-11*	8,627,803.92	11,371,154.52	11,222,140.59	12,915,294.16
FY 11-12	9,124,256.44	8,208,478.47	8,208,478.47	13,859,866.72
FY 12-13	8,580,621.94	9,835,705.15	9,835,705.15	12,604,783.26
FY 13-14	8,190,699.90	11,958,967.35	11,958,967.35	8,836,516.06
FY 14-15	8,181,706.31	10,939,433.40	10,939,433.40	6,078,788.97
FY 15-16	8,284,815.52	8,741,519.44	8,741,519.44	5,622,085.05
FY 16-17	8,393,644.71	7,349,688.20	7,349,688.20	6,666,041.56
FY 17-18	8,681,394.03	7,429,454.53	7,429,454.53	7,917,981.06
FY 18-19	9,063,204.11	7,801,661.38	7,801,661.38	9,179,523.79
FY 19-20	9,180,783.26	7,970,265.54	7,970,265.54	10,390,041.51
FY 20-21	8,717,494.34	5,841,099.71	5,841,099.71	13,266,436.14
FY 21-22	7,969,523.95	7,514,248.46	7,514,248.46	13,721,711.63
FY 22-23	8,465,957.32	7,657,060.04	7,657,060.04	14,530,608.91
FY 23-24	9,492,780.93	9,761,453.34	9,761,453.34	14,261,936.50

* Difference in total disbursements and DSCA-related disbursements due to non-DSCA-related fund transfers.

3Figure II-3. DSCA Fund Trends

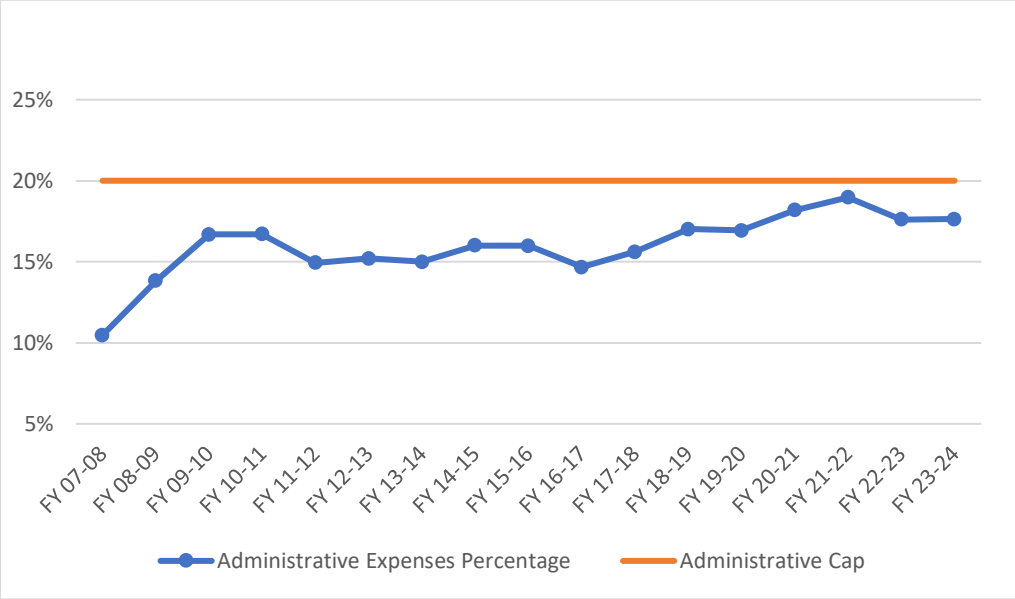


Using the DSCA Program's State-lead cleanup costs and national estimates of total average costs to clean up contaminated dry-cleaning sites, the program can project the estimated costs to address the sites currently certified in the DSCA Program. Using an estimated average total cleanup cost of $500,000 per site, it will take more than $264 million (not including DEQ's administrative costs) to address the 527 sites that have been certified in the program. Based on data from the N.C. Department of Labor, there are at least 2,000 active and abandoned dry-cleaning facilities in the State. Investigations performed across the nation indicate that contamination is present in at least 75 percent of all dry-cleaning operations. Applying this percentage to the number of current and former facilities in North Carolina, a total of 1,500 contaminated sites may be present, equaling an estimated $750 million in cleanup costs. If only 50 percent of these contaminated sites are accepted into the DSCA Program, the projected total cleanup cost (adjusted for inflation) would be approximately $375 million.

E. DSCA Administrative Costs

According to DSCA, up to 20 percent of annual revenues deposited into the fund may be used by DEQ and the N.C. Attorney General's Office to administer the program. The administrative costs-to-revenue ratio has been relatively steady, fluctuating between 17 and 19 percent since FY 2018-19 and is shown in Figure II-4. The current administrative cost-to-revenue ratio is at 17.6 percent and is expected to slightly increase in the coming fiscal year. Several positions may be added in the near future to address post-closure property management. With the addition of staff and legislative salary increases, if the 20 percent of annual revenues to administer the program is not adequate in the future, a legislative change to increase the administrative percentage may be necessary.

4Figure II-4. DSCA Administrative Expenses



F. Actions to Ensure Fund Solvency

Between 2008 and 2011, the increased expenditures on-site cleanups had substantially reduced the fund balance. The program continues to experience an increase in the number of sites petitioning into the cleanup program, along with an increase in vapor intrusion-related assessment and mitigation. As demonstrated during previous years, the program continues to closely monitor and adjust expenditures to ensure that funds are available to address certified sites. The DSCA Program's prioritization strategy ensures that sites requiring remediation are addressed in priority order while maintaining fund solvency.

As noted above, total collections for FY 2023-24 were approximately $9.5 million. The fund has a balance of approximately $14.3 million, with contract monies encumbered or pending encumbrance totaling $10.9 million. The DSCA Fund is solvent. The remaining fund balance is expected to be encumbered in new contracts in FY 2024-25. The

DSCA Program implements measures to closely monitor expenditures and prioritize spending at identified dry-cleaning contaminated sites to ensure that potentially reduced funds are sufficient to address risk to human health and safety.

The DSCA Program is entirely receipt funded by taxes on dry-cleaning solvents and the dry-cleaning related sales and use tax. These taxes are appropriately used to assess and remediate dry-cleaning solvent contamination. Given the DSCA Program's broad support by the dry-cleaning industry and its success in cleaning up contaminated dry-cleaning sites, mitigating risks and preventing future releases, legislation was signed November 1, 2019, to extend the program and the funding for an additional 10 years. The sunset date for the DSCA Program is now Jan.1, 2032. The dry-cleaning solvent tax was extended to Jan. 1, 2030, and the sales and use tax transfer was extended to July 1, 2030.

The DSCA Program provides a cost-effective means of protecting the public and the environment from risks posed by dry-cleaning solvent contamination and provides property owners and dry cleaners the opportunity to allow site contamination to be remediated at costs that they can afford.

G. Program Challenges

Over the past decade, contaminant vapor intrusion has been a focal point for the DSCA Program as discussed in Section B.4 of this report. The DSCA Program is a leader in rapid response to address vapor intrusion issues across North Carolina at DSCA sites and assists other programs with technical expertise when needed. Typically, within 24 hours of verifying contaminant concentrations in indoor air that exceed the inhalation action level, the DSCA Program staff is on-site deploying air handling units to immediately to reduce exposures to below the action levels. This scenario occurs approximately 10 times a year. The DSCA Program then develops a plan to address vapor intrusion on a more permanent basis through remediation or installation of a more robust mitigation system. Not every DSCA site requires rapid response to vapor intrusion because the contaminant levels in indoor air do not exceed immediate action levels. However, vapor intrusion is an issue that is addressed by the DSCA Program at approximately 80 percent of its sites to protect against current and future exposure to potential vapor intrusion contaminants. The DSCA Program meets the challenges of vapor intrusion by remaining at the forefront of technical assessment and mitigation of sites and has set the standard for innovative sampling techniques and the collection of data to assist EPA with vapor intrusion guidance.

The rules in 15A NCAC 02S, which are Rules and Criteria for the Administration of the Dry-Cleaning Solvent Cleanup Fund, are currently going through the readoption process which began with a presentation to the Environmental Management Commission's Groundwater and Waste Management Committee in May 2024. The rule adoption process is expected to conclude in May 2027.

The number of contaminated properties being redeveloped has been increasing. These properties are redeveloped while the site is being addressed in the DSCA program and after the site has been closed by DSCA using land-use restrictions. The burden on staff time and expertise to address these redevelopment needs will require dedicated staff members to oversee the activities at these sites. Additionally, dedicated staff will be necessary to oversee the post closure activities at the growing number of sites closed under the DSCA program to ensure compliance with land-use restrictions and protection of public health. DWM's Brownfields Redevelopment Section has a Property Management Branch that performs these functions, and it is anticipated that the Superfund Section will establish a similar unit in the coming year to address redevelopment and post-closure sites in all Superfund programs, including DSCA.

Chapter III: Hazardous Waste Program

A. Executive Summary

This annual report describes the activities of North Carolina's Hazardous Waste Management Program, Resident Inspector Program, and Mercury Switch Removal Program for State FY 2023-24. It is prepared pursuant to G.S. 130A-294(i) and is presented to the General Assembly and its Fiscal Research Division. North Carolina's Hazardous Waste Management Program protects human health and the environment from the risks presented by the potential mismanagement of hazardous waste.

- Hazardous waste received by the nine commercial hazardous waste facilities in North Carolina in FY 2023-24 amounted to 32,120.33 tons. This data is from the Resident Inspector Program (RIP).
- Hazardous waste generated by businesses and industries in North Carolina in FY 2023-24 totaled approximately 113,997 tons. Hazardous waste generated data is from the EPA's Resource Conservation Recovery Act Information (RCRAInfo) database system.
- The number of small quantity generators (SQGs) and very small quantity generators (VSQGs) increased in FY 2023-24. The quantity of hazardous waste generated by these facilities is not available since there is no regulatory requirement for these facilities to report hazardous waste generated.
- Inspection, compliance assistance, and enforcement activities at hazardous waste facilities resulted in the safe management of an estimated 1,750 gallons and 156,280 pounds of hazardous waste, 7,366 gallons and 93,835 pounds of non-hazardous waste, 8,390 gallons of used oil, and 65,610 pounds of used oil-contaminated soil.

In addition, the program continues to make significant progress in cleaning up contamination at permitted hazardous waste management facilities. The national goal is for final remedies to be constructed and fully operational at 95 percent of these facilities nationally; although this does not necessarily mean remediation will have been completed. Currently, in North Carolina, 66 percent of facilities have had a remedy constructed. It is important to note that after a stable universe of facilities for many years, three (3) additional facilities have been added to the Resource Conservation and Recovery Act (RCRA) universe since FY 2022-23.

B. Hazardous Waste Management Program

North Carolina was authorized to implement the federal hazardous waste regulatory program in lieu of the EPA in 1980. Federal authorization is the process through which EPA delegates primary program implementation and enforcement responsibility to states while maintaining an oversight role to ensure national consistency.

The federal program, established under the RCRA Subtitle C, regulates the generation, transport, treatment, storage, disposal, and recycling of hazardous waste. The program also governs the environmental remediation of hazardous waste treatment, storage, and disposal facilities that have been contaminated by prior waste management activities. The N.C. Hazardous Waste Management Program is administered and enforced by DWM's Hazardous Waste Section.

1. Hazardous Waste Generation, Management, and Remediation

a. Generation

Hazardous waste is defined as industrial material destined for disposal or recycling that may be ignitable, corrosive, reactive, and/or toxic and, as such, poses a risk to human health and the environment if improperly managed. The comprehensive hazardous waste generation data is available biennially through RCRA Info (see Section III-3, the Information Management Section of this report).

In FY 2023-24, there were approximately 391 (as of February 7, 2025, source RCRAInfo) North Carolina large quantity generators. The amount of hazardous waste generated in FY 2023-24 was approximately 113,997 tons.

In FY 2023-24, there were approximately 1,368 (as of February 7, 2025) small quantity generators in North Carolina and 6,525 (as of February 7, 2025) very small quantity generators. These generators are subject to reduced reporting and regulatory requirements because they are often small businesses for whom periodic reporting could be overly burdensome. They are also subject to reduced reporting because the amounts of waste generated at each site are less likely

to present significant risks to human health and the environment. However, these facilities collectively generate a significant amount of hazardous waste that must be managed properly and in compliance with applicable rules. Significant resources are devoted to technical assistance, outreach, and compliance activities at these facilities. Staff conduct compliance assistance visits or other types of inspections as a way of outreach to help facilities comply with the RCRA hazardous waste regulations.

b. Management

Comprehensive hazardous waste generation data is available biennially. In FY 2023-24, North Carolina's nine commercial hazardous waste facilities received and processed 32,120.33 tons of hazardous waste from offsite generators.

c. Remediation

There are 72 active hazardous waste treatment, storage, disposal, and corrective action facilities in North Carolina. They are permitted RCRA facilities. Each facility is governed by a permit, an enforceable order, or another operational control mechanism for the management and/or remediation of hazardous waste.

There are 86 facilities (3 new facilities added since FY 2022-23) subject to the RCRA Corrective Action Program, which addresses the remediation of environmental contamination at permitted hazardous waste facilities. These 86 facilities are sites with waste releases that must be remediated and include Federal Hazardous and Solid Waste Amendments-only sites that are no longer active facilities but have permits to remedy past releases. The Hazardous Waste Program tracks the remediation progress at these sites using five environmental indicators:

- Human exposure controlled
- Groundwater contamination controlled
- Cleanup remedy constructed
- Ready for Anticipated Use
- Remedy completed

The program continues to make significant progress in overseeing the remediation of contamination at permitted hazardous waste management facilities. The national goal is for 95 percent of these facilities to meet three EPA environmental indicator priorities. Currently, in North Carolina, 95 percent of facilities have human exposure controlled, 91 percent have groundwater contamination controlled, and 66 percent have a remedy constructed. It is important to note that beginning FY 2022-23 EPA has granted states the ability to add sites to the RCRA Corrective Action Universe, which reflects lower completion percentages in comparison with previous years. In addition, EPA set goals of 32 percent of the facilities completing all remediation and identifying facilities that are Ready for Anticipated Use (RAU CA800). Currently, 27 percent of North Carolina facilities have all hazardous waste remediation completed.

The Hazardous Waste Section summary of corrective action at RCRA facilities is summarized in the Table III-1 below.

7Table III-1. Corrective Action at RCRA facilities

RCRA	CA050	CA725	CA750	CA550	CA800	CA900
Corrective Action Universe Tracking(i)	Assessment Completed(ii)	Current Human Exposures Under Control Determination(iii)	Groundwater Releases Controlled Determination(iv)	Remedy Construction(v)	Ready for Anticipated Use(vi)	CA Performance Standards Attained/ CA999 CA Process Terminated(vii)
FY 2023-24	0	0	0	0	0	0
Accomplishments						
Total Accomplishments through FY 2023-24	84	82	78	57	14	23
State % Final (Cumulative / Baseline)	98%	95%	91%	66%	16%	27%
Goal				**95%**		

(i) The universe of current Corrective Action facilities is 86. Three added since FY 2022-23.
(ii) The event by which the RFA is completed.
(iii) The event by which the State verifies that the current human exposures are under control.
(iv) The event by which the State verifies that the migration of contaminated groundwater is under control.
(v) Remedy construction may also acknowledge the event where no remedy is constructed and/or where final remedy construction has been deferred in specified operating areas at the facility as long as certain criteria are met. The event when the State acknowledges in writing that the RCRA facility has completed construction of a facility's remedy that was designed to achieve long-term protection of human health and the environment and that the remedy is fully functional as designed, whether or not final cleanup levels or other requirements have been achieved.
(vi) This code is not equivalent to a no further action decision or final cleanup of a facility. The event by which the State makes an RAU determination and completes an RAU form. The RAU milestone is achieved when a piece of property can be safely used for an anticipated use and, depending upon the anticipated future use, may not require a facility-wide construction complete determination.
(vii) CA900 - This event indicates remedies selected for the protection of human health and the environment standard have been fully implemented and associated performance standards have been attained at the entire facility or specific areas within the facility. CA999 - This event indicates the completion of the corrective action process for the entire facility or for areas at the facility; that active remedial measures as specified in the RCRA permit or enforcement order are completed, and that all obligations with respect to compliance with 40 CFR Part 264.101 or equivalent State requirements with respect to known Solid Waste Management Units (SWMUs) or Areas or Concern have been met.

d. Strategy to achieve the goals listed above:

The Facility Management Branch (FMB) evaluates and projects RCRA Corrective Action goals multiple times per year: during the EPA Work Plan development stage, at the EPA End-of-Year Reporting stage, at each review, and during the regular supervisor/employee meetings. Facilities that have not met the Human Exposures Controlled and Groundwater Contamination Controlled projections have been evaluated and have been notified concerning information needed to meet the goals, including the newly permitted facilities.

The Remedy Constructed (CA550) indicator is very dependent on the facility, not necessarily the Hazardous Waste Project Manager. The facility team needs to have conducted a sufficient job assessing the contamination before they can propose and implement what could be considered a final remedy. Fully assessing groundwater contamination and remediating groundwater contamination is not an easy or inexpensive task. The Remedy Constructed indicator requires extensive discussions between the FMB and subject facilities to identify and approve remedies that are protective of human health and the environment and meet the appropriate media standards. The selection of the proper remedy and implementation of the remedy may require a large investment of time and money at each facility. For the FMB to meet the goal of 95 percent, no more than four facilities can miss the goal. EPA is aware that it is unlikely that the FMB will meet the 95 percent Remedy Constructed goal. However, the FMB continues working to meet these goals.

The FMB continues to evaluate facilities that appear to have the necessary elements required for the Ready for Anticipated Use (RAU CA800). Once evaluated and a positive RAU CA800 is determined, the proper forms will be completed.

To meet the All RCRA Remediation Complete goal, a facility must meet the appropriate clean-up standards for all media: soil, groundwater, surface water, and air. Typically, groundwater cleanup is a multi-decade process, depending on the constituents and concentrations that need to be remediated. However, the Risk-Based Remediation of Industrial Sites legislation enacted through S.L. 2011-186 and revised by S.L. 2015-286 allows for a risk-based approach to the soil, groundwater, and air standards if the remedy still provides for the protection of human health and the environment.

2. Compliance and Enforcement

The Hazardous Waste Section is responsible for implementing inspection, compliance, and enforcement activities. The environmental benefits achieved through compliance and enforcement activities are identified each year to measure the overall success of the program in meeting environmental goals. During FY 2023-24, the Hazardous Waste Section's actions ensured the safe management of an estimated 1,750 gallons and 156,280 pounds of hazardous waste, 7,366 gallons and 93,835 pounds of non-hazardous waste,8,390 gallons of used oil, and 65,610 pounds of used oil contaminated soil, which otherwise may have been mismanaged. These actions also ensured the protection of staff at affected facilities, emergency responders, nearby residents, and environmental receptors who could have been adversely affected by mismanaged waste.

3. Information Management

Comprehensive information about North Carolina's hazardous waste facilities is entered and stored in the national hazardous waste database known as Resource Conservation and Recovery Act Information (RCRAInfo). This system gives EPA and State hazardous waste staff access to hazardous waste facility, e-manifest, inspection, enforcement, permitting, corrective action, and Biennial Report information. The RCRAInfo database was developed by and is managed by the EPA. The State's data is entered into the database and maintained by Hazardous Waste Section staff. RCRAInfo contains comprehensive information on facilities that generate and/or manage hazardous waste in the State as well as all the Hazardous Waste Section's activities affecting these facilities. To view RCRAInfo, visit https://enviro.epa.gov/envirofacts/rcrainfo/search. To view environmental information for specific hazardous waste sites in North Carolina, visit https://enviro.epa.gov/. To view biennial report information, visit https://enviro.epa.gov/envirofacts/br/search. For details about the DEQ DWM and its Hazardous Waste Section, visit DWM's website: https://deq.nc.gov/about/divisions/waste-management, or the Section's website: https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section.

4. Hazardous Waste Program Development

The Hazardous Waste Program will continue to ensure safe hazardous waste management in North Carolina by:

- Supporting opportunities for waste minimization, including source reduction and recycling, as well as supporting annual generator workshops that educate hazardous waste generators about hazardous waste regulations to help these generators achieve and maintain compliance.
- Maintaining a variety of easily accessible online guidance documents to educate all generators about hazardous waste regulations that help them achieve and maintain compliance. Visit the Hazardous Waste Section's Guidance Documents website: https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents.
- Continuing to seek EPA authorization to maintain the Hazardous Waste Section's authority to implement the federal program.
- Maintaining high-quality hazardous waste data for hazardous waste trend analysis and sound decision-making. Utilizing the EPA's RCRA Integrated Targeted Assistant (RITA) online dashboard that incorporates the Hazardous Waste Section's data to identify potential at-risk facilities, under reporters, and non-notifiers.
- Participating in the EPA rulemaking process. State authorization is a rulemaking process that EPA delegates the primary responsibility of implementing the RCRA hazardous waste program to individual states in lieu of EPA.

This process ensures national consistency and minimum standards while providing flexibility to states in implementing rules. On November 4, 2024, the Final Authorization of the North Carolina State Hazardous Waste Management Program Revisions was printed in the Federal Register (89 FR 87512; November 4, 2024) and can be found at this link: https://www.govinfo.gov/content/pkg/FR-2024-11-04/pdf/2024-25602.pdf. North Carolina continues to have primary enforcement authority and responsibility for its State hazardous waste program.

5. Hazardous Waste Reduction Initiatives

The Hazardous Waste Section promotes waste minimization, including source reduction and recycling in all its programs. Some of these activities include:

- Incorporating pollution prevention and sustainable materials management training into annual generator workshops, industry meetings, and enforcement settlement negotiations.
- Reviewing facility requests for alternative management practices for hazardous waste (use/reuse, reclamation, substitution, reclassification, and delisting).
- Ensuring that generators continue to develop programs to minimize or reduce the volume and quantity or toxicity of hazardous waste when staff conducts compliance assistance visits and during facility inspections.

6. Cost of Hazardous Waste Management Program

8Table III-2. Hazardous Waste Legislative Financials – July 1, 2023 to June 30, 2024

Category	Receipts	Appropriations	Federal	TOTALS
Salary and Fringe	2,499,166.73	0	2,099,950.28	**$4,599,117.01**
Purchased Services	94,980.48	0	362,223.45	**$457,203.93**
Supplies	3,129.50	0	12,393.63	**$15,523.13**
Property Plant and Equipment	0.00	0	949.34	**$949.34**
Other Expenses and Adjustments	27,270.00	0	219,085.18	**$246,355.18**
Intragovernmental Transfers	0.00	0	0.00	**$0.00**
TOTALS	**$2,624,546.71**	**$0.00**	**$2,694,601.88**	**$5,319,148.59**

C. Resident Inspector Program

1. Executive Summary

The Resident Inspector Program, effective since January 1, 1991, has been operating for more than 33 years and is administered by the DWM's Hazardous Waste Section. The program uses a multimedia approach during required regulatory inspections involving hazardous waste management and treatment requirements, workplace safety, air emissions requirements, wastewater treatment and discharge requirements. Resident inspectors also evaluate commercial hazardous waste facilities for potential violations in other regulatory areas, such as the N.C. Department of Labor's Occupational Safety and Health Act and the N.C. Department of Transportation's hazardous materials transportation regulations. The program inspected the State's nine permitted commercial hazardous waste treatment, storage, and disposal facilities during this period.

For FY 2023-24, the Resident Inspector Program operated with a staff of five (5) positions paid from the commercial hazardous waste facility fees. The program's operating fee-based budget collected $416,269.47 and program expenses totaled $503,108.88. Program staff conducted 407 multi-media inspections with one (1) notice of violation.

2. Program Description
The Resident Inspector Program was established "... to enhance the ability of the department to protect public health and the environment by providing the department with the authority and resources necessary to maintain a rigorous inspection and enforcement program at commercial hazardous waste facilities" (G.S. 130A-295.02(f)). The program monitors all aspects of commercial hazardous waste facilities in North Carolina, provides facility support through assistance and education, assures compliance with laws and rules administered by DEQ, and may include enforcement of laws or rules administered by any other State agency through a memorandum of agreement.

The Resident Inspector Program is part of the Hazardous Waste Section's Compliance Branch. For FY 2023-24, the program was comprised of three resident inspector positions, one administrative assistant, and one (half-time) program supervisor.

During FY 2023-24, Resident Inspector Program staff conducted 407 multimedia inspections at North Carolina's nine commercial hazardous waste treatment and storage and disposal facilities. This performance met the statute-mandated minimum of 408 inspections. (See Table III-3.)

3. Program Funding
The Resident Inspector Program is intended to be funded solely by fees collected from commercial hazardous waste facilities (G.S. 130A-295.02(h)). These fees are based on each facility's category ranking and the volume (tons) of hazardous waste received. For FY 2023-24, facility ranking fees totaled $271,728 and tonnage fees ($4.50 per ton) equaled $ $144,541.49. (See Table III-3.) The program's expenses totaled $503,108.88.

4. Program Results
Resident inspectors offer compliance assistance routinely – often in the form of education, technical assistance, and recommendations or comments during the site visits. Since the inspectors visit these facilities at least twice a month, they become familiar with facility management, operations, and site conditions. Inspection rates are based on facility ranking, which is based on the facility's size, what type of treatment they do, what type of waste they manage and how much, their enforcement history, their locations, and what reclamation activities they may conduct.

Resident inspectors visit these sites two (2) to six (6) times per month, depending on the facility's ranking. Resident inspectors can easily identify potential problem areas and work with the facility toward a permanent solution. If a facility begins to have operational or compliance problems, the inspector reviews these problem areas during each visit to provide assistance and keep the facility's compliance awareness high. Inspectors communicate frequently with facility management and front-line workers to address conditions or behaviors before they become a compliance issue.

The inspectors also communicate to clarify permit conditions and current regulatory requirements and explain the reasons for the requirements as well as the potential risks and costs of noncompliance. During the past fiscal year, resident inspectors issued one (1) notice of violation. (See Table III-3.)

The Resident Inspector Program staff members continue to provide rigorous oversight of commercial hazardous waste facilities across the State. The staff constantly seeks new approaches and initiatives to ensure that commercial hazardous waste facilities can protect public health and the environment. The Resident Inspector Program staff has also worked with the commercial facilities to maintain compliance during times of economic challenge. Economic pressures can cause hazardous waste facilities to operate with fewer staff members and provide employees with less training. All of these factors can lead to non-compliance. The Resident Inspector Program continues to work toward a high level of compliance at the commercial hazardous waste facilities in North Carolina through facility education, technical assistance, and regulatory oversight activities.

9Table III-3. Resident Inspector Program Commercial Hazardous Waste Facilities' Data FY 2023-24

Commercial/ Treatment/ Storage/ Disposal Facility	Facility Ranking	Minimum Number of Inspections	Actual Number Inspections Conducted	HW Tons Received FY2023-24	HW Tons Received FY 2023-24	Notices of Deficiency Issued	Notices of Violation Issued	Compliance Orders Issued
Clean Harbors	**3**	72	73	4271.32	4933.5	0	0	0
Clean Earth/ DART	**3**	72	71	5891	7439	0	0	0
Republic /Ecoflo	**3**	72	71	9415.17	6897.13	0	0	0
Univar/ Nexeo Solutions	**2**	48	49	9780	10403	0	0	0
SK-Archdale	**1**	24	24	27.37	26.64	0	0	0
SK-Charlotte	**1**	24	24	3.33	3.12	0	0	0
SK-Raleigh	**1**	24	24	18.15	16.86	0	1	0
SK-St. Pauls	**1**	24	23	31.88	36.3	0	0	0
Veolia ES Industrial Services	**2**	48	48	2436.81	2364.78	0	0	0
TOTALS		**408**	**407**	**32,026.47**	**32,120.33**	**0**	**1**	**0**

D. Mercury Switch Removal Program

1. Executive Summary

The Mercury Switch Removal Program (MSR Program) has been operating for 19 years and is administered by DWM's Hazardous Waste Section. The program continues to inspect the end-of-life vehicle dismantling, crushing, and shredding facilities. For FY 2023-24, the Mercury Switch Removal Program operated with a staff equivalent to approximately five (5) positions supplied by the Hazardous Waste Section's Compliance Branch. The program's operating budget is funded by fees collected as part of the N.C. Department of Transportation's application for a certificate of vehicle title fee.

The program's total operating costs in FY 2023-24 were $487,606.11. Those costs include switch reimbursements of $5 for every mercury switch removed and recycled or disposed of as RCRA "Universal Waste." A total of $13,990 was disbursed to the dismantlers, crushers, and shredders for mercury switch reimbursements. Program staff conducted 56 inspections during FY 2023-24 to determine compliance with State and federal RCRA regulations. No notices were issued.

2. Program Description
Through S.L. 2005-384, as amended by S.L. 2007-142, the General Assembly acted to reduce the amount of mercury entering the State's environment. As stated in G.S. 130A- 310.51, the purpose of the program is to reduce the quantity of mercury released into the environment by removing mercury switches from end-of-life vehicles and creating a removal, collection, and recovery program for those switches. The mercury switches control convenience lighting in the trunk and under the hood. Specifically, the law requires all vehicle dismantlers, vehicle recyclers, vehicle crushers and/or vehicle scrap processors to remove, collect and recover mercury switches contained in end-of-life vehicles prior to crushing, shredding, or smelting the vehicles.

To ensure compliance with requirements established in G.S. 130A-310.50 through 310.55, DEQ's DWM's Hazardous Waste Section created the MSR Program, which is coordinated through the Section's Compliance Branch.

During FY 2023-24, the MSR Program inspectors conducted 56 inspections in North Carolina. The site visits are used to evaluate whether the facility is subject to the law and acquaint those regulated facility operators with the legislative requirements. Additional compliance assistance was provided by the inspectors, as needed, regarding the MSR Program and other RCRA and Clean Water Act regulated requirements.

In accordance with the National Vehicle Mercury Switch Removal Program (NVMSRP), North Carolina's MSR Program receives support from a corporation, End-of-Life Vehicle Solutions (ELVS), which was formed by and represents the major automobile manufacturers. ELVS provides the following support to North Carolina's vehicle dismantlers/recyclers, vehicle crushers, and scrap processing facilities:

- Educational materials regarding mercury switch removal, guidance on which vehicles contain mercury switches, and instructions on how to locate, identify and remove mercury switches.
- U.S. Department of Transportation (DOT) appropriate storage/shipping containers, including applicable labeling and shipping documents necessary for the shipment of the mercury switches
- Transportation of the mercury switches in a timely fashion to an RCRA-permitted mercury recycling/disposal facility.
- Recycling of the mercury switches by a qualified mercury retort facility or, when recycling is not feasible, for the proper disposal of the mercury switches at an RCRA-permitted disposal facility.
- Indemnification from liability for participating vehicle dismantlers, scrap processing facilities, vehicle crushers, and others once mercury switches are collected by the ELVS contractor.

With this level of support from automobile manufacturers, dismantlers/recyclers, vehicle crushers, and scrap processing facilities can effectively remove the mercury switches from end-of-life vehicles before crushing, shredding, or smelting them.

When the switches are removed from the vehicles, they are placed in the supplied DOT container, which is labeled with the date the first switch is placed in the container and with the words "Universal Waste – Mercury-Containing Equipment." When the container is full, with a maximum of 454 switches per container, or the date on the container approaches one year, the container is shipped to the ELVS-contracted receiving facility (shipping is paid for by ELVS). ELVS continues to provide new containers and supplies as needed.

3. Program Funding
The MSR Program is funded by fees collected as part of the DOT fee for the application of a vehicle title certificate. Twenty cents of each $40-per-vehicle certificate of title fee is now allocated to DWM for this program. (Formerly, fifty cents of each fee went to the now-defunct Mercury Pollution Prevention Trust Fund). Under G.S. 130A-310.54(b)(1) and (b1), the Mercury Pollution Prevention Fund, in part, reimburses the MSR Program with $5 for each mercury switch removed and properly recycled or disposed of via the NVMSRP, paid to a vehicle crusher, vehicle dismantler, vehicle recycler, or scrap vehicle processing facility; and costs incurred by DEQ to administer the program.
Operationally, the funding provided for approximately five (5) full-time equivalent positions, travel, and equipment expenses plus mercury switch removal reimbursement payments. Program duties are, on a part-time basis, spread among

these staff and others, including a chemist and supervisor. FY 2023-24 revenues were approximately $480,253.38. Reimbursement paid to the vehicle dismantlers/recyclers, vehicle crushers, or scrap processing facilities, for removal of the mercury switches with proper recovery and disposal ($5 per switch) totaled $13,990 and total administrative costs totaled $473,616.11. The fund balance did not see a net increase due to changes in legislation for the fiscal year.

4. Program Results

As directed by ELVS, the contracted facility receiving the collected mercury switches supplies data to the MSR Program detailing the number of switches received, the date the switches were received, and the name and location of the facility that shipped the switches (dismantler, crusher, shredder, etc.).

For the calendar year 2024, 3,020 mercury switches were removed from vehicles and received by the ELVS contractor from North Carolina vehicle dismantlers/recyclers, vehicle crushers, and scrap processing facilities. This waste is managed as a universal waste. A total of 6.64 pounds of mercury (from the 3,020 switches) was prevented from being released into the environment in North Carolina as a result of mercury switches being removed from vehicles this year.

10Table III-4. Mercury Switch Removal Program Summary of Data 2012-2024

Calendar Year	Switches Collected	Pounds Collected	North Carolina National Rank
2024	3,020	6.64	
2023	4,081	8.99	
2022	6,724	14.79	
2021	7,192	15.82	
2020	9,417	20.72	3rd
2019	8,927	19.64	5th
2018	12,020	26.45	4th
2017	12,180	26.8	4th
2016	12,470	27.44	4th
2015	30,381	66.84	2nd
2014	38,479	84.66	2nd
2013	39,195	86.24	2nd
2012	49,561	109.05	2nd
2006-11	289,636	637.26	
TOTALS (2006-24)	**523,283**	**1151.34**	

In the 19 years this program has been in place, a total of 1,151.34 pounds of mercury has been prevented from being released into North Carolina's environment from metal processing and smelting of scrap vehicles. North Carolina's national rank is calculated based on the mercury recovery performance ratio. This is calculated by dividing the number of mercury switches received by the ELVS Federal program contractor from North Carolina for the fiscal year, by the number of mercury switches available for removal in North Carolina for that same period. The same calculations are made using the total national switch collection and availability, allowing ELVS to rank the state programs.

S.L. 2016-94 had established a sunset date for the Mercury Switch Program of June 30, 2017. The sunset date of the program has since been amended by S.L. 2017-57 and S.L. 2020-74 to be June 30, 2031. The law as amended also ended the transfer of funds into the Mercury Pollution Prevention Fund from the N.C. Highway Fund, removed most of the dollars from the fund and transferred all remaining funds to DWM on June 30, 2031. All activities of the program in North Carolina, including education, assistance, inspections, and switch reimbursements, will cease as of June 30, 2031.

Chapter IV: Inactive Hazardous Sites

A. Executive Summary

The N.C. General Assembly created the Inactive Hazardous Sites Program in DWM's Superfund Section to identify, investigate and clean up properties contaminated with hazardous substances, including old pre-regulatory landfill (PRLF) sites that have environmental contamination and predate modern hazardous and solid waste landfill standards designed to prevent contamination. The Federal Remediation Branch (FRB) within the Superfund Section conducts site evaluation for existing release sites in the Inactive Hazardous Sites inventory. FRB also works with EPA and, when appropriate, the U.S. Department of Defense (DOD) to investigate, assess, and remediate sites where uncontrolled and unregulated hazardous wastes have been or may be released into the environment. For a small percentage of evaluated sites that qualify to be listed on the National Priority List (NPL) or are determined to be of NPL-caliber, the FRB provides both oversight and technical guidance to the EPA and DOD for site cleanup. This report satisfies the requirements set out in G.S. 130A-310.10 for an annual report to the General Assembly, and includes activities on inactive hazardous sites, including pre-regulatory landfills and sites with federal involvement.

To date, a total of 3,340 chemical spill or disposal sites and old, unlined dumps or landfills (pre-regulatory) have been cataloged in North Carolina. Of this number, 2,600 still require work to address public health or environmental hazards. Of the 2,600 remaining open cases, 631 are old, unlined landfills that predate solid and hazardous waste permitting laws.

Inactive Hazardous Sites in FY 2023-24:

Total Number of Inactive Hazardous Sites Cataloged		3,340
	Chemical Spill or Disposal Sites	2,672
	Pre-Regulatory Landfills	668
Total Number of Sites Requiring No Further Action		740
	Chemical Spill or Disposal Sites	703
	Pre-Regulatory Landfill Sites	37
Remaining Open Sites		2,600
	Chemical Spill or Disposal Sites	1,969
	Pre-Regulatory Landfills	631
Sites on the National Priorities List (NPL)		40
	NPL Sites with No Responsible Party	19
	NPL Sites Delisted	2

Inactive Hazardous Sites Program (non-PRLF) Activities During FY 2023-24:

Oversight of Responsible Party Cleanup Actions		309
	Registered Environmental Consultant (REC)-Supervised Remedial Actions	107
	Staff-Supervised Remedial Actions under Administrative Agreements	62
	Additional Staff-Supervised Owner/Responsible Party Actions	97
	Spill Response Actions	37
Inactive Hazardous Sites Cleanup Fund Actions		
	Contaminated Site Assessments or Abatement Actions Completed or Ongoing	19
	Homes Provided with Alternate Water, Well Abandonment or Treatment System Maintenance	5
Testing Conducted by Staff		
	Water Supply Wells Sampled at Non-Landfill Sites	3
	Sites with Other Testing (soils, surface water)	2
New Site Screenings		
	Sites Screened	102

	Sites Added to Inventory	57
	Sites Reopened	0
Sites Evaluated for No Further Action (NFA) Status		
	Sites Evaluated	33
	NFAs Granted for Entire Site	29

Pre-Regulatory Landfill Program Activities During FY 2023-24:

Remedial Investigation Ongoing	51
Local Government Remedial Investigation Ongoing	9
Remedial Investigation Completed	2
Remedial Design Ongoing	40
Remedial Design Completed	0
Remedial Action Ongoing	1
Remedial Action Completed	0
No Further Action Issued	2
New Site Evaluations	5
Homes Provided Alternate Water or Treatment Systems Maintained	10
Number of Water Supply Wells Sampled	105

Federal Remediation Program Activities During FY 2023-24:

NPL, DOD, MGP, and Bankruptcy Sites with Investigation and Cleanup Oversight	115
Complete Five-Year Review Reports for NPL Sites	4
Complete Site Evaluation Reports	8
Complete O&M Sampling and Reporting	3
Number of Water Samply Well Sampled and Filtration Systems Maintained	4

Program Funding

a. Inactive Hazardous Sites

The Inactive Hazardous Sites Cleanup Fund (Fund) supports the development and implementation of a remedial action program focused on identifying and mitigating unacceptable risks to human health caused by the inactive hazardous substance or waste disposal sites with no responsible party. In January 2024, the Fund was appropriated an additional $400,000 to allow an increase in the number of non-landfill sites addressed, including those discovered to be affected by emerging contaminants. A total of $476,988 was spent on assessment and imminent hazard abatement, fees of $23,750 and a settlement of $42,296 added to the beginning balance of $285,789 yielding an ending balance of $674,847. Already, $52,602 has been committed to work completed, and additional assessment and imminent hazard abatement work continues to be planned for the next fiscal year.

b. Pre-Regulatory Landfills

A portion of a solid waste disposal tax established by the legislature is dedicated toward contracting assessment and remediation at uncontrolled pre-regulatory landfills and to fund staff to implement the program. This fiscal year, $12,729,161 was added to a beginning balance of $20,095,723. Expenditures totaled $8,929,075 yielding an end balance of $23,895,810. Encumbrances not yet paid total $10,585,803 leaving an end of fiscal year effective cash balance of $13,310.007.

c. Federal and National Priority List Sites

DEQ provides a 10 percent cost share required for Superfund cleanups on the 19 NPL sites having no viable responsible party to pay the operating and maintenance costs associated with these Superfund cleanups. As of June 30, 2024, the fund had $4,307,810. The total amount obligated under contracts was $2,266,410 ($1,897,046 under SSCs, $369,365 under Cape Fear Wood Preserving Co. Inc. O&M Contract); and unobligated fund balance that is available for future O&M and SSCs was $2,041,399. The amount of federal cost share funds distributed in FY 2023-24 was $50,127. During the fiscal

year, there is minimum payment ($35) to EPA under the SSC because almost all remedial activities at the fund-lead sites were using federal infrastructure bill funds, which did not require State cost share.

B. The Inactive Hazardous Sites Program

DWM's Inactive Hazardous Sites Branch implements the Inactive Hazardous Sites Response Act of 1987 (IHSRA) and is responsible for oversight and approval of the assessment and remediation of sites contaminated with hazardous substances.

1. The Inactive Hazardous Waste Sites Inventory and Priority List

The Inactive Hazardous Sites Inventory consists of five categories based mostly on a site's remedial action status. Newly discovered sites are added to the "Evaluation Pending" or "Non-hazardous substance site" categories. As staff resources are available, the sites are ranked based on the threat to public health and the environment as required by G.S. 130A-310.2. Ranking procedures are prescribed in 15A NCAC 13C .0200. Once ranked, sites are transferred to the "Sites Priority List" (SPL) Category. Appendix C includes the priority list and the type of hazardous substances or waste known or believed to be located at each of these sites. The purpose of the SPL is to prioritize remedial actions at sites without responsible parties, providing sufficient funding is available. The rank or absence of a site on the priority list does not limit DWM in conducting abatement actions at sites with newly discovered immediate hazards.

If a party volunteers to clean up a site and enters into an administrative agreement with DWM, the site is then transferred to the "Voluntary Action" category. Once cleanup is complete, the site is transferred to one of the "No Further Action" (NFA) categories.

To date, the program has cataloged 2672 chemical spill sites. A total of 57 new chemical spill sites were added to the inventory of sites in FY 2023-24 (Table IV-1). No chemical spill sites were reopened based on additional evidence of contamination. A total of 703 sites have work completed to date and are assigned "No Further Action" status. Of those, 29 completed remedial actions and were assigned "No Further Action" status in FY 2023-24 (Table IV-2).

G.S. 130A-310.10 requires reporting of the location of each inactive hazardous waste disposal site. Appendix D lists all of the inactive hazardous sites by County. Due to the large numbers of contaminated sites, most of the sites have not undergone the assessments needed to provide complete information.

11Table IV-1. Inactive Hazardous Sites Inventory List of New Non-PRLF Sites During FY 2023-24

ID Number	Site Name	City	County
NONCD0003268	710 Piedmont Triad West Drive	Mount Airy	Surry
NONCD0003273	AC Delco Building	Winston-Salem	Forsyth
NONCD0003291	Academi Training Facility	Moyock	Camden
NONCD0003257	Admiration Hosiery Mills	Charlotte	Mecklenburg
NONCD0003243	Army Reserve Durham	Durham	Durham
NONCD0003242	ARNG Morrisville	Morrisville	Wake
NONCD0003241	ARNG Salisbury	Salisbury	Rowan
NONCD0003278	Avondale Mills Sanford	Sanford	Lee
NONCD0003269	Baileytown Church Rd And Nc Hwy 89 E PCE	Walnut Cove	Stokes
NONCD0003244	Blue Bell Mill	Lenoir	Caldwell
NONCD0003270	Browning Tire And Auto	Wilmington	New Hanover
NONCD0003294	Bynum First And Last Mart	Pittsboro	Chatham
NONCD0003281	Capital Power	Southport	Brunswick
NONCD0003285	Cemex Construction	Winston-Salem	Forsyth
NONCD0003248	Cleveland Mills	Lawndale	Cleveland
NONCD0003264	Crescent Ave And Providence Road PCE	Charlotte	Mecklenburg
NONCD0003251	E 2nd Ave PCE	Lexington	Davidson
NONCD0003296	East Church St Contamination	Laurinburg	Scotland
NONCD0003252	Fletchers Powder Coating LLC	Creedmoor	Granville
NONCD0003255	Fortress Wood Products GSO	Greensboro	Guilford
NONCD0003256	Heritage Square III	Durham	Durham
NONCD0003265	Hillsborough St Solvents	Raleigh	Wake
NONCD0003282	Hitachi China Grove	China Grove	Rowan
NONCD0003290	Hwy 70 Business Automotive	Clayton	Johnston
NONCD0003280	Hwy 70 Morehead City	Morehead City	Carteret
NONCD0003272	Identity Custom Signage	High Point	Guilford
NONCD0003258	Myrtle Desk Co	High Point	Guilford
NONCD0003249	N Tryon Street VOCs	Charlotte	Mecklenburg
NONCD0003292	NCSU Water Chiller Release	Raleigh	Wake
NONCD0003286	Nisbet Marine Mart	Charlotte	Mecklenburg
NONCD0003276	Nissen Wagon Works	Winston-Salem	Forsyth
NONCD0003247	North Main Street Contamination	Mooresville	Iredell
NONCD0003279	North Raleigh Blvd VOCs	Raleigh	Wake
NONCD0003254	Pag Chadbourn	Chadbourn	Columbus
NCD982133555	Polymer Recycle	Leland	Brunswick
NONCD0003260	Raleigh Ice Center	Raleigh	Wake
NONCD0003295	Remount Rd Fire Pit	Charlotte	Mecklenburg
NONCD0003275	Rental Uniform Services of Statesville	Statesville	Iredell

NONCD0003271	Rose Ice and Coal	Wilmington	New Hanover
NONCD0003283	S Main Salisbury	Salisbury	Rowan
NONCD0003274	Sams Pit Stop	Winston-Salem	Forsyth
NONCD0003267	SDR Properties LLC	Greensboro	Guilford
NONCD0003288	Servicemaster Fox Associates	Charlotte	Mecklenburg
NONCD0003259	Shop Towel Rentals	Charlotte	Mecklenburg
NONCD0003253	Skenes Ave PCE	Henderson	Vance
NONCD0003261	South and Hollis Loso	Charlotte	Mecklenburg
NONCD0003287	South End Business Park	Charlotte	Mecklenburg
NONCD0003262	South Graham Tower	Charlotte	Mecklenburg
NONCD0003263	South Tryon Commercial	Charlotte	Mecklenburg
NONCD0003246	Southbank Building	Durham	Durham
NONCD0003284	Sunbelt 4500 Site	Burlington	Alamance
NONCD0003293	Sun-Do Magnolia Lumberton	Lumberton	Robeson
NONCD0003250	Sweeten Creek Road VOCs	Asheville	Buncombe
NONCD0003289	Tarmac Virginia	Charlotte	Mecklenburg
NONCD0003277	Universal Industrial Park Site	High Point	Guilford
NONCD0003245	Webber Automotive	Winston-Salem	Davidson
NONCD0003266	Williams And Gentry PCE	Yadkinville	Yadkin

12Table IV-2. Inactive Hazardous Sites Inventory List of Non-PRLF Sites Assigned No Further Action Status During FY 2023-24

ID Number	Site Name	City	County
NCD002464691	Alliance Carolina Tool and Mold	Arden	Buncombe
NONCD0001131	American Refuse Systems	Fayetteville	Cumberland
NONCD0003164	Ardmore Commons	Winston-Salem	Forsyth
NCD981022072	Bettis Property	Earl	Cleveland
NONCD0001345	Bobby Murray Toyota	Rocky Mount	Nash
NONCD0003230	Brooks Street 610 Property	Wake Forest	Wake
NONCD0003234	C&D Motors	Jacksonville	Onslow
NONCD0001525	Coca-Cola Co. Skyland	Skyland	Buncombe
NONCD0001420	CSX Hamlet Diesel Shop	Hamlet	Richmond
NONCD0001682	Enders Residence, Frank	Darlington	Halifax
NONCD0001805	Exxon Pipeline	Leland	Brunswick
NCD024817827	Henredon Furniture	Spruce Pine	Mitchell
NONCD0003272	Identity Custom Signage	High Point	Guilford
NCD986215465	JMC USA Inc	RTP	Durham
NCD981927908	Kidd Lane Battery Disposal	Charlotte	Mecklenburg
NONCD0003225	National Salvage Fire	Dudley	Wayne
NONCD0002214	North American Products	Statesville	Iredell

NONCD0003233	Northwest Blvd Waste Oil Tank	Winston-Salem	Forsyth
NONCD0003247	North Main Street Contamination	Mooresville	Iredell
NONCD0002975	Old Lexington Rd PCE Contamination	Winston-Salem	Forsyth
NONCD0002128	Purina Mills	Wilson	Wilson
NONCD0003295	Remount Rd Fire Pit	Charlotte	Mecklenburg
NONCD0003267	SDR Properties LLC	Greensboro	Guilford
NONCD0003163	South Tryon Street PCE	Charlotte	Mecklenburg
NONCD0002572	T&T Supermarket	Morganton	Burke
NONCD0003213	The Children's Clinic	Fairmont	Robeson
NONCD0002595	Thomson Crown Wood Products	Mocksville	Davie
NCD981472624	US 70 Drum Dump	Morganton	Burke
NCD093334209	Wilson, Ralph Plastics	Fletcher	Henderson

2. Sites Using the Inactive Hazardous Sites Cleanup Fund

The annual appropriation to the cleanup fund was increased from $400,000 to $800,000 this year and became available in January 2024. This first-time increase to the fund is intended to accommodate remedial action cost increases and to allow a higher number of sites to be addressed, including those discovered to be affected by the various emerging contaminants. Funds are used on higher risk chemical spill sites that have no identified or potential financially viable responsible party available to pay for contaminant testing and cleanup. These cases are referred to as "orphan" sites, which amount to almost half of the open cases in the inventory, with many new ones reported to DWM each year. The Inactive Hazardous Waste Sites Priority List helps determine priorities for cleanup.

Determining whether a potential responsible party exists most often requires research, inquiry, and sampling, because it is difficult to prove who caused the contaminant releases at these sites. Once a responsible party is identified, they are encouraged to voluntarily clean up their sites. However, when they are no longer in business, financially unsound, or do not comply with a request and subsequent order to clean up a site, State funds must have historically been used to perform the cleanup using the Fund. The demand for State funds to conduct site cleanups depends on two factors: (1) how often responsible parties refuse to comply with orders to conduct cleanup and (2) the risks associated with orphan sites that lack financially viable responsible parties.

A high percentage of these "orphan" sites have been identified as higher risk because they are either used for residential purposes, have contaminated water supply wells, have a drinking water source within one-quarter mile of the site, or have the potential for indoor air concerns associated with volatile subsurface contamination. The Fund is used to: (1) address these imminent hazard sites; (2) pay for assessment and cleanup when responsible parties do not comply with orders to clean up sites; (3) pay for assessment and cleanup of orphan sites; (4) pay for preparation of a Notice of Environmental Contamination if the owner does not comply with orders to record a notice; and (5) provide alternate water in response to private well contamination. When a financially viable responsible party exists, the State must attempt to recover its expenditure from the party responsible.

The Inactive Hazardous Sites Cleanup Fund was used to address 24 sites this year. As of July 1, 2023, the beginning balance of the Fund was $285,789. Funds used during the fiscal year on imminent hazard sites totaled $476,988. A summary of this work is provided in Table IV-3. The proposed cost of work already approved by June 30, 2024, totals $243,962. Additional obligated funds for laboratory and bottled water contracts total $46,110, leaving an available cash balance of $384,774 at the end of the fiscal year.

13Table IV-3. Inactive Hazardous Sites Cleanup Fund Expenditures for Sites with no Responsible Party during FY 2023-24

Site Name	City/ County	Activity	FY 2023-24 Expenditures*
AC Delco Building	Winston-Salem/ Forsyth Co.	Conducted a vapor intrusion evaluation on a neighboring property.	$12,269.41
Allen Lane Contaminated Wells	Hillsborough/ Orange Co.	Maintenance of treatment system installed on contaminated residential well.	$2,945.69
Averette Road Solvents	Wake Forest/ Wake Co.	Conducted a vapor intrusion evaluation on a neighboring property.	$7,598.29
Benfield Chemicals	Canton/ Haywood Co.	Groundwater and soil gas assessment of source property.	$52,358.71
Brekenwood Subdivision	Pleasant Garden/ Guilford Co.	Maintenance of treatment system installed on contaminated residential well.	$2,927.64
Busick Rd TCE	Reidsille/ Rockingham Co.	Maintenance of treatment system installed on contaminated residential well.	$10,011.60
Cinderella Knitting Mills	Kings Mountain/ Cleveland Co.	Vapor intrusion monitoring and surface water sampling	$59,402.27
Clarkson Street Contamination	Charlotte/ Mecklenburg Co.	Confirmation sampling for vapor intrusion mitigation system effectiveness	$13,392.81
Gaither Transou Property	Greensboro/ Guilford Co.	Vapor intrusion evaluation of onsite residence.	$35,972.00
Geltman Corporation	Conover/ Catawba Co.	Vapor intrusion evaluation of onsite building.	$59,401.63
Gentex Printing	Rocky Mount/ Nash Co.	Vapor intrusion monitoring of onsite structure.	$8,765.21
Gibbs Electroplating	Charlotte/ Mecklenburg Co.	Vapor intrusion evaluation of onsite building.	$360.00
Morgan Mills (Dawson Plant #6)	Albemarle/ Stanley Co.	Groundwater, surface water and sediment monitoring.	$20,544.00
Priddy Property, Winifred	Lawsonville/ Stokes Co.	Maintenance of treatment system installed on contaminated residential well.	$1,216.86
Red Apple Market #40 (Former)	Ahoskie/ Hertford Co.	Vapor intrusion evaluation of onsite building.	$18,107.06
Reeve's Brothers, Inc.	Albemarle/ Stanly	Vapor intrusion evaluation of onsite building and neighboring property.	$23,664.84
Schulhofer Junkyard	Waynesville/ Haywood Co.	Surface water and sediment assessment of adjoining stream.	$10,410.00
South Tunnel Road Solvents	Asheville/ Buncombe Co.	Groundwater assessment and vapor intrusion evaluation of onsite structure.	$51,429.94

Texfi Industries, Inc/New Bern	New Bern/ Craven Co.	Offsite groundwater monitoring	$14,928.70
W.E. Garrison Co	Raleigh/ Wake Co.	Maintenance of treatment system installed on contaminated residential well.	$2,882.02
Webber Automotive	Winston-Salem/ Forsyth Co.	Soil and sediment assessment of illegal discharge.	$504.00
Weldon Mill (FRMR)	Weldon/ Halifax Co.	Soil, groundwater and surface water assessment.	$31,370.16
Wiscassett Mills	Albemarle/ Stanley Co.	Groundwater monitoring and vapor intrusion evaluation on source and neighboring properties.	$14,426.61
Yadkin Rd Circle K	Fayetteville/ Cumberland Co.	Vapor intrusion evaluation on source and neighboring properties.	$22,098.49
		TOTAL EXPENDITURES	**$476,987.94**

*Authorized expenses that were not yet invoiced in FY 2023-24 = $52,601.70

3. Responsible Party Voluntary Site Remedial Action

When the Inactive Hazardous Sites Branch requests that a person responsible for contamination at a priority site take action to address the risks, some parties agree to voluntarily conduct a cleanup. Some responsible parties and owners also initiate an approved assessment and/or remedial action on their own. Due to the number of voluntary remediation projects and limited staff resources, the General Assembly authorized DWM to privatize oversight of voluntary remediation activities at lower-risk sites. DWM continues to provide oversight for assessment and remediation at sites that present more severe public health threats or other concerns.

The privatized portion of the voluntary cleanup program is called the Registered Environmental Consultant (REC) Program. Under this program, a responsible party hires a private consultant approved by DWM to conduct the site assessment and cleanup and to certify that those activities comply with regulations. The REC's certification replaces DWM oversight of the assessment and cleanup. Firms must meet certain requirements to qualify as an REC. DWM staff conduct REC certification, training and performance audits each year to ensure program integrity. DWM has the authority to disqualify and/or sanction an REC where necessary. These staff are funded through fees collected from the voluntary program participants.

A current list of the 169 sites where assessments and cleanups are underway in accordance with an administrative agreement with the State is provided in Table IV-4. There are 107 REC-directed and 62 DWM-directed actions. Table IV-5 is a list of an additional 97 DWM-directed responsible party assessment and cleanup actions pending administrative agreements.

Inactive Hazardous Sites Branch staff are conducting work at many other sites in addition to the remediating party oversight of work conducted at the sites shown in Tables IV-4 and IV-5. Such work includes (1) assessing and abating risk from contaminated drinking water wells and indoor air where there are no identifiable responsible parties, (2) investigating responsible parties at higher priority sites, (3) preparing bankruptcy claims and overseeing contractor work conducted with receipts, (4) responding to requests for "No Further Action Status" reviews, (5) responding to spills, (6) screening of newly discovered sites and (7) responding to public inquiries on sites.

14Table IV-4. Voluntary Party Remedial Actions Under Administrative Agreements During FY 2023-24

ID Number	Site Name	City	County
NONCD0000040	Abbott Laboratories	Laurinburg	Scotland
NCD045924339	Acme United Corporation	Fremont	Wayne
NONCD0001226	Adams-Millis Plant 2/33 – Non-UST	Mount Airy	Surry
NONCD0001245	Allen-Beck Non-Petroleum	Granite Falls	Caldwell
NONCD0001257	American Truetzschler	Charlotte	Mecklenburg
NONCD0001273	Ansell Healthcare	Tarboro	Edgecombe
NONCD0001275	AO Smith Electric Motor	Mebane	Alamance
NONCD0002881	Ardee/Translite	Shelby	Cleveland
NCD986188787	Asheville Coal Gas Plant #1	Asheville	Buncombe
NONCD0000032	Asheville Coal Gas Plant #2	Asheville	Buncombe
NCD003193588	Barbour Boat Works, Inc.	New Bern	Craven
NONCD0003099	BASF	Holly Springs	Wake
NCD003149705	BASF Wayndotte Corporation	Charlotte	Mecklenburg
NCD083673590	Bendix Corporation	Charlotte	Mecklenburg
NCD054412283	Black & Decker Plant (Former)	Tarboro	Edgecombe
NCD003189024	Borden Chemical Fayetteville Plant	Fayetteville	Cumberland
NONCD0000002	Burlington Coal Gas Plant	Burlington	Alamance
NONCD0001400	Burlington House Reidsville Plant	Reidsville	Rockingham
NCD986171965	Caro-Knit	Wilmington	New Hanover
NCD000608117	Celanese Corporation/Fibers Tech	Charlotte	Mecklenburg
NCD986188803	Charlotte Coal Gas Plant No. 2	Charlotte	Mecklenburg
NCD981861214	Charlotte Transportation Terminal	Charlotte	Mecklenburg
NONCD0000041	Ciba-Geigy	Charlotte	Mecklenburg
NCD061801361	Ciba-Geigy Corporation	Greensboro	Guilford
NONCD0001509	Claire Manufacturing	Charlotte	Mecklenburg
NCD986230688	Commercial Vehicle Group, Inc	Statesville	Iredell
NCD982116477	Conagra Foods, Inc	Garner	Wake
NCD986197333	Concord Coal Gas Plant	Concord	Cabarrus
NONCD0002304	Conover Chair Company	Conover	Catawba
NONCD0001544	Cookson Fibers	Ansonville	Anson
NONCD0001097	Copes-Vulcan, Inc	Charlotte	Mecklenburg
NCD003195161	Corning Glass Works	Raleigh	Wake
NONCD0001551	Cotton Mill Square - Solvents	Greensboro	Guilford
NONCD0001061	CP&L Northern Division Complex	Garner	Wake
NONCD0002990	Crown Acura	Greensboro	Guilford
NONCD0002216	Crown Auto Dealership	Greensboro	Guilford
NONCD0001901	Crown Ford Fayetteville	Fayetteville	Cumberland
NONCD0001569	Crown Honda & Camco	Greensboro	Guilford

NONCD0001262	Crown Pontiac-Solvent	Greensboro	Guilford
NONCD0001182	Cummins Atlantic-General Office Bldg	Charlotte	Mecklenburg
NCD057454670	Diamond Shamrock Corp/Occidental	Castle Hayne	New Hanover
NONCD0002765	Dudley Products	Kernersville	Forsyth
NCD981861743	Duke Power/Greensboro Gas Plant	Greensboro	Guilford
NCD000813519	Duke University	Durham	Durham
NONCD0002818	Dupont-Kentec	Grifton	Lenoir
NCD986173938	Durham Gas Plant	Durham	Durham
NONCD0001661	Eaton Corporation	Laurinburg	Scotland
NCD004520136	Eaton Corporation	Roxboro	Person
NONCD0001662	Eaton Corporation - Sanford	Sanford	Lee
NONCD0002853	Eaton Manufacturing	Selma	Johnston
NCD986197267	Elizabeth City Coal Gas	Elizabeth City	Pasquotank
NONCD0001681	Empire Brush Facility	Greenville	Pitt
NCD003201837	Encee Chemical Sales, Inc.	Bridgeton	Craven
NONCD0001683	Energy Conversion Systems	Dunn	Harnett
NONCD0002903	Engineered Controls International	Whitsett	Guilford
NONCD0002904	Engineered Controls International	Elon	Alamance
NONCD0003206	Ethan Allen Woodfin	Woodfin	Buncombe
NONCD0001137	Fabco Fastening Systems/Dixie Yarns	Stanfield	Stanly
NONCD0001700	Fairchild Industrial Products Co.	Winston-Salem	Forsyth
NCD062566047	Fasco Controls Corporation	Shelby	Cleveland
NCD986197341	Fayetteville Coal Gas/Ray Ave	Fayetteville	Cumberland
NONCD0002854	Fiber Dynamics	High Point	Guilford
NONCD0000017	Flakt Products	Winston-Salem	Forsyth
NONCD0000092	Funder America	Mocksville	Davie
NCD986188829	Gastonia Coal Gas Plant	Gastonia	Gaston
NCD051322980	General Electric Co.	Charlotte	Mecklenburg
NCD003163730	General Instrument Corp.	Fairview	Buncombe
NONCD0001779	Glenn Manufacturing / Decorative Home Acce	Morven	Anson
NCD986197309	Goldsboro Coal Gas Plant #1	Goldsboro	Wayne
NONCD0002891	Goldsboro Milling-Mill #1 & #2	Goldsboro	Wayne
NONCD0001089	Greensboro Coal Gas Plant #1	Greensboro	Guilford
NCD986188886	Greenville Coal Gas Plant	Greenville	Pitt
NCD981922362	Greif, Inc	Bladenboro	Bladen
NONCD0003221	GUC Operations Center	Greenville	Pitt
NONCD0001064	Guilford Mills Plant	Fuquay-Varina	Wake
NCD051739209	Harrelson Rubber Company	Asheboro	Randolph
NONCD0001084	Henderson Coal Gas Plant	Henderson	Vance
NONCD0001085	Hickory Coal Gas Plant	Hickory	Catawba

NCD986188837	High Point Coal Gas Plant	High Point	Guilford
NONCD0002602	Honeywell International	Maiden	Catawba
NCD003215696	Hunt Manufacturing	Statesville	Iredell
NONCD0002984	Hwy 70 W 1100 Block Solvents	Garner	Wake
NONCD0001888	Hydrolabs, Inc. (Allied Colloids)	Albemarle	Stanly
NONCD0001907	International Resistive Corp.	Boone	Watauga
NONCD0001947	Kayser-Roth	Lumberton	Robeson
NONCD0001948	Kayser-Roth - Asheboro	Asheboro	Randolph
NONCD0001951	Kern Polymeric	Salisbury	Rowan
NCD000653576	Kern Rubber Co. Urethane Plant	Salisbury	Rowan
NONCD0001953	Keystone Powdered Metal Company	Cherryville	Gaston
NONCD0001118	Kidde Technologies	Wilson	Wilson
NCD097361018	Kin Properties Abandoned Drums	Charlotte	Mecklenburg
NCD986197366	Kinston Coal Gas Plant	Kinston	Lenoir
NCD980729677	Knob Creek Flyash Disposal	Brevard	Transylvania
NONCD0001173	Lebanon Chemical	Hertford	Perquimans
NCD986197358	Lexington Coal Gas Plant	Lexington	Davidson
NCD982084113	Linamar Forgings/Carolina Forge	Wilson	Wilson
NCD062552989	Mallard Creek Rd/Union Oil Co of Ca	Charlotte	Mecklenburg
NONCD0002028	Mallard Griffin Lumber	Kinston	Lenoir
NONCD0002992	Mccullers Walk Property	Raleigh	Wake
NONCD0002068	Micromatic/Textron Facility	Swannanoa	Buncombe
NONCD0002085	Mitsubishi Electronics	Durham	Durham
NONCD0003047	Mount Holly Steam Station (Former)	Mount Holly	Gaston
NONCD0002490	National Fleet Supply	Charlotte	Mecklenburg
NCD986197259	New Bern Coal Gas Plant	New Bern	Craven
NONCD0002802	Newland Pesticides Site	Newland	Avery
NONCD0002236	Olympic Products	Greensboro	Guilford
NCD057248759	Patch Rubber Pond	Roanoke Rapids	Halifax
NCD055162069	Pelton & Crane Plant (Former)	Charlotte	Mecklenburg
NONCD0001425	Peterbilt of Dunn "A" Parcel	Dunn	Harnett
NONCD0001939	Petro Express No. 56	Kings Mountain	Cleveland
NONCD0002299	Pharr Yarns Sludge Landfill	Mcadenville	Gaston
NONCD0003150	Powersecure Manufacturing Inc	Randelman	Randolph
NCD000613273	Praxair Surface Technologies	Charlotte	Mecklenburg
NONCD0001020	Precision Fabrics Group, Inc	Greensboro	Guilford
NCD040047425	Prillaman Chemicals	Fayetteville	Cumberland
NONCD0002345	Purolator Products, Inc.	Fayetteville	Cumberland
NONCD0002350	Quality Forest Products	Enfield	Halifax
NCD062548995	Quorum Knitting	Weaverville	Buncombe

NCD986188894	Raleigh Coal Gas Plant No. 1	Raleigh	Wake
NCD986188902	Raleigh Coal Gas Plant No. 2	Raleigh	Wake
NONCD0001087	Reidsville Coal Gas Plant	Reidsville	Rockingham
NONCD0001171	Rental Uniform Services	Clinton	Sampson
NONCD0002391	Rexam Corporation - B	Greensboro	Guilford
NCD986182582	Rhone-Poulenc (Rhodia)	Gastonia	Gaston
NONCD0001154	Robert Bosch Tool Corp	Lincolnton	Lincoln
NONCD0001157	Robert Bosch Tool Corp	Greenville	Pitt
NCD986197325	Rocky Mount Coal Gas Plant No. 1	Rocky Mount	Nash
NCD986197317	Rocky Mount Coal Gas Plant No. 2	Rocky Mount	Nash
NCD041466525	Rocky Mount Fiber Dump	Rocky Mount	Edgecombe
NONCD0002427	Royster-Clark Fertilizer Facility	Statesville	Iredell
NONCD0002431	Rus	Winston-Salem	Forsyth
NONCD0002438	Salem Uniform Services Facility	Winston-Salem	Forsyth
NCD986197283	Salisbury Coal Gas Plant #1	Salisbury	Rowan
NCD003234549	Scm Proctor Silex/Wearever	Southern Pines	Moore
NONCD0003214	Selkirk Rlty: Pharr Yarns Space Dye Plnt	Mcadenville	Gaston
NCN000407206	Shulimson Brothers Scrap Yard	Asheville	Buncombe
NONCD0002511	South Brunswick Middle School	Southport	Brunswick
NONCD0002491	South Sea Rattan	Greensboro	Guilford
NCD053488557	Southern Wood Piedmont Company	Gulf	Chatham
NCD058517467	Southern Wood Piedmont Company	Wilmington	New Hanover
NONCD0002531	Stanley Fastening	Sanford	Lee
NCD986197291	Statesville Coal Gas Plant	Statesville	Iredell
NCD024895864	Stewart-Warner Corp/Bassick-Sack	Winston-Salem	Forsyth
NCD083669952	Story Burial Areas/Union Chemical	Charlotte	Mecklenburg
NONCD0001101	Stronghaven Warehouse	Matthews	Mecklenburg
NONCD0002575	Takeda - BASF	Wilmington	New Hanover
NONCD0002238	Terminix Pest Control	Winston-Salem	Forsyth
NONCD0002787	Travis Knits, Inc (Aka Mohican Mills)	Cherryville	Gaston
NONCD0002981	Tri Point-Carolina Freightliner	Raleigh	Wake
NCD082362989	Tungsten Queen Mine/Atlas Mine	Townsville	Vance
NONCD0002833	Umicore CSM NA	Maxton	Scotland
NCR000010272	UNC-Cogeneration Facility	Chapel Hill	Orange
NONCD0002645	Unifirst	Wilmington	New Hanover
NONCD0002646	Unifirst Corporation (Former Textilease)	Goldsboro	Wayne
NCD000822957	Union Carbide Corp/Eveready Battery	Asheboro	Randolph
NONCD0002871	United Metal Finishing	Greensboro	Guilford
NCD980557623	University of NC/Arpt Waste Disp	Chapel Hill	Orange
NONCD0002656	Unocal - Goodrich	Charlotte	Mecklenburg

NCD053485991	Varco-Pruden Buildings	Kernersville	Forsyth
NONCD0001139	Vermont American	Boone	Watauga
NONCD0002676	Vitafoam, Inc.	High Point	Randolph
NONCD0001103	Walter Kidde Portable Equipment	Mebane	Alamance
NCD986197275	Washington Coal Gas Plant	Washington	Beaufort
NCD001493931	Weck, Edward Inc.	Rtp	Durham
NCN000407582	West Pharmaceutical Services	Kinston	Lenoir
NCD986188910	Wilmington Coal Gas Plant	Wilmington	New Hanover
NCD986188845	Winston-Salem Coal Gas Plant No. 1	Winston-Salem	Forsyth
NCD986188852	Winston-Salem Coal Gas Plant No. 2	Winston-Salem	Forsyth
NCD982156812	Wysong & Miles	Greensboro	Guilford

15Table IV-5. Ongoing Division-Directed Remedial Actions by Responsible Parties Not Under Agreement During FY 2023-24

ID Number	Site Name	City	County
NCD980844518	AMP Incorporated	Clemmons	Forsyth
NONCD0001263	AMP, Inc. - Building 54	Clemmons	Forsyth
NONCD0002205	AMP, Inc-Bldg 090	Kernersville	Forsyth
NCN000410765	AOPC10 Camp Lejeune Alternate Off-Base	Jacksonville	Onslow
NCD047257472	Applied Research Group, Inc.	Charlotte	Mecklenburg
NONCD0003164	Ardmore Commons	Winston-Salem	Forsyth
NONCD0001323	BASF-Enka (OTM Building)	Asheville	Buncombe
NONCD0001862	Beta Fluid Systems	Reidsville	Rockingham
NONCD0001133	Bowman Gray-Friedburg Campus	Winston-Salem	Forsyth
NONCD0001429	Cape Fear Auto	Wilmington	New Hanover
NONCD0001434	Capri Industries, Inc.	Morganton	Burke
NONCD0003035	Carolina Asbestos Cor	Davidson	Mecklenburg
NONCD0003224	Carolina Hosiery Mills, Inc	Burlington	Alamance
NONCD0001451	Carolina Tire #2936	Asheville	Buncombe
NONCD0001408	Carter Woodson Charter School	Winston Salem	Forsyth
NONCD0003240	Carters Road Metals	Gatesville	Gates
NONCD0001468	CC Mangum-Highway 54	Raleigh	Wake
NCD046148540	Central Transport	Charlotte	Mecklenburg
NCD003221868	Century Furniture	Hickory	Catawba
NONCD0001162	Champion Finishing Co	Asheville	Buncombe
NONCD0001473	Champion-Pigeon River Seep	Canton	Haywood
NCD991278680	Chemcraft/Sadolin Paint Prodcuts	Winston-Salem	Forsyth
NONCD0001206	City of Charlotte	Charlotte	Mecklenburg
NONCD0001538	Conflandey, Inc.	Whiteville	Columbus

NONCD0003167	Cormetech, Inc.	Kings Mountain	Cleveland
NONCD0002953	Cornell Dublier Electronics (Former)	Fuquay Varina	Wake
NCD006556963	CR Industries	Gastonia	Gaston
NCN000410174	Daly-Herring Company/Prillaman	Kinston	Lenoir
NONCD0001587	Danalex Facility	Bessemer City	Gaston
NCN000405052	Davidson Asbestos	Davidson	Mecklenburg
NONCD0001141	Diazit Company	Youngsville	Franklin
NONCD0002996	Dicey Mills	Shelby	Cleveland
NONCD0002624	Dodson Exterminatiors/US Cell	Jacksonville	Onslow
NONCD0001625	Dominion Textiles (USA)	Hickory	Catawba
NONCD0001120	Eaton Aeroquip, Inc (Former)	Norwood	Stanly
NONCD0001663	Eaton Facility (Former)	Fletcher	Henderson
NONCD0001679	Elox Corporation Facility	Davidson	Mecklenburg
NONCD0003196	Faulkners Gulf Greensboro	Greensboro	Guilford
NCD067178707	Fawn Plastics	Middlesex	Nash
NONCD0002956	Fie Top Road Salt Pile	Maggie Valley	Haywood
NONCD0001720	Fleet Supply Company – Non-UST	Winston-Salem	Forsyth
NCD003154960	Fleming Laboratories	Charlotte	Mecklenburg
NCN000409865	Forshaw Chemicals	Charlotte	Mecklenburg
NONCD0003119	Forward High Point Property	High Point	Guilford
NONCD0003149	Gallant Maritime	Beaufort	Carteret
NONCD0001759	Geltman Corporation	Conover	Catawba
NCD050409150	General Electric	Wilmington	New Hanover
NCD043679349	General Tire & Rubber Co	Charlotte	Mecklenburg
NCD009305699	GTE Sylvania, Inc.	Smithfield	Johnston
NONCD0001219	Harlee Avenue Contamination	Charlotte	Mecklenburg
NONCD0002809	High Point Enterprise	High Point	Guilford
NCD062571658	Honeywell Micro Switch Div.	Mars Hill	Madison
NCD000770487	IMC/International Minerals & Chem	Winston-Salem	Forsyth
NONCD0003200	Industrial Drive TCE	Wendell	Wake
NCD049997786	Inmont Corp/BASF Corporation	Morganton	Burke
NCD980557888	Lenoir City Landfill	Lenoir	Caldwell
NCD055167324	Mitchell-Bissell Plant	Rosman	Transylvania
NONCD0003225	National Salvage Fire	Goldsboro	Wayne
NCD091572073	National Starch & Chemical Co	Leland	Brunswick
NONCD0002873	Nello Teer Quarry-Denfield	Durham	Durham
NCD083673616	Reeves Brothers	Rutherfordton	Rutherford
NONCD0001655	Rental Towel and Uniform	Graham	Alamance
NONCD0002433	Ryerson Facility (Former)	Charlotte	Mecklenburg

NONCD0003105	Saab Barracuda Facility	Lillington	Harnett
NONCD0002440	Sam's Mart #788	Greensboro	Guilford
NONCD0002444	Sanfatex	Red Springs	Robeson
NCD095458709	Schrader Automotive Products Div.	Monroe	Union
NCD093338119	SCM Corp. Glidden Cings & Resins	Charlotte	Mecklenburg
NCD000616516	Scovill Inc/Security Products	Monroe	Union
NCD071561864	Sherwin Williams Company	Greensboro	Guilford
NONCD0001163	Smith's Aerospace	Asheville	Buncombe
NCD003951878	Square D Company	Asheville	Buncombe
NCD091567065	Stanadyne, Inc/Diesel Systems	Washington	Beaufort
NONCD0002579	Talon Zipper Facility (Former)	Stanley	Gaston
NONCD0002583	Taylor Salt & Chemical	Charlotte	Mecklenburg
NONCD0002238	Terminex Pest Control	Winston-Salem	Forsyth
NONCD0002587	Textile Piece Dyeing	Lincolnton	Lincoln
NONCD0002595	Thomson Crown Wood Products	Mocksville	Davie
NONCD0002599	Ticar Chemical	Asheville	Buncombe
NONCD0002600	Tillett Chemical, Inc	Pineville	Mecklenburg
NONCD0002611	Town Center Project	Cornelius	Mecklenburg
NONCD0000088	Trans Technology (Lundy)	Charlotte	Mecklenburg
NONCD0002633	Trinity American Corp.	Glenola	Randolph
NONCD0002972	Triumph Actuation Systems	Clemmons	Forsyth
NCD003184249	Union Carbide Corp/Eveready	Greenville	Pitt
NONCD0002648	United Chem-Con-Non-UST	Lansing	Ashe
NCD089903983	Univar USA, Inc	Greensboro	Guilford
NONCD0003277	Universal Industrial Park	High Point	Guilford
NONCD0003055	UNX Property	Greenville	Pitt
NONCD0000003	Van Waters & Rogers	Charlotte	Mecklenburg
NONCD0003222	W Cumberland St PCE	Dunn	Harnett
NONCD0003198	W Martin Street TCE	Raleigh	Wake
NONCD0003235	Weaver Fertilizer Brownsboro Road	Winston-Salem	Forsyth
NONCD0003223	Weaver Fertilizer Winston-Salem	Winston-Salem	Forsyth
NONCD0003245	Webber Automotive	Winston-Salem	Davidson
NCD003195963	Westinghouse Elec Meter & Light	Raleigh	Wake
NONCD0002760	Worth Chemical	Charlotte	Mecklenburg

4. Imminent Hazard Sites

DWM and the EPA are committed to addressing imminent hazard sites when identified. Table IV-6 provides a list of 52 sites, including those listed in Table IV-3, where potential imminent hazards were reported, assessed, or where abatement activities continued in FY 2023-24. Their location, a site description, action taken, and funding source are provided.

16Table IV-6. Summary of Actions Taken at Imminent Hazard Sites in FY 2023-24

Site Name	City/County	Site Description	Action Taken	Funding
28th Street TCE Contamination	Winston-Salem/ Forsyth	Chlorinated solvents in groundwater have migrated to a residential neighborhood from potentially multiple upgradient sources.	A follow-up vapor intrusion evaluation of the residences was planned to determine whether conditions have changed. Work will be conducted when access is obtained.	DWM* (Pending)
AC Delco Building	Winston-Salem/ Forsyth	Perchloroethylene (PCE) in groundwater likely originated from onsite degreasing operations or car repairs.	A vapor intrusion evaluation was conducted for an offsite building. No unacceptable risk was identified through soil gas testing, so no indoor air testing is warranted.	DWM*
Automotive Machine and Performance	Leicester/ Buncombe	An automotive repair facility was reported to the National Response Center for a potential illegal discharge.	The facility was inspected. Although incidental releases of petroleum were observed due to poor housekeeping, less than 25-gallon discharge to the surface was estimated. No illegal discharges were observed or documented.	Not funded
Averette Road Solvents	Wake Forest/ Wake	A private water supply well was reported by Wake County to contain solvent contamination. IHSB had conducted groundwater, drinking water, and vapor intrusion investigations in the area.	A vapor intrusion evaluation continued at a residence with a contaminated well, and crawlspace sampling results did not indicate a risk of vapor intrusion. A municipal water line extension is in progress for the affected neighborhood. No further work is planned.	DWM*
Benfield Chemicals	Canton/ Haywood Co.	Former chemical repackaging facility. Low-level pesticides and VOCs detected at the site.	Assessment of soil gas and groundwater was completed to update conditions. No imminent hazards were noted so no further work is planned.	DWM*
Carolina Tire #2936	Asheville/ Buncombe	Chlorinated solvents in groundwater, reported in 2006, are now believed to be from an off-site source. The off-site property owner was issued a Request for Information in March 2024 with no response.	The onsite owner has located and sampled the groundwater monitoring wells and is continuing with a vapor intrusion evaluation to understand potential risk to onsite workers.	Responsible Party

Christian Creek Rd PCE	Swannanoa/ Buncombe	Chlorinated solvents had been detected in several private water supply wells, and they were under triannual monitoring. The source of contamination is currently unknown. An additional homeowner requested that their supply well also be sampled.	Additional private supply wells in the neighborhood were sampled. No solvents were detected. All of the water supply wells sampled to date in the area will be included in the triannual monitoring using the Bernard Allen Fund.	DWM**
Cinderella Knitting Mills	Kings Mountain/ Cleveland	The former textile mill has a significant groundwater PCE plume that flows beneath a city park and discharges to a stream that is accessible by the public. PCE concentrations in the stream pose an unacceptable risk to recreators. In addition, the EPA installed a passive vapor mitigation system in the onsite building in 2017 to reduce PCE levels in the indoor air that were causing unacceptable risk to building occupants. This site is routinely monitored by IHSB due to its elevated risk to onsite workers and the public.	Groundwater, surface water, and indoor air monitoring continued. Several areas within the onsite building continued to have elevated PCE in indoor air. A Vapor Mitigation Subslab Pilot Test was conducted to improve performance. Based on the pilot study results, seven active blowers were installed on existing vents to successfully mitigate the risk to onsite workers. Due to the risk to recreators in Potts Creek, the County Health Department plans to install signs warning of the risk to recreators. IHSB collected downstream surface water samples to determine an endpoint for the signage.	DWM*
Clarkson Street Site	Charlotte/ Mecklenburg	TCE in groundwater from an unknown source created a vapor intrusion risk in a downgradient condominium. EPA installed a sub-slab depressurization system in 2021 to mitigate the vapor intrusion. In 2023, an IHSB inspection determined that the system blower was not operating as designed, so confirmation sampling of indoor air in several areas/units was needed.	IHSB worked with the Homeowners Association (HOA) and their contractor to replace the blower and confirm indoor air quality. TCE was not detected in any of the indoor air samples collected, and the mitigation system was demonstrated to be effective. Sampling/monitoring recommendations will be provided to the HOA.	DWM* and Property Owner

Crowders Mountain Golf Club	Gastonia/ Gaston	In September 2023, a citizen reported that chemicals sprayed onto a golf course were going into a creek.	The area was inspected, and the licensed contractor provided documentation that the chemicals were approved for a golf course and were being applied under Department of Agriculture and Consumer Services regulations and training. No illegal discharge was noted, and no further action was warranted	No funding needed
Danny Roberts/ Interstate BP	Durham/ Durham	Groundwater has historic solvent contamination with elevated TCE. Vapor intrusion in neighboring residences was a concern.	A vapor intrusion evaluation was planned for a neighboring residence, but permission to access the property has not yet been obtained.	DWM* (Pending)
Dude Inc.	Conover/ Catawba	TCE in groundwater is migrating toward an offsite structure. The source may be associated with a sewer and/or a documented upgradient property.	The Federal Remediation Branch conducted a vapor intrusion evaluation of the structure, and soil gas data did not indicate an unacceptable vapor intrusion risk.	EPA
Gaither Transou	Jamestown/ Guilford	Groundwater is contaminated with chlorinated solvents due to past acceptance of industrial septic tank waste from various sources.	Groundwater and soil gas sampling was conducted at the source property, and downgradient residential wells were tested for chlorinated solvents and PFAS compounds. Data analysis is pending.	DWM*
Geltman Corporation	Conover/ Catawba	TCE in groundwater posed a vapor intrusion risk to onsite workers in 2022. IHSB oversaw the property owner's design and installation of a sub-slab depressurization system in early 2023. Plans were needed for operation and maintenance of the mitigation system and to ensure future owners of the property were knowledgeable of the indoor air risks.	Work continued at this site to approve the operation and maintenance document for the vapor mitigation system and develop the land-use restriction document for recordation on the property deed to ensure documentation of risks to future occupiers of the property.	DWM* and Responsible Party
Gentex	Rocky Mount/ Wilson	Chlorinated solvents in groundwater potentially posed a risk to indoor air at a neighboring property. Past indoor air sampling indicated risk was acceptable.	A confirmation indoor sampling event was performed, and risks continue to be acceptable at the adjacent property. No further sampling is planned.	DWM*

Gibbs Electroplating	Charlotte/ Mecklenburg	Groundwater is known to be impacted with PCE, TCE, and other contaminants. A neighboring property was found to have indoor air TCE concentrations exceeding DEQ action levels. Mitigation measures were successfully put in place, and the source property and additional surrounding properties needed evaluation for vapor intrusion risk.	Groundwater, soil gas, and indoor air data were collected from the source property and several nearby properties for indoor air risk determination. Evaluation of the results is in progress and additional work may be planned.	DWM*
Hangar Road CLT Airport AFFF Release	Charlotte/ Mecklenburg	Approximately 200 gallons of PFAS-containing aqueous film-forming foam (AFFF) was released to soil when a buried pipe failed.	Impacted soils were excavated and properly disposed of, and all AFFF piping was repaired and successfully tested. No further action is warranted.	Responsible Party
Hoopers Creek Road VOCs	Fletcher/ Henderson	In 2022, chlorinated solvents were detected in a newly installed private water supply well, from an unknown source. Additional water supply wells were identified in the vicinity.	Additional private wells were sampled and found to have no detectable contamination. The residence with initial reported solvents in their well was connected to city water.	DWM**
Industrial Drive TCE	Wendell/ Wake	A report prepared for the DWM UST Section indicated that TCE was detected in a monitoring well located near an occupied building with a potential vapor intrusion risk. Data indicated an unacceptable risk to workers.	The responsible party sealed cracks in the floor in December 2023 and confirmed acceptable PCE and TCE risk to workers. TCE concentrations were elevated when indoor air was tested during an inactive facility. Plans are to test the site in July 2024 during active production.	Responsible Party
Mallard Creek Polymers – Rovene 5900 (Latex) Spill	Charlotte/ Mecklenburg	In 2022, Mallard Creek Polymers had reported a release of approximately 35,000 gallons of Rovene 5900 to the ground surface when a transfer pump ruptured due to freezing temperatures. The actual release amount was later calculated to be 36,595 gallons over a three-hour period on December 25, 2022.	The final abatement report was received in March 2023. The report was subsequently reviewed and approved. A no-further action letter was issued in September 2023.	Responsible Party

Midland Antifreeze Release	Midland/ Cabarrus	A fire in a residential detached garage resulted in the destruction of two 1-gallon containers of antifreeze.	The fire was abated, and soil and debris were excavated and removed. The abatement documents were reviewed. No further work is warranted.	Responsible Party
Morgan Mills	Albemarle/ Stanly	A former textile mill has significant PCE levels in soil, soil gas, indoor air, groundwater, surface water, and sediment from a former basement dry-cleaning operation. Temporary active remediation consisted of a production well in operation until 2009 and a soil vapor extraction system. A past vapor intrusion evaluation of the neighboring residential community did not indicate unacceptable indoor air risk at that time.	IHSB continued to monitor groundwater, surface water and the potential for offsite vapor intrusion. A recent purchaser of the property has applied for a brownfields agreement for redevelopment. Neighboring properties will continue to be considered for future monitoring.	DWM*
Nissen Wagon Works	Winston-Salem/ Forsyth	Chlorinated solvents were detected in groundwater during a site assessment conducted for a brownfields agreement application. The source of the solvents is unknown.	IHSB investigated potential vapor intrusion into an onsite building. Soil gas data did not indicate unacceptable risk. No additional risks are indicated by current site data.	DWM* (Pending)
Norfolk Southern CLT borate release	Charlotte/ Mecklenburg	300 gallons of non-hazardous borate-containing locomotive coolant were released to ground surface.	Impacted soils were excavated and properly disposed. No further action is warranted.	Responsible Party
O'Shields Fly Ash	Pisgah Forest/ Transylvania	Boiler fly ash was permitted as fill in a residential property's ravine in 1977 as a beneficial use. A water supply well is adjacent to the material. Landfill closure information could not be located in the files.	The private water supply well was sampled, and analytes detected met acceptable health risk determinations.	DWM*
Patches Body Shop	High Point/ Guilford	Some contamination at the subject site was thought to originate from an upgradient, abandoned property, but the remediating party could not obtain permission from the owner to assess the property.	IHSB was able to perform sampling and determined that the contamination originates from the upgradient property. This source property was proceeding towards foreclosure, so IHSB notified the county of the contamination.	DWM* and Responsible Party

Patterson Ave. Solvents	Winston-Salem/ Forsyth	The site was a former fueling station with low-level solvents and lead in groundwater.	Access agreements were sent to subject property and surrounding residents to initiate a soil gas investigation to evaluate vapor intrusion risk.	DWM* (Pending)
Pender Plating	Burgaw/Pender	The site is a former chromium plating company with minimal assessment. EPA performed a soil cleanup in 2014, but current groundwater conditions are unknown.	Prepared plans for soil and groundwater testing to evaluate current conditions and obtained access agreements.	DWM* (Pending)
Pilot Truck Stop – Trimac Transportation Formaldehyde Spill	Conover/ Catawba	25 gallons of formaldehyde released from a tanker to the parking lot due to a faulty valve. Cleanup operations were conducted. The spill was fully contained, cleaned up to visual indicators and all material or waste was properly handled. An initial abatement report was received on December 12, 2022.	The final abatement report was received, reviewed and approved by IHSB. No further action is warranted.	Responsible Party
Polycarboxylate, dispersant release	Waynesville/ Haywood	A non-hazardous water soluble polycarboxylate was released to the parking lot from a tractor trailer due to a motor vehicle collision.	The release was less than 10 gallons and was abated at the scene by the fire department. No further action is warranted.	No funding needed
Queens Landing possible Coal Ash	Mooresville/ Iredell	A caller complained about coal ash affecting Lake Norman due to redevelopment activities. They also mentioned that an underground storage tank from the old marina is of concern.	There was no documentation that ash was placed on that specific parcel and there was no visible evidence of coal ash at the property. No further action is warranted by IHSB.	No funding needed
RD Pate Estate	Pikeville/ Wayne	Site is a former gas station with chlorinated solvent contamination in groundwater. Indoor air testing of an apartment building across the street indicated cumulative risk was acceptable at the time.	Indoor air confirmation testing was conducted at the apartment building to see if conditions have changed. Residential risk was confirmed to be acceptable.	DWM* (Pending)

Red Apple Market #40 (FMR)	Ahoskie/ Hertford	Chlorinated solvents were reported by another program (DWM UST Section) in wells near the onsite pharmacy building. Levels indicated the potential for a vapor intrusion risk in the onsite building.	Two monitoring wells were sampled and shown to have low concentrations of PCE and TCE. Soil gas sampling from around the building indicated no unacceptable residential risk. No further work is planned.	DWM*
Reeves Brothers	Rutherfordton/ Rutherford	In 2023, a fire occurred releasing toluene and MEK-laden water at this legacy site with chlorinated solvents in groundwater. Released material entered a stormwater retention system, ditch, and off-site NCDOT retention ponds.	IHSB is working with the current owner to complete cleanup of the release in an off-site storm water ditch, and to locate historical groundwater wells and assess current groundwater conditions.	Responsible Party
Reeves Brothers, Inc.	Albemarle/ Stanly	A former textile manufacturing site has PCE/TCE in groundwater. A soil gas assessment was previously completed on adjacent properties; however, no vapor intrusion assessment was ever completed on site.	IHSB completed passive soil gas sampling and groundwater sampling on the site in November 2023. Results indicated that PCE/TCE are still present in groundwater on site, however soil gas concentrations do not indicate an unacceptable risk of vapor intrusion.	DWM*
Schulhofer Junkyard	Waynesville/ Haywood	As part of a NCDOT project, petroleum, metals, PCBs, and dioxins/furans were previously detected in soil at this current junkyard. The town was building a creek-side public park and recreation center. The property owner was unresponsive to requests sent by IHSB.	IHSB was not granted permission to sample onsite media, so surface water and sediment samples were collected adjacent to the property and along the length of the junkyard and proposed town park. No unacceptable risks to a recreator were associated with the results.	DWM*
South Tunnel Road Solvents	Asheville/ Buncombe	Chlorinated solvents were reported near a former Sears Tire and Auto Store. Successive offsite investigations conducted by IHSB indicated that the source of these solvents was a former drycleaner that is located to the northeast of the former Sears store.	Work continued to confirm the source of contamination. Following data analysis, the site was referred to DWM's DSCA Program, which accepted the site into the program as an abandoned facility. DSCA is continuing with remedial actions.	DWM*

Southern Agricultural Insecticides	Hendersonville/Henderson	An illegal discharge report was filed by a former employee of the facility.	The property was inspected, and only discolored concrete was observed at the site. There were no other indications of a release to the environment. The railroad did not grant IHSB access to sample the stormwater leaving the property, so no evidence of an illegal discharge was documented.	No funding needed
Stat Inc: Red Hill Hydrofluorosilicic Acid Spill	Red Hill/ Caldwell	A spill was reported from a tanker truck owned by Stat Incorporated (Lenoir) that was carrying 4,400 gallons of hydrofluorosilicic acid.	IHSB provided oversight of the spill's containment, removal, and property disposal. No further action was warranted.	Responsible Party
Stoneville Furniture Company	Stoneville/ Rockingham	This former furniture manufacturing plant has a brownfields agreement. IHSB is responsible for assessing surrounding properties that may be impacted by off-site migration of chlorinated solvents in groundwater.	Work is planned to sample groundwater and soil gas at nearby properties including an elementary school, a church, and a municipal property slated for upcoming construction of a new public works building. The tributary southwest of the site will also be sampled.	DWM* (Pending)
T&T Supermarket	Morganton/ Burke	This property had chlorinated solvents reported in a groundwater sample collected as part of a UST closure in the 1990's.	IHSB reviewed the site file and saw a former dry-cleaning operation was located nearby. A request was made to DWM's DSCA program to perform soil gas sampling to confirm the source of contamination and program oversight. The site is now being managed by the DWM DSCA program.	DSCA
Texfi Industries, Inc/New Bern	New Bern/ Craven	Chlorinated solvents have undergone remedial action at the facility since the early 1990's. However, Texfi declared bankruptcy and discontinued all activities in 2000. Environmental conditions warranted an update.	IHSB performed groundwater sampling of onsite wells in April 2024. Additional off-site sampling is planned.	DWM*
Thomasville Speedway PCE	Thomasville/ Davidson	PCE was reported in soil at 0.044 mg/kg during a UST removal at a fueling station.	IHSB oversaw that impacted soils were removed. Groundwater was tested and found to not be impacted with PCE.	Responsible Party
Vermeer All Roads	Charlotte/ Mecklenburg	Low-level chlorinated volatile organic compounds were detected in groundwater in 2020. The source of contamination appears to be from off-site.	The property owner is planning to perform a limited assessment to determine the source and to evaluate vapor intrusion for employee safety.	Property Owner

W Cumberland St PCE	Dunn/ Harnett	PCE was detected in groundwater on a former service station property and has migrated onto an adjacent property.	A groundwater assessment determined that the impacts are limited to the source property and one adjacent property. The property owner was issued a Notice of Regulatory Requirement to address the contamination.	DWM* (Pending)
Weaver Fertilizer Fire	Winston-Salem/ Forsyth	Historical operations at this facility included the blending and storage of fertilizers used in agriculture applications. On January 31, 2022, a fire occurred at the facility. Following the extinguishment of the fire, IHSB was tasked with overseeing the assessment of the site.	IHSB continued remedial action oversight and approved a Remedial Investigation Report. Groundwater was found to be impacted by nutrients and metals. Soil contained primarily arsenic above background levels. However, no immediate receptor was at risk. Therefore, the site was referred to the REC program for further oversight.	Responsible Party
Webber Automotive	Winston Salem/ Davidson	An anonymous report of illegal dumping of cleaning fluids from a discharge pipe at an active automotive facility prompted IHSB to visit and sample the property. PCE was detected in shallow soils and sediment. The property owner was asked to discontinue the discharge, remove piping to the exterior, and to investigate the impacted soils.	PCE impacts to soil were horizontally and vertically delineated and determined to have low risk to underlying groundwater. Site was referred to REC Program for further remediation oversight.	DWM*
Weldon Mill (Former)	Weldon/ Halifax	This former mill site had a complaint filed against it in 2010 for abandoned drums and creosote posts.	Assessment work was planned and implemented. Several metals, VOCs, SVOCs, and PAHs were detected in soil and groundwater. Data overall indicated no complete risk pathways associated with the site.	DWM*
Williams and Gentry PCE	Yadkinville/ Yadkin	PCE from an unknown source was detected in groundwater at a gas station.	A vapor intrusion evaluation was conducted onsite and at nearby downgradient properties. There were no unacceptable risks associated with the soil gas results. The source of contamination remains unknown.	DWM* (Pending)

Wiscassett Mills	Albemarle/ Stanly	Large former textile mill had detections of PCE/TCE in groundwater at various locations on property. Source of contamination and potential risks were unknown.	Access to sample former mill property was declined by property owner. Therefore, IHSB completed soil gas sampling on adjacent daycare, residential, and school properties. Results did not indicate unacceptable risk from vapor intrusion to offsite properties.	DWM*
Worth Chemical (Brentagg)	Charlotte/ Mecklenburg	A former chemical manufacturing/mixing facility had multiple releases of various VOCs. PCE concentrations in groundwater had potential to pose a vapor intrusion risk to nearby businesses, residences, and a school. A downgradient stream had historical PCE concentrations of up to 400 µg/L. This stream flows through both a public park and a schoolground. IHSB directed the responsible party to complete a vapor intrusion evaluation to include neighboring properties in 2022. No unacceptable risks were identified.	Oversight of remedial actions continued. The responsible party has proposed a remedy consisting of source area soil removal and installation of an injection treatment wall for groundwater. Staff are requesting a formal remedial action plan and an Administrative Agreement to conduct the work. Additional data received in November 2024 indicate contaminant concentrations are stable.	Responsible Party
Yadkin Road Circle K	Fayetteville/ Cumberland	TCE from an unknown source was detected in groundwater during a UST investigation. A vapor intrusion investigation was needed at adjacent shopping center.	No vapor intrusion concerns were identified for the structures evaluated (former tire shop office area and apartments to the east. Additional soil gas testing of nearby businesses is planned.	DWM* (Pending)

IHSB = DWM Inactive Hazardous Sites Branch, UST = Underground Storage Tank
VOC = volatile organic compounds, SVOC = semi-volatile organic compounds
PAH = polycyclic-aromatic hydrocarbons, MEK = methyl-ethyl ketone, PCB = polychlorinated biphenyl
* Inactive Hazardous Sites Cleanup Fund as authorized by G.S. 130A-310.6.
** Bernard Allen Memorial Emergency Drinking Water Fund as authorized by G.S. 87-98.

C. Pre-Regulatory Landfills

S.L. 2007- 550 established a statewide tax on solid waste disposal, half of which goes to address the hazards posed by landfills that predate federal and State rules on solid waste disposal. The portion of the solid waste disposal tax received by the program may be used only for addressing pre-regulatory landfill threats. DWM received $12,729,161 in tax revenue in FY 2023-24. Nineteen percent of the tax revenue may be used for administrative expenses. Included in the administrative expense allowance is $558,063 for administration of the non-pre-regulatory landfill portion of the Inactive Hazardous Sites Program and $500,000 for programs in DWM's Solid and Hazardous Waste Sections, leaving approximately $742,141 for administration of the Pre-Regulatory Landfill Program.

DWM has cataloged 668 unpermitted, unlined landfills, and they are listed by county in Appendix E. Initial work at each site involved confirming the location, determining the current use of the property, and identifying the use of surrounding property to help prioritize the sites for action. Based on inspections conducted as part of that work, 80 percent of the sites have been determined to have a water supply source, residence, school, church, day care or park on or within 1,000 feet of the landfill.

DWM established contracts for contaminant assessment and mitigation of the sites. Using these contracts, the nature and extent of the contamination was defined through testing. A remedy is then designed and implemented to address the exposure risks. DWM also provides review and approval of contaminant assessment work being conducted by local governments at these sites and reimburses the cost of that work from the tax proceeds. In FY 2023-24 nine contaminant assessments were conducted by local governments with DWM oversight and reimbursement.

FY 2023-24 actions:

- 51 – Remedial investigations ongoing
- 9 – Local Government remedial investigations ongoing
- 2 – Remedial investigations completed
- 40 – Remedial designs ongoing
- 0 – Remedial designs completed
- 1 – Remedial actions ongoing
- 0 – Remedial actions completed
- 2 – No further action issued
- 5 – New sites were screened for program qualification and added to inventory
- 10 – Homes provided alternate water or treatment systems maintained
- 105 – Water supply wells sampled

The assessment and cleanup process is complex. Exposure caused by contaminated water supplies, contaminated vapors entering buildings, methane gas posing explosion risks and exposed wastes on residential property must be addressed. Difficulties can arise in attempting to gain access to affected properties at each site and with illegal dumping during investigation and remedial action activities. PRLF staff coordinate with current property owners to determine the acceptable safe usage of each impacted parcel based on current and planned activities.

Remedial investigation ongoing during FY 2023-24:

Bethel Dump	Jonesville, Wilkes County
Burgaw Dump	Burgaw, Pender County
Buxton Dump	Buxton, Dare County
Cabarrus Disposal Dump	Concord, Cabarrus County
Cary Dump	Cary, Wake County
City of Fayetteville Landfill	Fayetteville, Cumberland County
Cumberland County/Cliffdale Landfill	Fayetteville, Cumberland County
Denver Landfill	Denver, Lincoln, County
Dudley Shoals Landfill 2	Dudley Shoals, Caldwell County
East Durham Park Landfill	Durham, Durham County
East End Park Landfill	Durham, Durham County
Fishburne Landfill	Arden, Buncombe County
Gaston Refuse Disposal	Gaston, Northampton County
Goldsboro Dump	Goldsboro, Wayne County
Greenville City Landfill	Greenville, Pitt County
Hanover Road Landfill	Burlington, Alamance County

Hardin Refuse Dump	Dallas, Gaston County
Harmony Refuse Disposal	Harmony, Iredell County
Henry River Community Dump	Hildebran, Burke, County
Hoglen Refuse Disposal	Waynesville, Haywood County
Howard Creek Landfill	Lincolnton, Lincoln County
Hurley's Dump	Biscoe, Montgomery County
Jackson Lake Road Landfill	High Point, Guilford County
Jacksonville Dump	Jacksonville, Onslow County
Lyon Park Landfill	Durham, Durham County
Manteo Dump	Manteo, Dare County
Miller Street Landfill	Gastonia, Gaston County
Mooresville Dump	Mooresville, Iredell County
Mooresville Landfill	Mooresville, Iredell County
N Davidson County Landfill	Midway, Davidson County
Northgate Park Landfill	Durham, Durham County
Old Allegheny County Landfill	Sparta, Alleghany County
Old Durham County Landfill	Durham, Durham County
Old Hickory Landfill	Hickory, Catawba County
Old Holly Springs Dump	Holly Springs, Wake County
Old Raleigh #1 Landfill	Raleigh, Wake County
Old Raleigh #6 Landfill	Raleigh, Wake County
Old Raleigh #9 Landfill	Raleigh, Wake County
Old Richmond County Landfill	Rockingham, Richmond County
Phillips Park Landfill	Jacksonville, Onslow County
Pond Road Landfill #2	Ashville, Buncombe County
Princeville Dump	Tarboro, Edgecombe County
Rowan County Landfill	Salisbury, Rowan County
Rowan Road Landfill	Clinton, Sampson County
Scotland County Community Dump	Laurinburg, Scotland County
Southern Pines Dump	Southern Pine, Moore County
Southside Park Landfill	Charlotte, Mecklenburg County
Swannanoa Landfill	Swannanoa, Buncombe County
Sweetwater Road Dump	Hickory, Catawba County
Walltown Park Landfill	Durham, Durham County
Waxhaw Dump	Waxhaw, Union County

Local Government remedial investigations ongoing during FY 2023-24:

Dare County Dump	Manteo, Dare County
Hillsborough Dump	Hillsborough, Orange County
Les Myers Park Landfill	Concord, Cabarrus County
Old City of Burlington SW Disposal	Burlington, Alamance County
Oxford Dump	Oxford, Granville County
Pilot Mt. Refuse Dump	Pilot Mountain, Surry County
Plymouth Refuse Dump	Plymouth, Washington County
Reidsville Landfill	Reidsville, Rockingham County
Yadkinville Refuse Disposal	Yadkinville, Yadkin County

Remedial investigations completed during FY 2023-24:

Mud Creek Dump	Hendersonville, Henderson County
Winnabow Landfill	Winnabow, Brunswick County

Remedial design ongoing during FY 2023-24:

Angier Refuse Dump	Angier, Harnett County
Beaufort Refuse Dump	Beaufort, Carteret, County
Belltown Road Dump	Belltown, Craven County
Bingham Park Landfill	Greensboro, Guilford County
Bud Holding Company Landfill	Greensboro, Guilford County
Burnt Mill Creek Landfill	Wilmington, New Hanover, County
Charlotte Motor Speedway Landfill #1	Concord, Cabarrus County
China Gove Dump	China Grove, Rowan County
City of Wilson Landfill – 1	Wilson, Wilson County
City of Winston-Salem Landfill	Winston-Salem, Forsyth County
Davidson River Dump	Pisgah Forest, Transylvania County
Durham County Landfill	Durham, Durham County
E. H. Glass Landfill	Greensboro, Guilford County
East Wake Landfill	Knightdale, Wake County
Edgecombe County Landfill	Tarboro, Edgecombe County
Elon College Landfill	Elon College, Alamance County
Gaston County Landfill	Mount Holly, Gaston County
Greensboro City Landfill	Greensboro, Guilford County
Grifton Dump	Grifton, Pitt County
Henderson County Landfill	Hendersonville, Henderson County
Hickory Grove Road Landfill	McAdenville, Gaston County
Hominy Creek Landfill	Asheville, Buncombe County
Jacksonville WWTP at Sturgeon City	Jacksonville, Onslow County
Kinston Demolition	Kinston, Lenoir County
Knightdale Dump	Knightdale, Wake County
Marbery Landfill	Durham, Durham County
Monroe Landfill	Monroe, Union County
Mud Creek Dump	Hendersonville, Henderson County
Old Charlotte/Vanguard Center	Charlotte, Mecklenburg County
Old Raleigh #11 – Dorothea Dix	Raleigh, Wake County
Old Raleigh #4 Landfill	Raleigh, Wake County
Old Raleigh #5 Landfill	Raleigh, Wake County
Rocky Knoll School Site	Durham, Durham County
Sims Legion Park Landfill	Gastonia, Gaston County
Stanley Refuse Dump	Stanley, Gaston County
Statesville Road Landfill	Charlotte, Mecklenburg County
Tarboro Landfill	Tarboro, Nash County
Trenton Refuse Disposal	Trenton, Jones County
Tin Mine Landfill	Lincolnton, Lincoln County
UNC Old Sanitary Landfill	Chapel Hill, Orange County

Remedial design completed during FY 2023-24:

Sims Legion Park Landfill	Gastonia, Gaston County
Trenton Refuse Disposal	Trenton, Jones County

Remedial action ongoing during FY 2023-24:

Albemarle Dump	Albemarle, Stanley County

Remedial action (construction) completed during FY 2023-24:
No sites under construction.

No Further Action Issued during FY 2023-24:

Gibsonville Properties Landfill	Gibsonville, Alamance County
Stedman Landfill	Stedman, Cumberland County

D. Federal National Priorities List Sites Requiring a State Cost Share

1. Establishment of a Federal and State Superfund Program

Thousands of contaminated sites exist nationally due to hazardous waste being dumped, left out in the open, or otherwise improperly managed. These sites include manufacturing facilities, processing plants, landfills and mining sites.

In the late 1970s, toxic waste dumps such as Love Canal and Valley of the Drums received national attention when the public learned about the risks to human health and the environment posed by contaminated sites. In response, Congress established the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in 1980. Hazard Ranking System (HRS) is established as the principal mechanism for evaluating environmental hazards of a site.

In 1982, the EPA published the HRS as the principal mechanism for evaluating environmental hazards of a site. HRS is a numerically based screening system that uses information from preliminary investigations to assess the potential threats that sites pose to human health or the environment.

CERCLA, or the "Superfund," allows EPA, working with DWM Superfund Section staff, to clean up contaminated sites. It also forces the parties responsible for the contamination to either perform cleanups or reimburse the State government for EPA-led cleanup work. When there is no viable responsible party, Superfund gives EPA and the State the 90 percent of the funds needed to clean up contaminated sites. CERCLA makes states responsible for the remaining 10 percent of the cleanup funds needed at these sites.

Goals of the EPA and State Superfund program are to:

- Protect human health and the environment by cleaning up contaminated sites;
- Make responsible parties pay for cleanup work;
- Involve communities in the Superfund process; and
- Return Superfund sites to productive use.

2. State Superfund Cost Share Fund (SSCSF)

S.L. 1999-237, s. 15.6 established that the DEQ may use available funds, with the approval of the Office of State Budget and Management (OSBM), to provide the 10 percent cost share required for Superfund cleanups on the National Priority List (NPL) sites having no viable responsible party to pay the operating and maintenance costs associated with these Superfund cleanups. These funds may be in addition to those appropriated for this purpose.

The Session Law also required DEQ to report to the Environmental Review Commission and the Joint Legislative Commission on Governmental Operations the amount and the source of the funds used. North Carolina currently has 40 hazardous waste sites out of a nationwide total of 1329 sites on the EPA NPL. Two of them, Reasor Chemical and New Hanover County Airport, were delisted. The 38 active sites ranked as the nation's priority to clean up actions. There are no viable responsible parties for 18 NPL sites in the State, and a combination of federal and State public funds are used to conduct remediation at these sites. The Hazardous Response Trust Fund (the federal Superfund) contributes 90 percent of the money for the remedial action, and the State contributes the remaining 10 percent. The State also is obligated to conduct operation and maintenance (O&M) at NPL sites after the EPA completes its remedial action.

Summary of North Carolina Superfund Cost-Share Fund Status as of June 30, 2023

Amount of cost share funds distributed in FY 2023-24:	$50,127
North Carolina's 10 percent cost share for past, ongoing, and pending cleanups (based on signed contracts):	$12,392,239
Fund balance as of June 30, 2024:	$4,307,810
Amount currently committed in contracts for future cost share payments and operation and maintenance of remedies:	$1,897,046*
Remaining amount encumbered on Cape Fear Wood Contract:	$369,365
Unobligated Fund balance as of June 30, 2024:	$2,041,399

*In the future, this obligated amount will increase. Cleanup cost estimates are not available for sites that are currently in various stages of Remedial Investigation, and for which contracts are not yet signed. New sites may be added to the National Priorities List; some of which will require a State cost-share. Also, increases in remedial costs that differ from the original State/EPA contract amounts can occur.

Notably, Record of Decision documents for six federal trust fund lead/State cost share NPL sites were signed in recent years waiting for funding to start remedial actions. Five of these sites will be funded by the Federal Infrastructure Bill Fund. Sites funded under this bill will not require the State to pay 10% cost share. The State Superfund Contracts (SSC) were signed for these five sites: Ram Leather ($17,221,300); ABC Cleaner ($9,038,678); Hemphill Road TCE ($7,939,772); Holcomb Creosote ($7,209,778); Cristex Drum ($10,159,863). An SSC amendment was signed for GMH to switch the remaining amount of $3,057,630 to the Infrastructure Bill funding and de-obligate 10% of the State share from the original SSC. The total funding provided by Infrastructure fund for the Superfund Program is $54,627,046 without 10% State match, which saved State $5,462,705.

The SSC for Cape Fear Wood Preserving site ($20,549,537) may be signed after the Remedial Designs are completed and approved in 2025-26. The funding for this site will require 10% State cost share. The Record of Decision for Ore Knob site has been finalized; the first phase remediation will cost $44,575,800. The cost of phase II and III remediation will also be substantial. The State cost share ($4,457,580 for phase I) for the site will be required in 2026-27. Horton Iron and Metal Co sites were added to the Fund-Lead site list, the cost of the remediation is estimated at $21,196,320 and the State share will be $2,119,632 in 2026/27.

Operations and Maintenance (O&M) for the following sites is being managed by North Carolina and paid for using the SCSF:

- FCX Statesville in Iredell County,
- Cape Fear Wood Preserving in Cumberland County,
- Davis Park Road TCE in Gaston County, and
- Potter's Septic Tank Service Pits in Brunswick County.

Four new sites have been added to the State O&M site list in 2024:

- FCX Washington Plant in Beaufort County,
- Blue Ridge Plating in Buncombe County,
- Sigmon's Septic Tank Service in Iredell County,
- Carolina Transformer in Cumberland County.

O&M obligation at these 8 sites involves sampling wells and preparing reports, and site/well maintenance. The estimated O&M cost for all these sites is about $240,000 per year.

Table IV-7a provides a list of the North Carolina NPL sites and the following information for each site: location, investigation/cleanup status, estimated costs for cleanup. Table IV-7a includes those sites where the federal trust fund/North Carolina cost share is required. Table IV-7b includes the status of responsible party-funded cleanups.

17Table IV-7a. North Carolina National Priorities List Sites – Sites Where Federal Trust Fund/North Carolina Cost Share is Required

NPL Site	City/County	Operable Unit	Cleanup Status	Cleanup Cost	Work Phase Start
ABC One Hour Cleaners	Jacksonville/Onslow	OU1-Groundwater	RA	$4,481,077	In Progress
		OU2-Soil	RA	$1,675,548	In Progress
		OU-3 Soil and Groundwater	RA	$9,038,678*	In Progress
Barber Orchard	Waynesville/Haywood	OU1-Soil	Complete	$24,300,000	Complete
		OU2-Groundwater	O&M		Pending
Benfield Industries	Waynesville/Haywood	Entire Site Soil	RA	$6,729,200	Complete
		Groundwater	RA		In Progress
Blue Ridge Plating	Arden/Buncombe	Entire Site Soil	RA	$2,275,200	Complete
		Groundwater	O&M		In Progress
Cape Fear Wood Preserving	Fayetteville/Cumberland	Entire Site Soil	RA	$24,407,574	Complete
		Groundwater	O&M		In Progress
		Soil & Groundwater	RD	$20,549,537	In Progress
Carolina Transformer	Fayetteville/Cumberland	Soil/Sediment	Complete	$22,328,300	Complete
		Groundwater	O&M		In Progress
Cristex Drum	Oxford/Granville	All	RA	$10,159,863*	In Progress

Davis Park Road TCE	Gastonia/Gaston	Entire Site	RA Complete	$3,873,299	Complete
		Groundwater	O&M		In Progress
FCX, Inc.-Statesville	Statesville/Iredell	OU1-Groundwater	O&M	$1,460,315	In Progress
		OU2-Soil	RA Complete	$5,787,620	Complete
FCX, Inc.-Washington	Washington/Beaufort	OU1-Groundwater	O&M		In Progress
		OU2-Soil/Surface			
		Water/Sediment	RA Complete	$255,791	Complete
GMH Electronics	Roxboro/Person	OU1-Public Water Supply	Complete	$2,158,550	Complete
		OU2-Entire Site	RA	$4,724,626	Complete
		OU2-Entire Site	RA	$3,057630*	In Progress
Hemphill Road TCE	Gastonia/Gaston	All	RA	$7,939,772*	In Progress
Holcombe Creosote Company	Yadkinville/Yadkin	Soil and Groundwater	RA	$7,209,778*	In Progress
Horton Iron and Metal Co	Wilmington/New Hanover	Soil and Groundwater	RD	$21,196,320	In Progress
North Belmont PCE	Belmont/Gaston	Groundwater	RA	$7,535,000	In Progress
Ore Knob	West Jefferson/Ashe	Entire Site	Phase I RD	$44,575,800	In Progress
		Groundwater	O&M		Pending
Potter's Septic Tank Service	Maco/Brunswick	Entire Site Soil	RA	$8,350,000	Complete
		Groundwater	O&M		In Progress
Ram Leather	Mint Hill/Mecklenburg	Entire Site	Interim RA	$2,244,800	On Hold

		All	RA	$17,220,000 *	In Progress
Sigmon's Septic Tank	Statesville/Iredell	Entire Site Soil	RA	$1,329,400	Complete
		Groundwater	O&M		In Progress

Cleanup Status Legend

O&M - Remedy Operation and Maintenance
RD - Remedial Design
RI - Remedial Investigation
OU - Operable Unit
RA - Remedial Action
RI/FS- Remedial Investigation/Feasibility Study
PP – Proposed Plan

*Indicates the Funding will be provided by Federal Infrastructure Bill

18Table 17b. North Carolina National Priorities List Sites – Responsible Party-Funded Cleanups

NPL Site Name	City/County	Operable Unit	Cleanup Status
Aberdeen Pesticides	Aberdeen, Moore	OU1 and OU4 - Soils-All Sites	Complete
		OU3-Groundwater	O&M
		OU5-Groundwater for Rt 211 and McIver	O&M
Aberdeen Contaminated GW	Aberdeen, Moore	OU 1- Town Well Replacement	Complete
		OU 2- Groundwater	RI
Bypass 601/Martin Scrap	Concord, Cabarrus	OU1-Soil/Sediment at Martin Scrap	O&M
		OU2-Off-Site Soil/Sediment	Complete
		OU3-Groundwater	O&M
Celanese Corporation	Shelby, Cleveland	OU1-Groundwater	O&M
		OU2-Soil	Complete
		Surface Water	Complete
Charles Macon Lagoon and Drum	Cordova, Richmond	Soil	Complete
		Groundwater	O&M
Chemtronics Inc.	Swannanoa, Buncombe	Soil	RD
		Groundwater	RD

CTS of Asheville	Asheville, Buncombe	All	RA
FCX Inc.	Statesville, Iredell	OU3-Burlington Industries Site	RA
Geigy Chemical	Aberdeen, Moore	Soil	Complete
		Groundwater	O&M
General Electric/Shepherd Farm	East Flat Rock, Henderson	Soil	O&M
		Groundwater	O&M
		Surface Water/Sediment	Complete
Jadco-Hughes	Belmont, Gaston	Soil/Sediment	O&M
		Groundwater	O&M
JFD Electronics/Channel Master	Oxford, Granville	Soil	Complete
		Groundwater	O&M
Kerr-McGee Chemical	Navassa, Brunswick	OU 1 Soil Only	Complete Delisted
		OU 2 Soil Only RA	In Progress
		OU 3 Marsh RI	In Progress
		OU 4 Operation Area RI	In Progress
		OU 5 Groundwater RI	In Progress
Koppers Company Inc.	Morrisville, Wake	Soil	Complete
		Groundwater	O&M
		Surface Water	Complete
National Starch and Chemical	Salisbury, Rowan	OU1-Groundwater in Western Part of Site	O&M/RA
		OU2-Trench Area Soil/Surface Water	Complete
		OU3-Area 2 Groundwater/Wastewater	In Progress
		Treatment Area/Surface Water/Sediments in NE Tributary	O&M
		OU4-Area 2 Soil/Wastewater Treatment Lagoon Area	O&M

New Hanover County Airport	Wilmington, New Hanover	Groundwater	Complete/Deli sted
NCSU Lot 86	Raleigh, Wake	Soil	O&M
		Groundwater	O&M
Reasor Chemical	Castle Hayne, New Hanover	Soil	Complete/Deli sted
		Groundwater	Complete/Deli sted
USMC Camp LeJeune	Jacksonville, Onslow	Multiple Units	Various Stages
USMC Cherry Point	Cherry Point, Craven	Multiple Units	Various Stages
Ward Transformer	Raleigh, Wake	OU1-Downgradient Reaches RA	Complete
		OU2-Plant Area and Groundwater	FS
		Time Critical Removal	Complete
Wright Chemical Corporation	Riegelwood, Columbus	All	Removal In Progress

E. Summary of Inactive Hazardous Sites Funding for FY 2023-24

1. Inactive Hazardous Sites Cleanup Fund (Fund 6372) for FY 2023-24

Beginning Cash Balance		$285,789
Deposits (FY 2023-24)		
	Appropriations	$800,000
	No Further Action review fees	$23,750
	Settlement Income	$42,296
	Total Deposits	$866,046
Expenditures (FY 2023-24)		
	Orphan priority site sampling/remediation/alternate water supplies	$476,988
	Total Expenditures	$476,988
Ending Cash Balance		$674,847
Obligations		
	Approved orphan priority site work as of June 30, 2024	$243,962
	Laboratory and bottled water contract obligations*	$46,110
	Total Current Obligations	$290,073
Untasked Funds Available at the End of FY 2023-24		$384,774

*-Encumbered under contracts.

The pandemic had a marked impact on the Inactive Hazardous Sites Branch ability to spend allocated funds and ramping back up to preferred activity levels is still underway. Recovery from that, coupled with the demands of additional work due to emerging contaminants such as polyfluorinated compounds should put the program on track to more fully utilize the additional funds provided only last January.

2. Revenue Dedicated to the Pre-Regulatory Landfills (Fund 6379) for FY 2023-24

Beginning Cash Balance		$20,095,723
Deposits (FY 2023-24)		
	Tax (actual total income)	$12,729,161
	Administrative expense overcharge refund	$0
	Total Deposits	$12,729,161
Expenditures (FY 2023-24)		
Contracts		$6,924,421
	Local government reimbursement	$204,449
	Transfer to DWM Solid & Hazardous Waste Programs	$500,000
Operating Budget		
	PRLF operating budget	$742,141
	Inactive Hazardous Sites operating budget	$558,063
	Combined operating budget	$1,300,205
Total Expenditures		$8,929,075
Ending Cash Balance		$23,895,810
Total Current Contract and Local Government Obligations		
	(Encumbrances not yet Paid)	$10,585,803
Current Effective Cash Balance		13,310,007

A portion of a solid waste disposal tax established by the legislature is dedicated toward contracting assessment and remediation at uncontrolled pre-regulatory landfills and to fund staff to implement the program. These funds are also used to fund a portion of the staff overseeing work at other Inactive Hazardous Waste Sites.

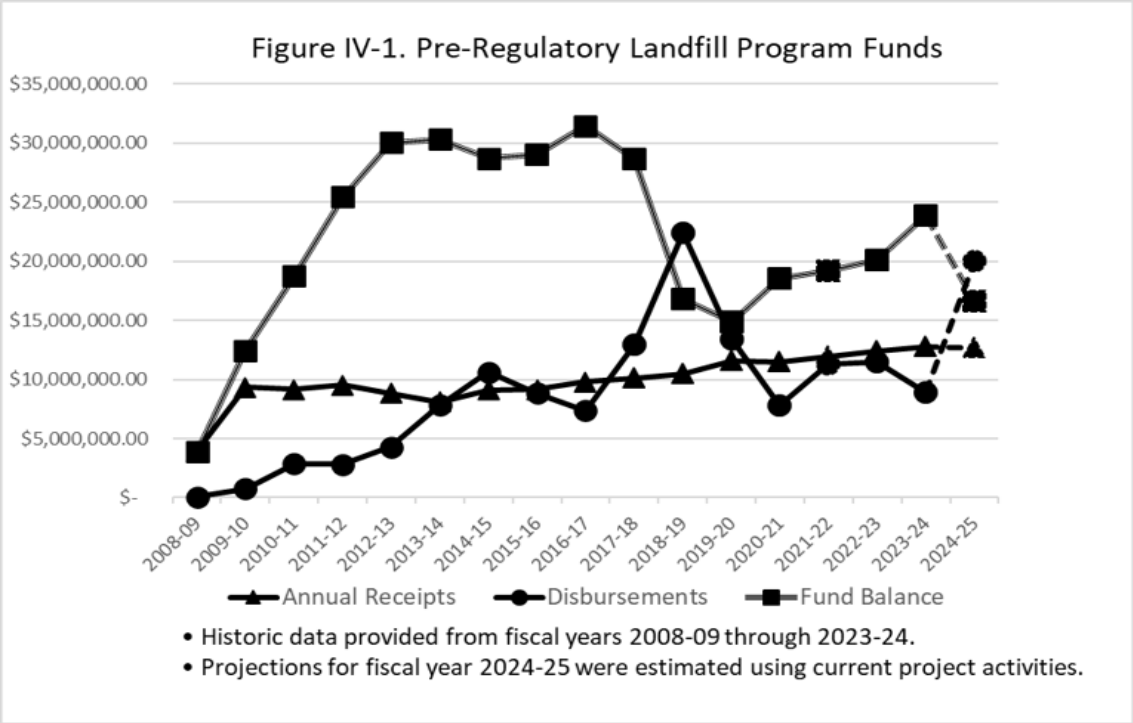
A table depicting the fund income and expenditures by years is below, and the trends are shown in graphical form in Figure IV-1.

Fiscal Year	**Annual Receipts**	**Disbursements**	**Fund Balance**
2008-09	$3,904,260.91	$46,846.21	$3,857,414.70
2009-10	$9,338,017.99	$749,888.22	$12,445,544.47
2010-11	$9,175,887.91	$2,846,727.53	$18,774,704.85
2011-12	$9,521,021.27	$2,846,727.53	$25,470,837.31
2012-13	$8,850,589.92	$4,273,171.09	$30,048,256.14
2013-14	$8,097,660.71	$7,834,699.76	$30,311,217.09
2014-15	$9,094,712.92	$10,629,385.28	$28,712,428.51
2015-16	$9,173,960.00	$8,832,144.00	$29,054,245.00
2016-17	$9,816,029.45	$7,378,389.70	$31,491,884.47
2017-18	$10,113,745.73	$12,918,429.82	$28,687,200.38
2018-19	$10,509,092.00	$22,422,020.00	$16,774,272.38
2019-20	$11,560,035.01	$13,447,047.00	$14,887,260.39
2020-21	$11,464,201.14	$7,834,580.96	$18,516,482.18
2021-22	$11,959,297.00	$11,263,119.00	$19,212,660.18
2022-23	$12,366,462.76	$11,483,399.16	$20,095,723.78

2023-24	$12,729,161.60	$8,929,075.20	$23,895,810.18
2024-25	$12,700,000.00	$20,000,000.00	$16,595,810.18

Projections for fiscal year 2024-25 were estimated using current project activities.

5Figure IV-1 Pre-Regulatory Landfill Programs Funds



3. National Priorities List Cost-Share Fund (Fund 6375) for FY 2023-24

Estimated cost of federal trust fund/NC cost-share cleanups	$123,922,398
North Carolina's 10% cost-share for pending/ongoing cleanups	$12,392,239*
Total fund disbursements for cost-share payments	$9,660,637
Balance as of June 30, 2024	$4,307,810
Encumbered amount of the fund balance for cost-share payments	$1,897,046
Encumbered amount for Cape Fear Wood contract	$369,365
Effective Cash Balance	$2,041,399

*Cleanup cost estimates are not yet available for all sites. The cost-share figure will increase as cost estimates become available. Other sites may be added to the National Priorities List that will require a State cost-share. This account is also used to pay for the State's operation and maintenance obligations at these sites. The fund has no continuing source of income.

Chapter V: Solid Waste and Materials Management

A. Executive Summary

G.S. 130A-309.06(c) requires DEQ to annually report the status of solid waste management efforts in the State to the N.C. General Assembly's Environmental Review Commission and Fiscal Research Division.

The Demographer's Office in the N.C. Office of State Budget and Management reported that North Carolina's population increased by 1.28 percent between FY 2022-23 and FY 2023-24, while the amount of waste disposed of in municipal solid waste (MSW) landfills and construction and demolition (C&D) landfills increased by 1.27 percent from an adjusted disposal amount of 14,037,108 tons in FY 2022-23. A total of 14,215,732 tons of solid waste originating from North Carolina counties was disposed of at in-state and out-of-state facilities – an increase in disposal of 178,624 tons from the previous fiscal year.

During FY 2020-21, the rule review and readoption process required by G.S. 150B-21.3A and initiated in 2013 was completed for the solid waste management rules in Title 15A, Subchapter 13B of the Administrative Code. As a part of the readoption process, the rules in Section .1700 of Subchapter 13B pertaining to coal combustion by-products were updated to be consistent with changes made to the General Statutes in the Coal Ash Management Act of 2014 (CAMA), including changes made to the annual reporting requirements. CAMA required in G.S. 130A-309.204(c) that annual reporting on the generation of coal combustion residuals (CCR) and coal combustion products (CCP) was required for public utilities only, and not for other generators of CCR or CCP.

Two current North Carolina public utilities generating CCR and CCP reported that they disposed of 233,157 tons of CCR in MSW landfills and did not dispose of any CCP in structural fills in FY 2023-24. CCP was instead sent for beneficial use within STAR® Units located at Duke Energy's Buck, Cape Fear, and H.F. Lee facilities. Disposal of produced and excavated ash material in coal ash monofills, which are special landfills that contain only coal ash waste, has increased as excavation of ash basins continues across North Carolina in accordance with the Consent Order signed in February 2020 directing Duke Energy to excavate more than 80 million tons of coal ash from open, unlined impoundments at several locations and place the excavated coal ash in onsite lined landfills. During FY 2023-24, 11,1811,544 tons of CCR were placed in coal ash monofills.

Data used in this report, along with other subsidiary reports, is available online at: https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/solid-waste-facility-lists-presentations-and-annual-reports/solid-waste-management-annual-reports.

1. Key Findings FY 2023-24

- The in-state and out-of-state MSW and C&D disposed of in North Carolina, plus the waste that was generated in North Carolina and disposed of in out-of-state facilities amounted to 14,215,732 tons in FY 2023-24.
- The 92 sanitary landfills permitted and operating in North Carolina reported disposing of a total of 13,682,898 tons of MSW and C&D solid waste, including waste imported from out-of-state.
- Municipal and C&D solid waste reported as disposed of in North Carolina originating from South Carolina was 273,692 tons and Virginia was 1 ton for a total of 273,693 tons from out-of-state sources.
- Waste exported to Georgia (59,869 tons), South Carolina (266,189 tons), Tennessee (117,579 tons), and Virginia (199,169 tons) amounted to 642,806 tons.
- The remaining capacity for the 42 active MSW landfills in North Carolina calculates to approximately 28 years of municipal solid waste at the FY 2023-24 rate of disposal.
- Industrial waste disposal amounted to 11,343,400 tons for FY 2023-24. North Carolina industrial waste is predominantly from producers of paper products (pulp and paper sludges) with contributions from the electric energy industry (CCR).
- The per capita rate of North Carolina waste disposed into in-state and out-of-state MSW and C&D landfills has remained steady at approximately 1.3 tons per person within range of the last 3 fiscal years.

- Coal ash disposal in a MSW landfill did not affect the per capita disposal rate in FY 2023-24 as shown in Table V-1 below.
- Excavated CCR from Duke Energy coal ash impoundments totaling 10,027,676 tons were reported as disposed of in onsite landfills in FY 2023-24.
- Flue gas desulfurization (FGD) waste produced from Duke Energy coal-fueled plants totaled 812,780 tons; however, 506,221 tons of produced and excavated FGD waste were credited as beneficially used.
- Local government recycling programs diverted 385,545 tons of household recyclables (glass bottles and jars, plastic containers, metal cans, paper, cartons, and cardboard), which resulted in greenhouse gas savings of 1,045,819 metric tons of carbon dioxide equivalent.
- Additional recyclables recovered by local government programs totaled 1,265,645 tons which include yard waste, food waste, scrap metal, tires, electronics, textiles, construction and demolition debris, and other hard-to-recycle materials such as batteries, paint, automotive fluids, and chemicals.
- DEQ recycling grants continued to support important market investments, including material recovery facility (MRF) upgrades, plastic recycling expansions, solar panel recycling development, and food waste diversion.

2. Departmental Considerations and Recommendations

- The General Assembly is encouraged to consider ways to support the increased recovery and recycling of food waste which is estimated to make up nearly one-quarter of residential landfilled waste.
- The General Assembly is encouraged to consider the new tire advanced disposal fee to better support local recycling programs.
- Due to the increased presence of and discovery of emerging contaminants like 1,4-dioxane and PFAS, the General Assembly is encouraged to consider requiring all sanitary landfills, and C&D landfills in particular, to be constructed with a composite base liner system and leachate collection. While this will increase operational costs to some facilities, it will decrease the contamination of valuable State groundwater resources.

B. Solid Waste Management

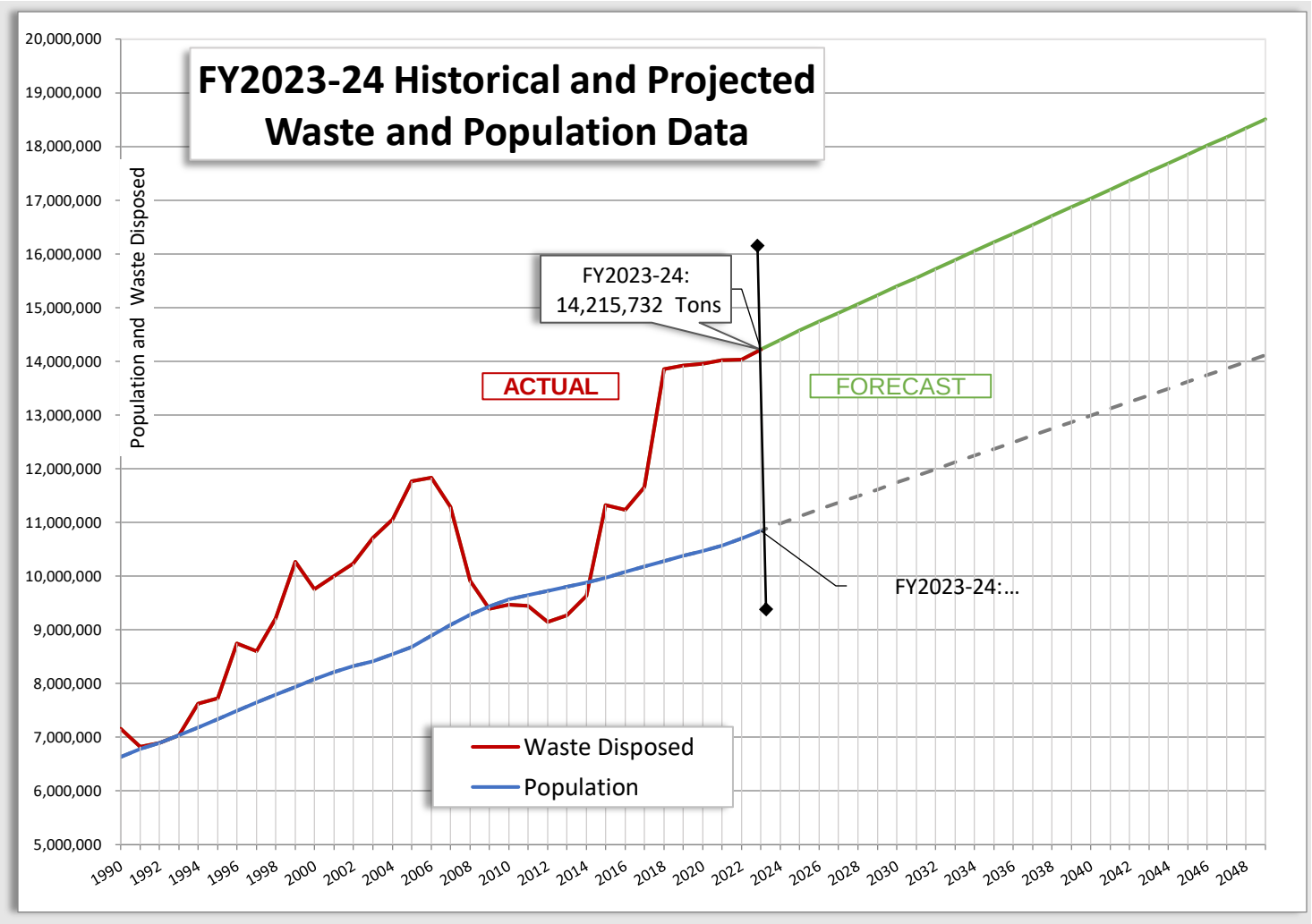
Waste types handled at North Carolina facilities include municipal solid waste, industrial waste, construction and demolition waste, land-clearing waste, scrap tires, medical waste, compost, and septage.

CCR, classified as industrial waste generated at North Carolina's six electric power plants, have received much study and attention because of CAMA. The Act requires that the coal ash in surface water disposal impoundments be removed, and the ash be placed into lined landfills or recovered. In recent years, CCR has primarily been disposed of in onsite industrial landfills at power plants or recovered for beneficial use primarily in the cement industry.

1. Municipal Solid Waste and Construction and Demolition Landfill Disposal

North Carolina generated and disposed of a total of 14,215,732 tons of waste (generated during the fiscal year) into MSW and C&D landfills within the State and out-of-state. This represents an increase of 178,624 tons of waste from the previous fiscal year. Figure V-1 below displays the history of disposal of waste since 1991. For each fiscal year, the tonnage figure represents the material that was generated during that year that entered disposal facilities.

6Figure V-1. MSW and C&D Waste 20-Year Disposal Forecast



Note: Population data is from the OSBM State Demographer website:
https://www.osbm.nc.gov/demog/county-projections for Annual County Populations available at the following web link:
https://www.osbm.nc.gov/population-projections-age-group-data/download?attachment

Solid waste exported from North Carolina generators to out-of-state landfills located in Georgia, South Carolina, Tennessee, and Virginia totaled approximately 642,806 tons in FY 2023-24. During that period, North Carolina landfills received and disposed of approximately 273,693 tons of waste that originated from South Carolina and Virginia.

In addition to normal MSW and C&D wastes, other post-industrial or business cleanups that are safely disposed of in lined MSW landfills include petroleum-contaminated soils from leaking storage tanks under DWM's Underground Storage Tank Section, and wastes from development at industrial facilities under DWM's Brownfields Redevelopment Section. In past years, the cleanup from storms created noticeable spikes in waste generation and disposal.

Tables related to waste disposal per county, facility, and per capita can be found at:
https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/solid-waste-facility-lists-presentations-and-annual-reports/solid-waste-management-annual-reports.

2. Coal Combustion Residual and Product Generation, Disposal, and Reuse
North Carolina public utility generators of CCR and CCP recorded 233,157 tons of generated coal ash disposed of in MSW or non-coal ash industrial landfills during FY 2023-24.

Produced and excavated ash material removed from coal-fueled plants and coal ash impoundments were reported as not used in structural fill projects. The reporting of zero placement of CCR and CCP within structural fills is a result of being governed by CAMA, beneficial use within STAR® Units located at Duke Energy's Buck, Cape Fear, and H.F. Lee facilities, as well as better recovery systems. Disposal of produced and excavated ash material in coal ash monofills has increased as excavation of ash basins continues across North Carolina. Within FY 2023-24, 11,181,544 tons of CCR were placed in coal ash monofills.

Table V 1 shares information on the disposition of coal combustion wastes that intersected with landfill disposal. The information is derived from reporting of the two public utility companies that generate ash at their facilities across North Carolina.

19Table V-1. Coal Combustion By-Products and Impoundment Excavation

Generator Annual Reporting	Coal Combustion Products (tons) generated		Ash (tons) excavated from impoundment
	FY 2023-24		
	Ash	Gypsum	
Total produced	744,222	812,780	10,027,676
Used as Structural Fill	-	-	-
Other Beneficial Uses	1,934,058	506,221	12,578
Disposed in MSW and Industrial Landfills (not Coal Ash monofills)	233,157	-	-

- Recycling efforts continue to increase at industrial facilities statewide.
- Management of CCR, which consists of bottom and fly ash, is produced from coal-fired electric power plants and is disposed of in onsite CCR landfills. CCP in the form of ash are predominantly reused as an ingredient in cement.
- FGD residuals, or synthetic gypsum, is the primary ingredient in drywall.
- Fly ash, slag, and bottom ash can be used as construction material such as gravel or fill.
- S.L. 2016-95 revised CAMA and required that Duke Energy provide ash beneficiation projects capable of processing 300,000 tons of ash, reclaimed from surface impoundments, for cementitious products. The STAR® Units have been placed in service. Duke Energy has been addressing production challenges and will continue to take measures to improve feed ash quality as well as pursue equipment modifications to increase production. Subsequently, Duke Energy exceeded their annual processing goal in FY 2023-24 by up to eight percent per STAR® site.
- Duke Energy has three recycling sites in North Carolina located at the Buck Station (Spencer, N.C.), HF Lee Station (Goldsboro, N.C.) and Cape Fear (Moncure, N.C.).
- Duke Energy reported in FY 2023-24 that 506,221 tons of gypsum were sent to the drywall or wallboard industry for reuse.

3. Solid Waste Tax

The N.C. Department of Revenue reported solid waste tax distribution of $25,170,476.22, which equates to 12,585,238 tons of taxable solid waste going into landfills within North Carolina and through transfer stations to landfills in neighboring states. The gap between reported disposed tonnage and tax-paid tonnage was due to waste at federally-owned landfills on military bases and some specific waste streams received at MSW facilities (for example, biosolids) that are exempt from the solid waste tax. In addition, the large amount of excavated CCR impoundment wastes was not taxed because they were not transferred through a permitted solid waste facility.
Revenue from the solid waste tax was distributed to:

- Inactive Hazardous Sites Cleanup Fund – 50 percent is used to fund the assessment and remediation of pre-1983 landfills
- Local governments – 18.75 percent to counties and 18.75 percent to municipalities to assist with their waste and materials management programs
- General Fund – 12.5 percent

The Solid Waste Tax proceeds and distribution are summarized in Table V-2 below.

20Table V-2. N.C. Dept. of Revenue Solid Waste Tax Distribution

PROCEEDS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
PROCEEDS AVAILABLE FOR DISTRIBUTION BEFORE COST	$6,503,265.80	$6,518,442.92	$6,147,489.11	$6,099,592.80	$25,268,790.63
LESS: REIMBURSEMENT UNDER S.L. 2007-543	$-	$-	$-	$-	$-
LESS: COST OF COLLECTING	$21,067.31	$26,635.06	$24,998.08	$25,613.96	$98,314.41
PROCEEDS AVAILABLE FOR DISTRIBUTION	$6,482,198.49	$6,491,807.86	$6,122,491.03	$6,073,978.84	$25,170,476.22
DISTRIBUTION OF PROCEEDS					
INACTIVE HAZARDOUS SITES CLEANUP FUND (50%)	$3,241,099.25	$3,245,903.94	$3,061,245.52	$3,036,989.42	$12,585,238.13
AMOUNT AVAILABLE TO DISTRIBUTE TO CITIES (18.75%)	$1,215,412.22	$1,217,213.97	$1,147,967.06	$1,138,871.03	$4,719,464.28
AMOUNT AVAILABLE TO DISTRIBUTE TO COUNTIES (18.75%)	$1,215,412.22	$1,217,213.97	$1,147,967.06	$1,138,871.03	$4,719,464.28
GENERAL FUND (12.5%)	$810,274.80	$811,475.98	$765,311.39	$759,247.36	$3,146,309.53
TOTALS	$6,482,198.49	$6,491,807.86	$6,122,491.03	$6,073,978.84	$25,170,476.22

COMMENTS:

1. Solid waste disposal taxes are levied pursuant to Article 5G of Chapter 105 which provide for a per capita distribution of the proceeds.

2. A city or county is excluded from the distribution under Article 5G if it does not provide solid waste management programs and is not responsible by contract for payment for these programs and services, unless it is served by a regional solid waste management authority established under Article 22 of Chapter 153A of the General Statutes.

Note: Totals do not match DEQ budget reports for FY 2023-24 due to the timing of distributions from N.C. Department of Revenue (NCDOR). The table above was compiled using the following NCDOR data:

- 1st Quarter FY 2023-24: https://www.ncdor.gov/solid-waste-disposal-tax-distribution-quarter-ending-09-30-2023
- 2nd Quarter FY 2023-24: https://www.ncdor.gov/solid-waste-disposal-tax-distribution-quarter-ending-12-31-2023
- 3rd Quarter FY 2023-24: https://www.ncdor.gov/solid-waste-disposal-tax-distribution-quarter-ending-03-31-2024
- 4th Quarter FY 2023-24: https://www.ncdor.gov/solid-waste-disposal-tax-distribution-quarter-ending-06-30-2024

4. Per Capita Disposal Rate

Table V-3 below shows the history of North Carolina's per capita disposal rate, including the impact of including excavated CCR in that rate. The table shows the baseline measurement of solid waste disposal in the benchmark years of FY 1990-91 and 1991-92 as well as the most recent 18 fiscal years. Two calculations were performed to determine per capita waste this fiscal year – one showing disposal per capita for wastes generated during the fiscal year and the other including both generated waste plus excavated CCR.

21Table V-3. North Carolina's Per Capita Disposal Rate

Fiscal Year	NC Population	MSW and C&D Disposed (tons)	MSW per Capita (tons)	Coal Ash Disposed (tons)	MSW minus Coal Ash Disposed (tons)	MSW minus Coal Ash Disposed per Capita (tons)
2023-24	10,842,949	14,215,732	1.31	0	14,215,732	1.31
2022-23	10,705,403	14,037,108	1.31	0	14,037,108	1.31
2021-22	10,571,934	14,024,453	1.33	0	14,024,453	1.33
2020-21	10,472,553	13,949,017	1.33	0	13,949,017	1.33
2019-20	10,381,670	13,926,676	1.34	127,005	13,789,864	1.33
2018-19	10,284,335	13,855,649	1.35	32,809	13,813,449	1.34
2017-18	10,181,491	11,656,351	1.14	643,808	11,008,191	1.08
2016-17	10,080,436	11,231,358	1.11	1,678,882	9,707,057	0.96
2015-16	9,968,747	11,323,734	1.14	743,822	10,579,912	1.06
2014-15	9,881,906	9,635,874	0.98	Not Measured Prior to	9,635,874	0.98
2013-14	9,804,787	9,273,571	0.95	FY15-16	9,273,571	0.95
2012-13	9,723,576	9,149,130	0.94		9,149,130	0.94
2011-12	9,644,670	9,443,380	0.98		9,443,380	0.98
2010-11	9,571,007	9,467,045	0.99		9,467,045	0.99
2009-10	9,435,396	9,395,457	1.00		9,395,457	1
2008-09	9,278,794	9,910,031	1.07		9,910,031	1.07
2007-08	9,090,572	11,284,712	1.24		11,284,712	1.24
2006-07	8,890,380	11,837,104	1.33		11,837,104	1.34
2005-06	8,685,811	11,765,183	1.35		11,765,183	1.36
1991-92 Benchmark	***6,781,321***	***7,257,428***	***1.07***		***7,257,428***	***1.07***
1990-91	6,632,448	7,161,455	1.08		7,161,455	1.08

Note: MSW disposal data were updated based on additional report submittals.

5. Municipal Solid Waste Landfill Capacity

The total remaining capacity of North Carolina's 41 active permitted MSW landfills measures approximately 380 million cubic yards, equating to approximately 256 million tons based on a calculated average compaction rate of 0.67 tons of waste per cubic yard of air space. The capacity does not distinguish between imported or exported waste. The State capacity calculates to 28 years of waste disposal should the rate of landfill use remain steady at last fiscal year's rate of approximately 11.3 million tons per year for all active MSW landfills. Continued efforts to increase recycling and material diversion will help maximize landfill capacity.

Landfill capacity in the State is currently sufficient, and all regions have access to adequate disposal capacity. However, the State's landfill capacity is not uniformly available statewide due to permit conditions, franchise arrangements, service areas, population densities, and distances. Some regions have limited disposal options and may be subject to higher disposal costs and possible disruptions in service should facilities close or fuel costs become prohibitive due to transport to distant facilities. As some landfills come to capacity in the next 8-10 years, the availability and convenience of municipal solid waste disposal facilities will change, and some areas will have less access than they do currently.

As shown in Table V-3 above, the disposal of coal ash in MSW landfills did not occur in FY 2023-24. The downward trend for the past several years has favorably affected MSW landfill capacity in the State.

Tabulation of MSW and C&D landfill capacity can be found in the FY 2023-24 Landfill Capacity Report contained on the following website: https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/solid-waste-facility-lists-presentations-and-annual-reports/solid-waste-management-annual-reports.

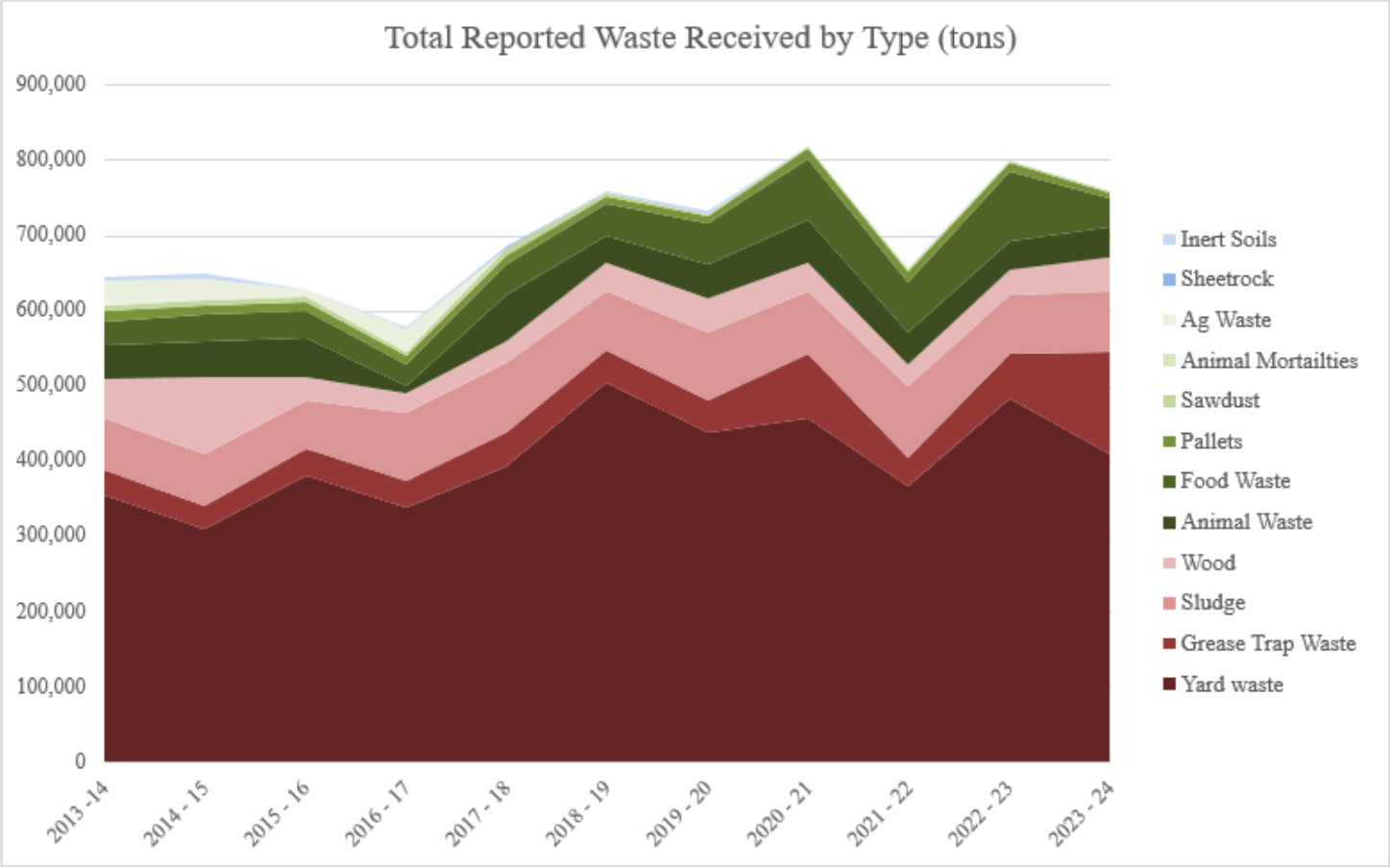
6. Industrial Landfill Disposal

In North Carolina, 14 out of 17 active permitted industrial landfills disposed of various types of industrial waste originating from internal operations. The majority of industrial landfills are located where the waste is produced. The largest volume of waste disposed into industrial landfills is at electric power plants and from the paper product industry, which disposes of sludge and wood ash. Tabulation of landfilled industrial waste can be found on the FY 2023-24 Solid Waste Management Annual Report webpage, accessible online at: https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/solid-waste-facility-lists-presentations-and-annual-reports/solid-waste-management-annual-reports.

7. Composting and Mulching

A total of 53 active composting operations continued to divert organics from the municipal solid waste stream. 847,798 tons of waste were initially diverted to facilities, with a 13% loss of unusable/disposed material. 504,302 tons of feedstocks were composted in FY 2023-24.

7Figure V-2: Total Reported Waste Received over 11 Years of Facility Annual Reporting (FAR)



Compost operations in FY 2023-24 diverted 45,114 tons of food waste, including food processing residuals. Food waste diversion continues to be a huge opportunity for compost facilities in North Carolina; and a desperate need for the relief of

landfills and methane emissions. Yard waste, grease trap waste, sludge and biosolids, and clean wood made up over 75% of diverted material.

High-carbon materials such as yard waste, clean wood, sawdust, and pallets make up 61 percent of all received materials for FY 2023-24, with yard waste comprising 88 percent of the total high-carbon material. High-nitrogen materials (e.g., food scraps, animal waste, sludge, grease trap waste, animal mortalities) are on average 38 percent of the total material received. The other feedstocks (e.g., commingled, sheetrock, inert soils) are on average less than one percent of the total material received.

In FY 2023-24, compost facilities produced 320,869 tons of compost, 121,871 tons of mulch (including wood mulch, dyed mulch, wood chips, and leaf mulch), and 53,572 tons of boiler fuel.

- 388,978 tons of compost were sold to the public.
- 85,937 tons were stockpiled.
- 53,648 tons were used internally/not marketed.
- 36,072 tons were given to the public.

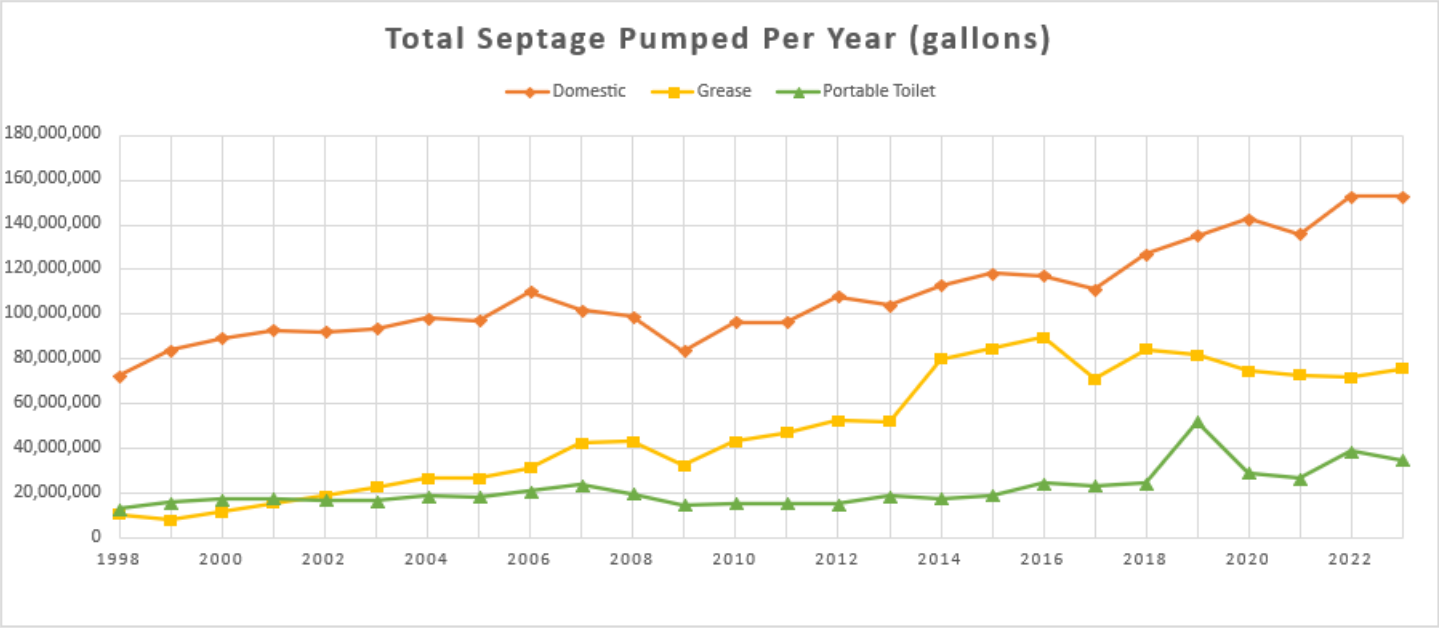
8. Septage Management and Land Application

The management of septage waste pumping, hauling and disposal is accomplished through staff permitting and compliance activities for more than 660 septage haulers, 182 septage detention or treatment (dewatering) facilities, and 103 land application sites (representing approximately 1600 acres). Septage disposal is by means of municipal wastewater treatment plants, septage land application sites, solid waste compost facilities, and septage detention and treatment facilities.

While most of the land-applied waste managed by the Solid Waste Section is septic tank, portable toilet, and restaurant grease trap waste, the program also assists waste generators with other wastes and by-products to determine if they are suitable for beneficial use through land application. Examples of beneficially reused waste include wood ash and tobacco dust. Best management practices are followed for each by-product to assure the protection of public health and the environment after evaluation by staff and are included in the site operational plans.

Since septage haulers are permitted on a calendar year basis, the volumes of septic tank (domestic septage), portable toilet, and grease trap wastes pumped are reported for the previous calendar year. In the calendar year 2023, approximately 262,556,164 gallons total of domestic septage, grease septage, and portable toilet waste was pumped. This is a slight increase above the 2022 calendar year total of 262,519,064 gallons pumped. The increase from 2022 to 2023 in the reported amount of domestic septage, portable toilet waste septage, and grease septage pumped may reflect an increase in demand for septage pumping related to steady growth in the State’s population and economic development in 2023. Figure V-3 below shows the trend in amounts of septage pumped per year over the last 25 years (from 1998 to 2023).

8Figure V-3 Gallons of Septage Pumped Per Year (1998 to 2023)



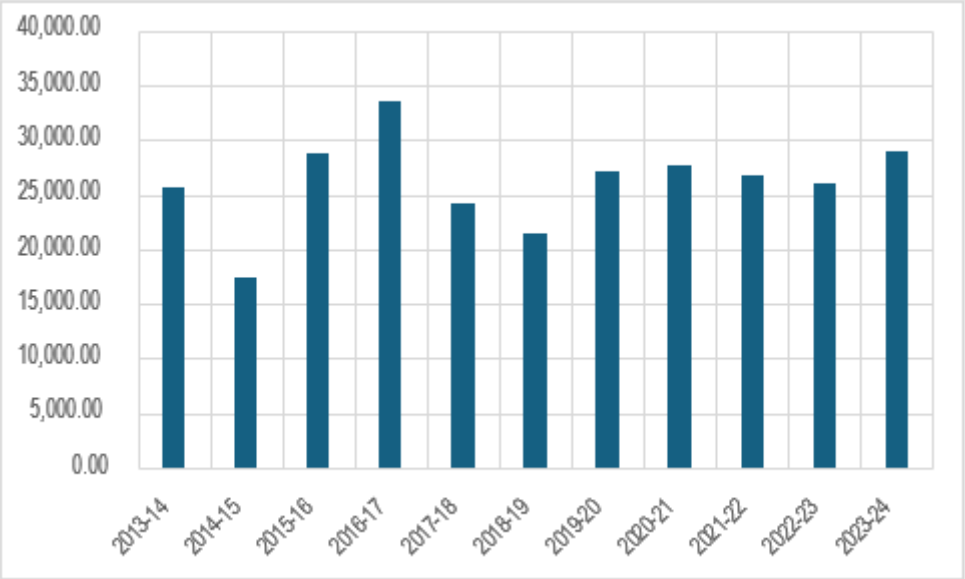
9. Medical Waste

During FY 2023-24, four permitted medical waste treatment facilities that receive waste from off-site operated in the State. There are also nineteen alternative medical waste treatment technologies approved for use in the State that operate using a combination of waste shredding and steam sterilization, chemical, infrared, ozone, and heat-to-treat medical waste at individual generator locations.

Figure V-4 below shows the tonnage of medical waste treated at North Carolina's permitted medical waste treatment facilities during FY 2023-24. A total of 15,885.61 tons of medical waste generated in North Carolina and 13,048.78 tons generated from other states, totaling 28,934.39 tons, were treated. A total of 20,991.04 tons of treated medical waste was disposed of in landfills with a waste tonnage reduction to (incinerator) ash of 6,670.00. 182.00 tons was shipped out of state for treatment and 1,139.00 tons was liquids drained to POTWs. Figure V-4 does not include medical waste treated from healthcare facilities that treat waste on-site.

These healthcare facilities are regulated by the N.C. Department of Health and Human Services; although DEQ may address specific concerns regarding medical waste treatment such as packaged stored medical waste awaiting shipment and treatment device operation.

9Figure V-4 Tons of Medical Waste Processed by Fiscal Year



10. Household Hazardous Waste

Household hazardous waste (HHW) is household items that are toxic, ignitable, corrosive, or reactive. HHW includes items such as household cleaners, pesticides, herbicides, fertilizers, pool chemicals, paints, automotive fluids, and batteries. These waste types are dangerous to human health and the environment. The Solid Waste Section recommends that residents properly dispose of HHW at an approved collection site. Units of local government HHW collection sites may be temporary one-day events, commonly conducted in a physical structure, or permanent ongoing collection sites at brick-and-mortar locations.

Twenty-three counties in North Carolina have permanent HHW collection sites (30 sites total). These 30 permanent sites are permitted facilities and collected 8,818,646.00 pounds or 4,409.32 tons of HHW as shown in Table V-4 below.

22Table V-4. Permanent HHW Facility Collections FY 2023-24

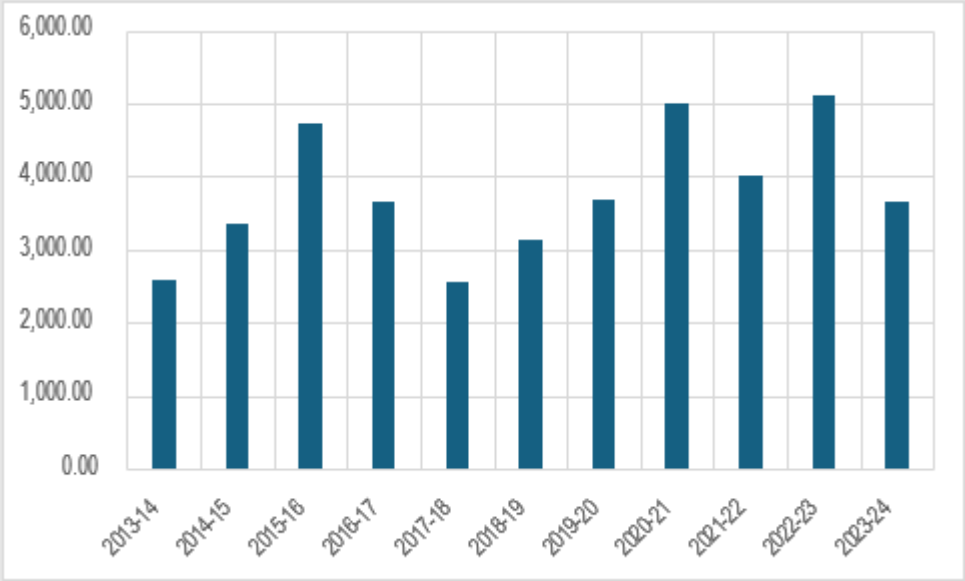
Household Hazardous Waste	Pounds
Various paints	4,634,326.00
Flammable liquids and solids	633,831.00
Automotive oil, filters, and antifreeze	433,626.00
Lead-acid, cadmium, lithium and alkaline batteries	196,097.00
Mercury containing fluorescent light bulbs and other mercury-containing materials	127,021.00
Compressed gases	136,631.00
Poisonous materials such as insecticides, herbicides, fungicides, fertilizers, and pool chemicals	202,683.00
Corrosive materials	142,373.00
Oxidizing substances	86,023.00
Aerosols	101,984.00
Reactives	15.00
PCB/Ballasts	0.00
Propane tanks	7,183.00
Fire extinguishers	15,951.00

Twenty-six counties, thirteen municipalities, and two businesses held 51 one-day temporary HHW collection events during FY 2023-24. The 51 events collected a total of 568,877.00 pounds or 284.44 tons of HHW.

Figure V-5 below illustrates the amounts of HHW collected annually since FY 2013-14. A complete listing of locations of permanent HHW sites as well as current one-day events can be found at: https://deq.nc.gov/about/divisions/waste-management/hhw.

Although the collection of HHW is a costly endeavor, increasing numbers of units of local government as well as civic organizations, and private industries are arranging for this valuable service for North Carolina communities. The fiscal year total collected is 3,643.50 tons and the collection cost reported by units of local government for temporary and permanent collection events is $6,027,215.29.

10Figure V-5. Household Hazardous Waste in Tons by Fiscal Year



11. Facility Inspections

DWM's Solid Waste Section is responsible for conducting inspections/site visits at the following variety of solid waste management facility types:

- C&D Landfills over pre-regulatory MSW Landfills
- Closed Post-Closure Landfills
- Compost Facilities
- Construction & Demolition Landfills (C&DLF)
- Industrial Landfills
- Land Application Sites
- Land Clearing and Inert Debris Landfills (LCID)
- LCID Notification Landfills (open and closed)
- MSW Landfills
- Transfer Stations
- Coal Combustion Product Landfills and Structural Fills
- Household Hazardous Waste Collection Sites
- Material Recovery Facilities
- Medical Waste Treatment Facilities and Incinerators
- Septage Detention and Treatment Facilities
- Septage (hauler) Firms
- Tire Monofills
- Tire Processing / Collection Facilities

- Treatment and Processing Facilities
- White Goods Collection
- Yard Waste Notifications

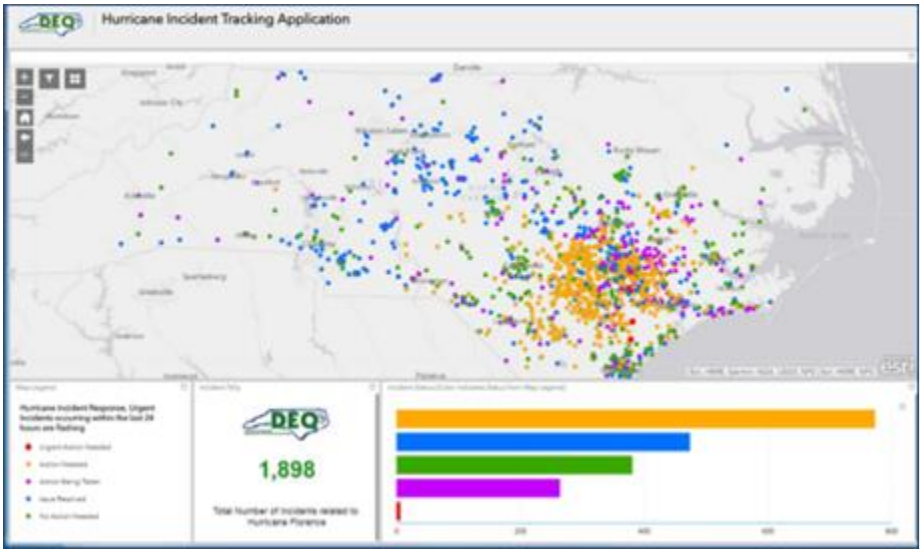
12. Non-Facility Inspections and Evaluations

In addition to the facility types listed above, the Solid Waste Section also provides inspections and evaluations for the following:

Illegal Dumping: The Solid Waste Section provides technical assistance to residents and businesses on the proper management, recycling, or disposal of solid wastes. It investigates complaints of solid waste illegal dumping, working to have the sites cleaned up and taking enforcement action when necessary for the protection of human health and the environment. The Solid Waste Section also works with local governments to establish and maintain ordinances and programs that address littering and indiscriminate dumping in their communities, and to avoid illegal dumping by communicating disposal procedures and locations to residents, especially following a storm or other disaster.

Disaster Response and Preparation: The Solid Waste Section collaborates with federal partners, N.C. Department of Public Safety's Division of Emergency Management, and local governments to support the Federal Emergency Management Agency's National Response Framework Emergency Support Functions (ESF) related to solid waste debris removal (ESF-3), oil and hazardous materials response (ESF-10), and agriculture and natural resources (ESF-11). DEQ staff assisted with preparation and response for local disaster events in 2023-24 by continuing to develop and improve GIS (Geographical Information System mapping) tools for reporting, sharing, and summarizing information about the environmental incidents that DEQ handles during an emergency response. DEQ also worked to develop GIS tools for locating waste management facilities to assist with preparation in the storm's projected path and for disposal.

11Figure V-6 Hurricane Incident GIS Tracking Tool



The Solid Waste Section continues to work with local governments to foster the message that disaster preparedness is essential, given the history of storm destruction in North Carolina, and encourages communities to establish pre-approved temporary debris storage and reduction (TDSR) sites for vegetative and demolition debris prior to an emergency or disaster. DEQ maintains a record of more than 750 of these pre-approved TDSR sites. Pre-approval is critical because it allows for rapid mobilization of cleanup services as well as ensuring that the maximum reimbursement of cleanup costs from FEMA can be obtained. The Solid Waste Section is in the process of developing a new online application tool for the submittal of applications for potential TDSRs. This will allow the Section to efficiently track applications as they are submitted and processed.

In FY 2023-2024 the Solid Waste Section assisted with response and clean-up following several local disaster events; evaluated and coordinated the review of two new TDSR sites with the State Historic Preservation Office and Natural Heritage Program; and coordinated with local governments and FEMA for the activation and subsequent clean-up of two TDSR sites. It also provided technical assistance with the proper disposal of storm debris. Because DEQ already had systems in place to communicate and conduct debris site reviews using virtual means and GIS tools like the one depicted above, it was able to continue activities remotely, with minimal interruption of the normal procedures. Beginning in late September 2024 DEQ dedicated a great deal of staff time and resources for the response and cleanup from Hurricane Helene. Between September 28, 2024 and December 31, 2024 the Solid Waste Section evaulated and coordinated the review of 103 new TDSR sites and the activation of 123 new and previously established TDSR sites. A more detailed summary of the response efforts will be provided in the Annual Report for FY 2024-2025.

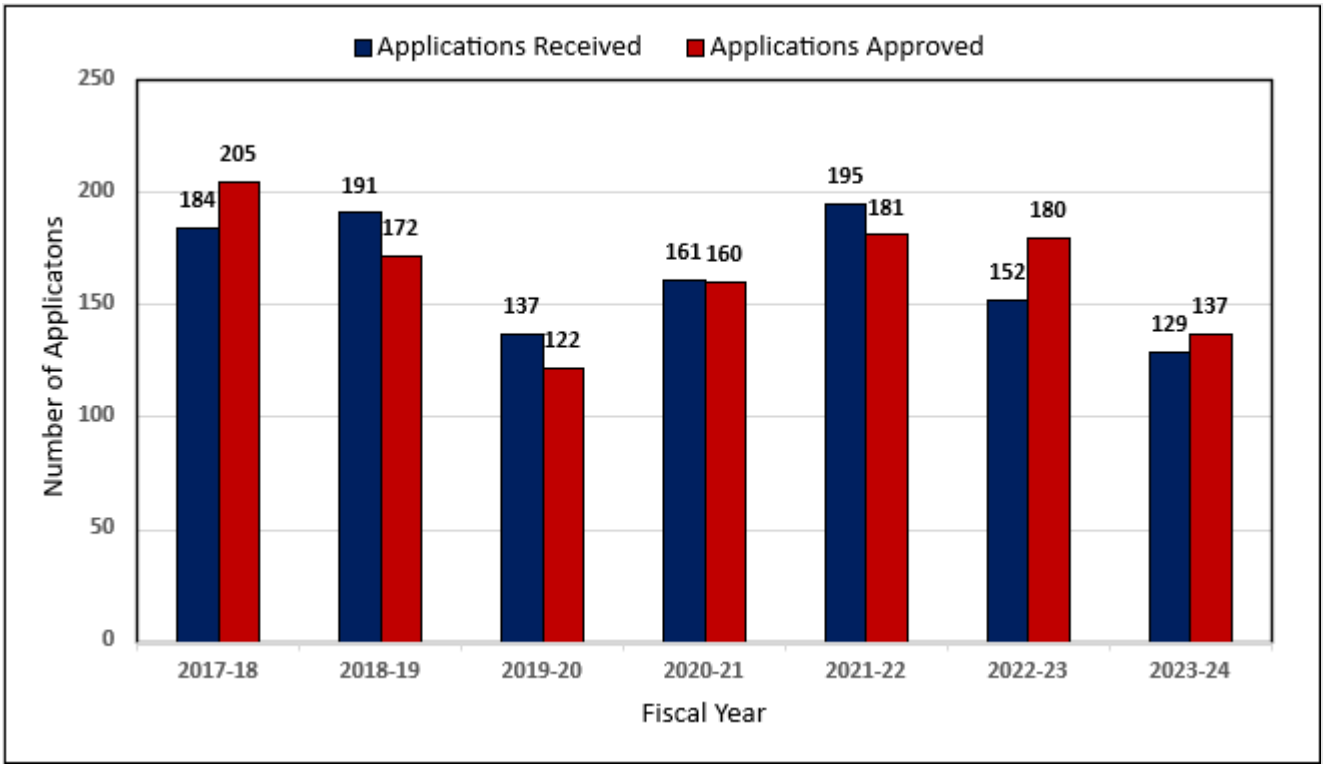
Tax Certifications: The Solid Waste Section processes certification applications (see Figure V-7 below) for special tax treatment of facilities and equipment used in recycling of a solid waste or resource recovery from a solid waste. The Solid Waste Section has been processing these applications since the mid-1970s at no cost to the applicant. Recently the Solid Waste Section launched a new online application tool that allows for a more efficient application process and one that helps the Department track applications as they go through the process.

North Carolina's tax certification program is very robust and provides property tax benefits to numerous companies and business types. Tax certification programs in other southeastern states typically place more restrictions on the types of businesses that can apply. Since North Carolina's program is broad and open to any company or business that maintains assets used exclusively for recycling or resource recovery, the program has been an effective tool in new business recruitment for the State.

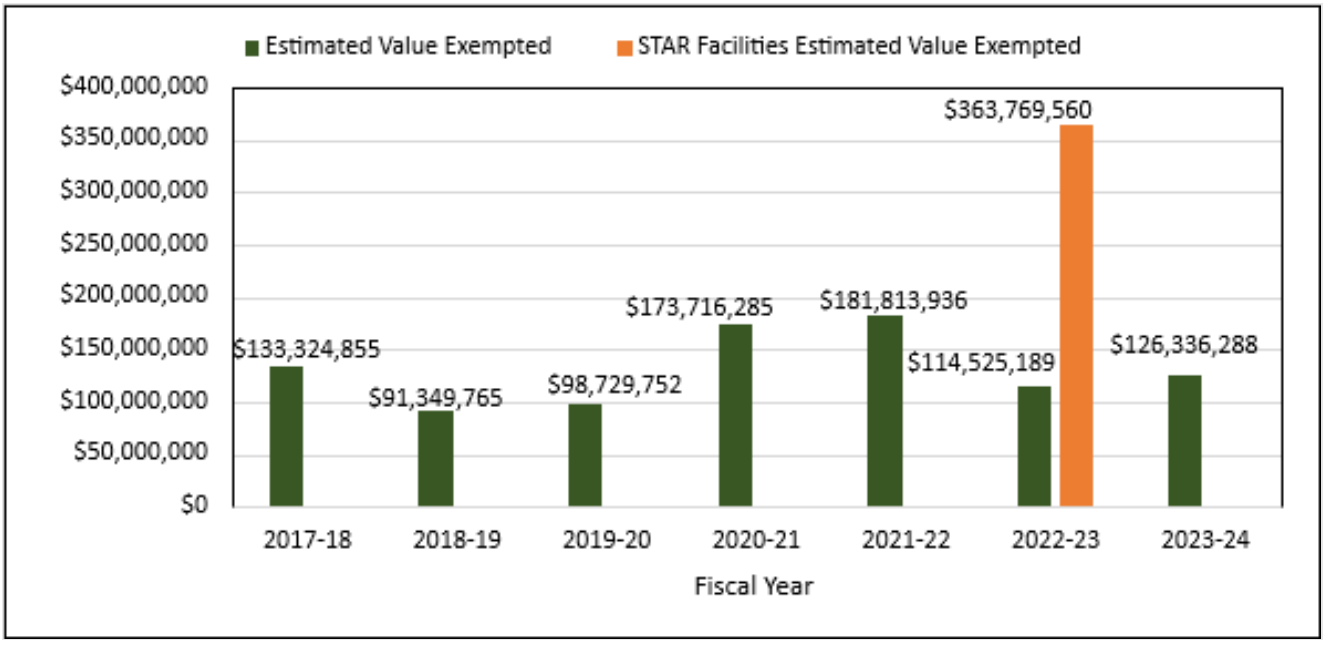
In the past seven years, the Solid Waste Section has processed approximately 1,150 certification applications. Figure V-7 below shows applications received and approved for the past seven years, while Figure V-8 shows that these approximately 1,150 applications resulted in an estimated value (as reported by the applicant) of $1.3 billion in business equipment being exempted from local government property tax assessment. This amount does not include the value of the land and facility areas also exempted from local government tax assessment in that time frame since this data is not available. DEQ estimates that Solid Waste Section staff collectively spend time equivalent to two staff positions reviewing and processing tax certification applications, providing technical assistance, and conducting site visits for these facilities to determine whether the requested items comply with the General Statutes and NC Administrative Code regarding special tax treatment. The estimated staff time does not include time spent by DEQ's DEACS staff providing additional technical assistance for these applications.

The estimated value of business equipment exempted was much greater in FY 2022-23 than in previous or subsequent years. This was due to an estimated $363,769,560 of business equipment exempted from the three STAR® Units located at Duke Energy's Buck, Cape Fear, and H.F. Lee facilities, where CCR materials are recycled. More information regarding the STAR® Units is included in Section V-B-2 of this report. Figure V-8 includes a breakdown of the estimated value of business equipment exempted.

12Figure V-7. Tax Certification Applications Received and Approved



13Figure V-8. Estimated Value of Business Equipment Certified as Tax Exempt



13. Facility Operator Training and Public Outreach

The Solid Waste Section is committed to the protection of public health and the environment through education, inspections and compliance, and environmental monitoring. The section has a long-standing history of promoting training for the regulated community and public as required by statute as well as through technical assistance, collaboration, outreach activities, and customer service.

C. Local Government Waste Reduction Activities and Recycling Markets

Each unit of local government is required to report to DEQ annually about their solid waste management programs and waste reduction activities per G.S. 130A-309.09A. The Solid Waste and Materials Management Reports help produce a picture of waste reduction, recycling, and materials management efforts in North Carolina. This data offers information that helps gauge the breadth and relative effectiveness of local government programs in diverting materials from disposal and delivering them to industry for reprocessing. Data from these annual reports also helps document the trends in recycling and reuse program implementation, and the evolving nature of public materials recovery efforts in North Carolina.

The reporting process was modernized in FY 2021-22 to allow local governments to complete the report online, consistent with annual reports for permitted solid waste facilities. The new reporting process improved the efficiency of local governments to complete reports and for DEQ staff to receive and review reports.

1. Source Reduction and Reuse Programs

Operating a source reduction or local reuse program can be a cost-effective way to help residents reduce the amount of solid waste that is discarded. These programs are typically popular with residents and have the potential to be a low-cost opportunity to engage the community, creating awareness about strategies that can be used to reduce the cost of disposal. Despite these benefits, only 43 of North Carolina's counties and 43 out of 551 municipalities reported operating these programs. The number of total programs in the State has remained steady over the past five years, ranging from 86 to 92 local governments reporting source reduction and reuse programs each year. In general, waste prevention through source reduction and reuse does not seem to take priority for most communities.

Table V-5 below examines the types of source reduction and reuse programs operated by local governments during FY 2023-24.

23Table V-5. Local Source Reduction / Reuse Programs in FY 2023-24

Number of Programs	Program Type
45	Backyard Composting *38 Education Programs* *14 Compost Bins Sales (1,594 total bins sold)*
31	Public Reuse *16 Swap Shop Programs (70 swap shop locations)* *9 Paint Exchange Programs (1,367,168 pounds of paint reused)* *2 Reusable Dish/Utensil Loan Programs* *12 Others (e.g., book swaps, pallet exchange, moving box exchange, swap events)*
59	Source Reduction *26 Promoting Food Waste Reduction* *35 Promoting Single-Use Plastic Reduction* *35 Promoting Junk Mail Reduction* *45 Promoting Reuse and Donation* *5 Promoting Other Source Reduction Activities*
86	**Total Number of Local Governments with Source Reduction or Reuse Programs**

2. Local Government Recovery

Table V-6 below compiles local government materials recovery operations over the past five years. Local government recovery showed an increase in FY 2023-24 when compared to the previous fiscal year. Recovery of metals, plastics, organics and tires increased while recovery of paper and glass decreased. Overall, the amount recovered per capita increased by 11 pounds for the year.

Total recovery results from the past five years reflect a mature public recycling system that has maintained resiliency despite recycling market challenges beginning in 2018 and through the COVID-19 pandemic. Local governments operate a base level of programs and have maintained public participation in terms of material capture, even as the "evolving ton" of traditional recyclables generated in households becomes lighter over time. Highlights from Table V-6 will be examined in greater detail throughout this chapter.

24Table V-6. Local Government Recovery (Tons) FY 2019-20 through FY 2023-24

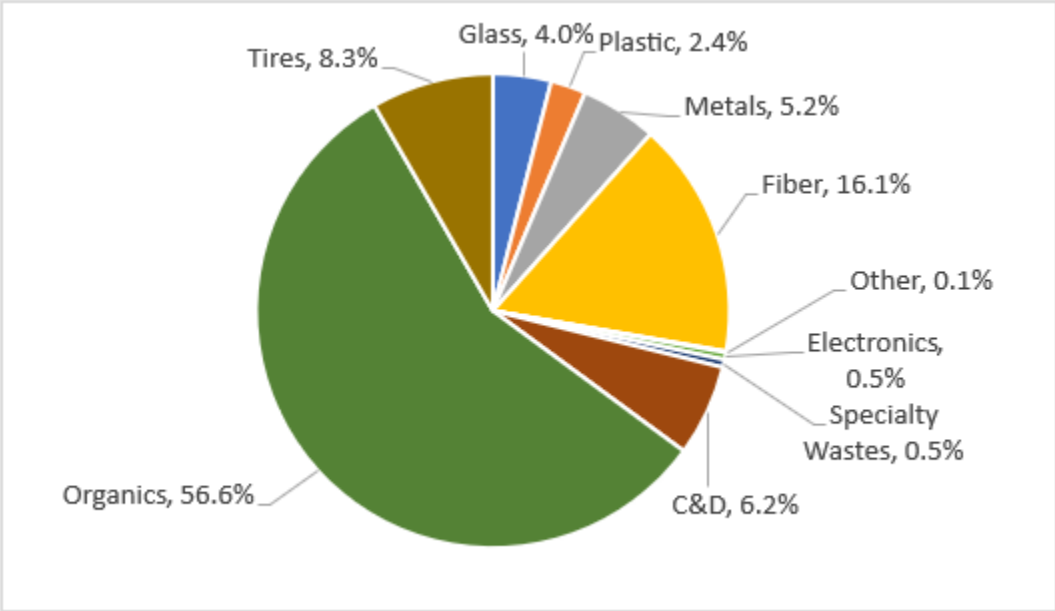
Material	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Total Paper	285,848	311,703	291,418	280,440	266,301
Total Glass	104,659	91,164	85,865	74,866	65,633
Total Plastics	39,444	38,185	36,993	34,148	39,754
Total Metal[1]	87,167	91,515	82,153	80,174	86,269
Total Organics[2]	817,307	828,155	786,205	866,600	934,425
Specialty Wastes	8,720	9,693	8,839	9,990	8,676
Electronics	11,736	10,624	8,908	8,172	8,175
Construction and Demolition Debris	86,973	90,586	98,165	104,330	102,989
Tires[3]	139,104	118,165	97,899	110,475	137,694
Other	2,118	961	1,078	1,073	1,273
Totals	**1,583,076**	**1,590,751**	**1,497,522**	**1,570,268**	**1,651,190**
Per Capita Recovery (lbs.)	**301.3**	**300.5**	**283.72**	**293.36**	**304.56**
Recovery Ratio (Recycling: Disposal)	**0.11**	**0.11**	**0.11**	**0.11**	**0.12**

[1] Includes white goods, aluminum cans, steel cans and other metals.
[2] Includes yard waste, pallets, wood waste and food waste.
[3] Tons of tires listed as recovered includes only those tires originating from within North Carolina that were processed in North Carolina. Data on the recovery of North Carolina-originated tires that were exported outside of the State is not available.

3. Recovery of Particular Materials

Public recycling programs play an important role in providing recovered materials to the supply chain for private manufacturing. Figure V-9 below provides a material-specific look at those materials diverted from disposal to economic use by local government recovery operations in FY 2023-24.

14Figure V-9 Characterization of Local Government Recovery



The single largest category of material recovered by local governments continues to be organics. This category includes vegetative debris, clean wood (unpainted and untreated dimensional lumber), pallets, food waste, and oyster shells. The recovery of vegetative debris or yard waste is accomplished through public and private mulching and composting, though boiler fuel and other energy markets are also an important destination for yard waste collected by local governments. For a detailed look at the management of yard waste in FY 2023-24, please see the section titled Yard Waste Management.

The annual recovery of organic materials can be erratic because yard waste recovery can vary widely from one year to the next due to weather conditions and storm events. During FY 2023-24, organics constituted more than 56 percent of the total local government recovery. As in past years, fiber, or paper products, constituted the next largest category of recovered materials at 16 percent. Tires and construction and demolition debris make up the next largest categories of recovered materials at 8 percent and 6 percent, respectively.

4. Recovery of Traditional Materials

Traditional recyclable materials are the items or materials that most residents think of when reflecting on recycling. These materials include fiber or paper (corrugated cardboard, magazines, newspapers, office paper, and residential mixed paper) and containers (aluminum beverage cans, glass bottles, and jars, plastic bottles and containers, and steel food containers). These materials are common in households, though they are also found in the workplace, bars, restaurants, and away-from-home settings such as parks and other public venues.

In FY 2023-24, North Carolina's local government recycling programs reported recycling 385,545 tons of traditional materials (glass bottles and jars, plastic containers, metal cans, paper, cartons, and cardboard). The EPA has provided the Waste Reduction Model to help estimate the carbon dioxide equivalent emissions avoided from recycling instead of landfilling discarded materials. In most cases, manufacturing products from recycled material use less energy than manufacturing products from raw materials, which translates to fewer fossil fuels burned and reduced emissions of greenhouse gases that contribute to climate change. Recycling instead of landfilling these traditional materials resulted in greenhouse gas emissions savings of 1,045,8192 metric tons of carbon dioxide equivalent, which is equivalent to removing the annual emissions of 222,042 passenger vehicles.

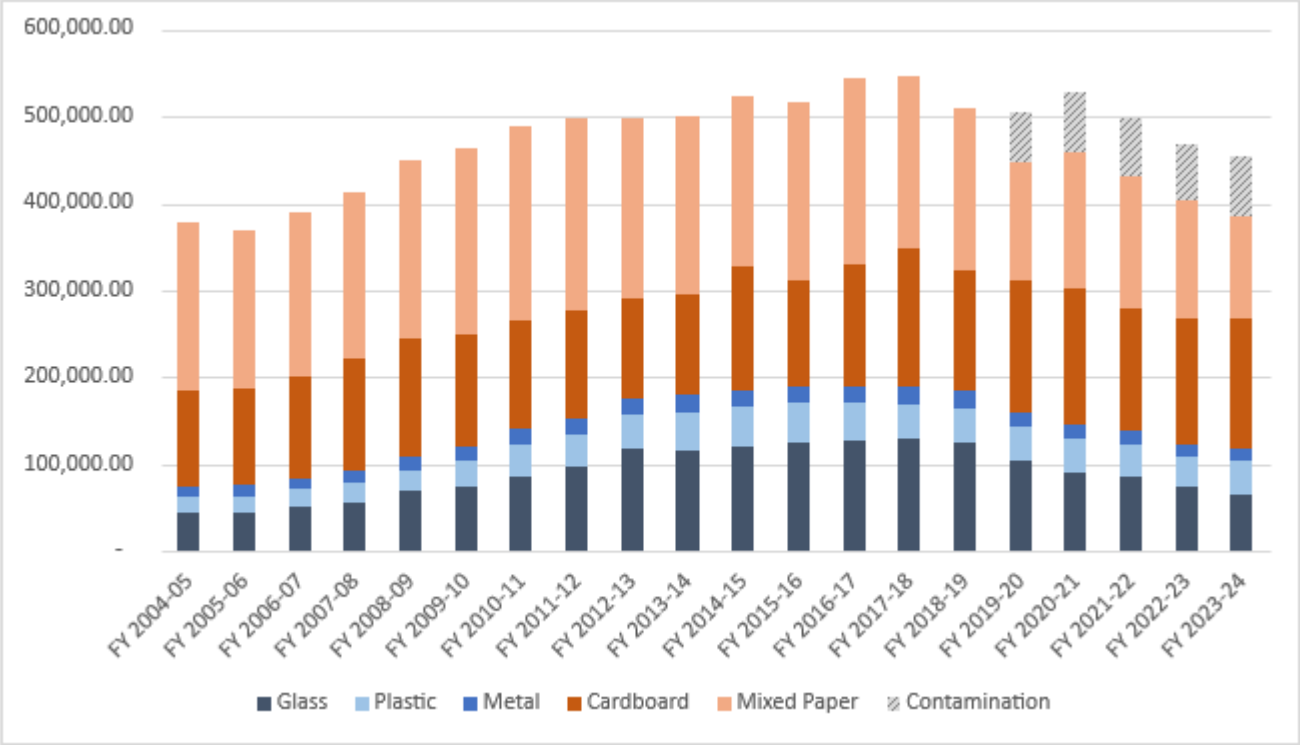
The total amount of traditional materials recovered by weight by public recycling programs in FY 2023-24 decreased 4.6 percent compared to the previous fiscal year. While this represents a small decline, the recovery of fiber and containers for the past five years is lower than in previous years due to a change in methodology beginning in FY 2019-20. In previous years, all materials collected through commingled recycling programs were allocated as recycled fiber or container

materials. However, a portion of the collected commingled mix is known to be contamination, or non-recyclable material, that gets removed for landfill disposal. Beginning in FY 2019-20, a percentage of the commingled mix is subtracted as contamination to provide a more accurate estimate of the true recycling resulting from commingled programs. In FY 2023-24, 21 percent of commingled tons were removed as contamination, as discussed in Collection of Commingled Recyclables below.

Fiber recovery during FY 2023-24 decreased by 5 percent and container recovery decreased by 4 percent compared to FY 2022-23. These declines may be partially due to the expanded practice of "lightweighting," in which product manufacturers and distributors reduce packaging and use lighter materials to increase energy efficiency in shipping and processing. The decreased weight of materials entering the recycling stream can lead to a decrease in overall tonnage despite similar levels of participation and collection. Furthermore, the collection of glass for recycling has declined in recent years as some communities have removed glass from the mix of commingled materials accepted in curbside recycling. Another contributing factor is the net loss of six curbside recycling programs, as discussed in Public Curbside Recycling Programs in North Carolina below. Although affected residents may still have access to drop-off recycling, participation and tonnage is significantly lower without the convenient access to curbside collection. This is especially true when garbage is still collected curbside, requiring residents to make an extra effort to bring recyclables to a drop-off point.

The overall changing make-up of traditional materials recovery is known in the recycling industry as the "evolving ton," and this phenomenon is not unique to North Carolina. Figure V-10 below documents the trend in the recovery of traditional materials over the past 20 years. As discussed previously, FY 2019-20 was the first year calculating and removing a portion of the commingled recycling tons as contamination.

15Figure V-10. 20-Year Local Government Traditional Recyclable Material Recovery (Tons)



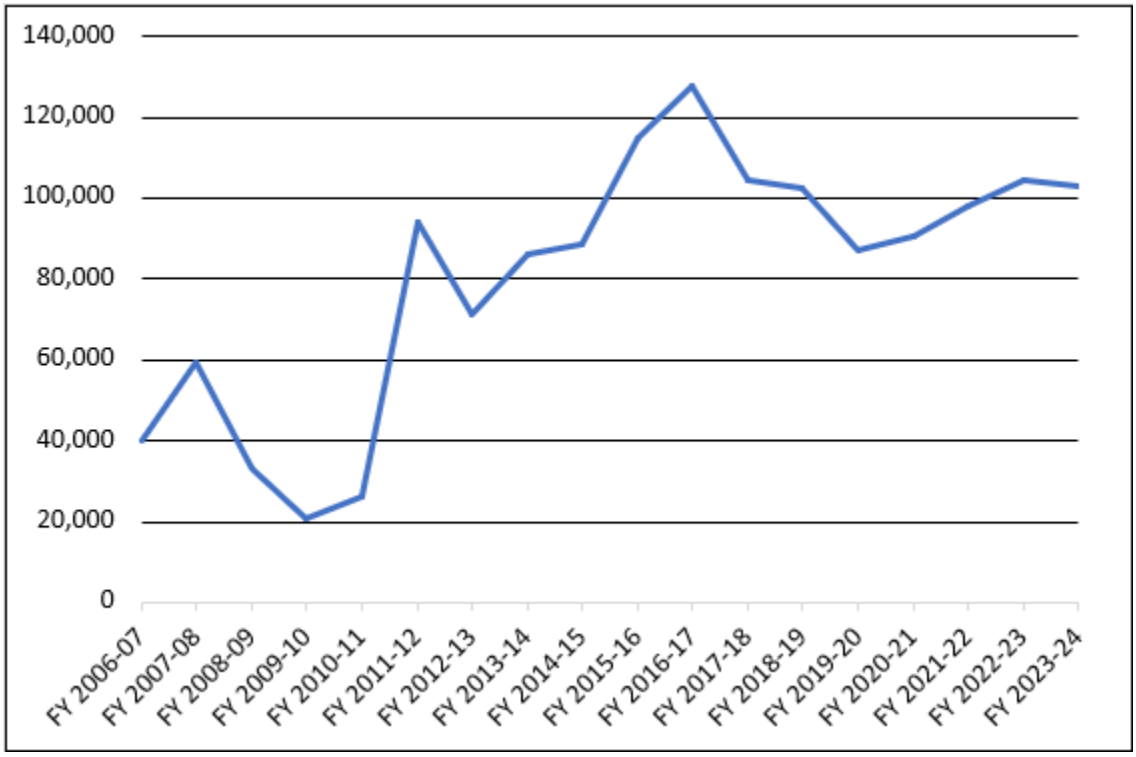
5. Recovery of Construction and Demolition Materials

Local government recovery of C&D debris includes the capture of materials generated by construction and/or demolition activities. Materials in this waste stream include shingles, vinyl siding, sheetrock, carpet, and aggregate (brick, block, concrete, asphalt, and other rubble).

Clean lumber and wooden pallets, corrugated cardboard, and scrap metal may also be generated because of construction and demolition activities, though for the sake of this report when these materials are recycled by local governments they are included in categories for organics, metal, and paper.

Local government recycling efforts focused on the C&D waste stream can yield impressive tonnage results. A large makeup of C&D recycling tonnage can be attributed to the recovery of aggregate such as concrete and brick. This material is relatively easy to recover at disposal facilities such as C&D landfills, and it can be processed into a gravel substitute that can provide substantial cost avoidance through a decreased need to purchase new gravel. Construction and demolition recycling in FY 2023-24 decreased 1.2 percent from the previous year, with 102,989 tons reported. Figure V-11 below illustrates the change in the amount of C&D materials captured by public programs since FY 2006-07.

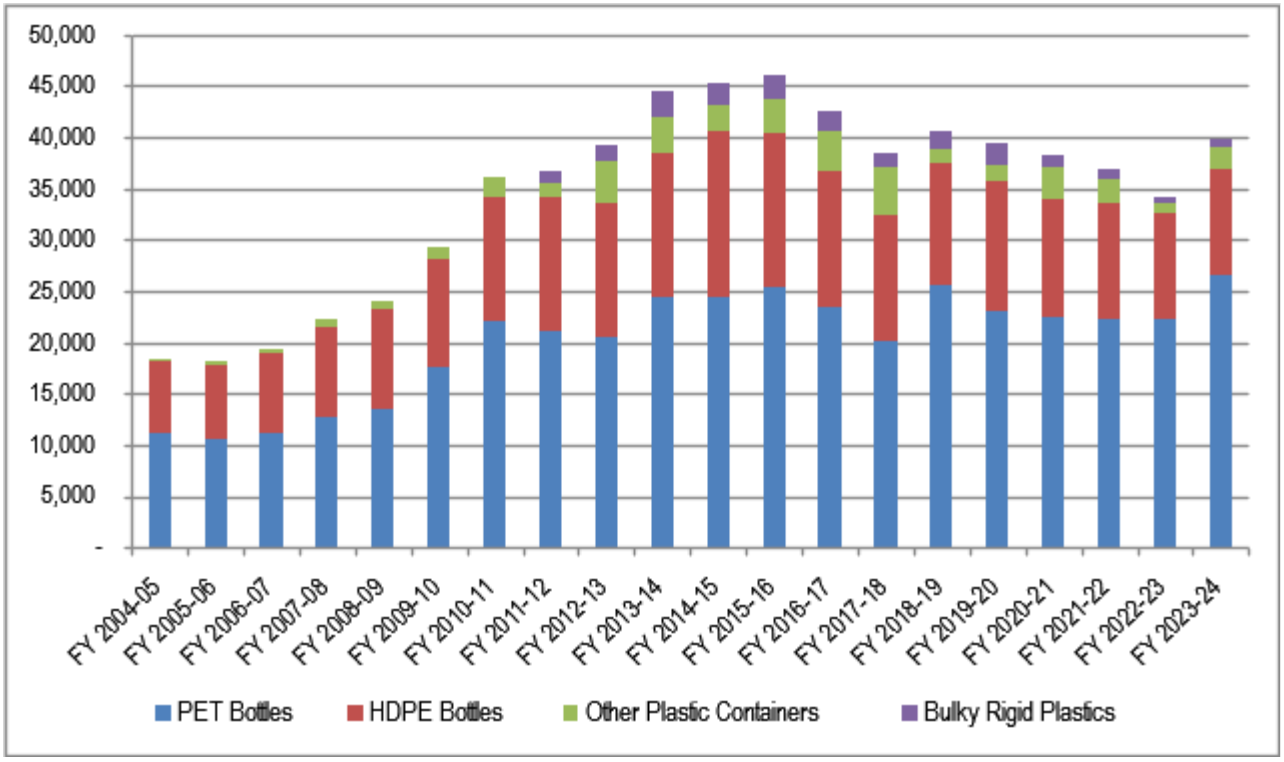
16Figure V-11. Public C&D Recycling (Tons) FY 2006-07 to FY 2023-24



6. Plastic Recycling in North Carolina

Total plastic recycling by local governments in North Carolina increased 16 percent from 34,148 tons in FY 2022-23 to 39,754 tons during FY 2023-24. Most notably, the amount of PET bottles increased 19 percent compared to last year. This contrasts the general trend of declining plastic recovery since FY 2015-16 which is partly due to the continued light-weighting of consumer bottles, occurring because plastics manufacturers are advancing packaging designs to use less plastic to create containers that are the same size. This means that more plastic bottles need to be collected to achieve consistent recycling tonnage. A national 2022 Post-Consumer Plastic Recycling Data Report also shows a general declining plastic bottle recovery trend following a peak in 2014. The report estimates a 27.8% recycling rate for plastic bottles nationally in 2022. Figure V-12 below illustrates the public recovery of plastic over the past 20 fiscal years.

17Figure V-12. 20-Year Plastics Recovery (Tons)



Plastic bottles made of PET and HDPE combine to represent 93 percent of all plastic materials recovered by local governments in FY 2023-24. They have strong markets in North Carolina and the southeastern U.S. and demand for these plastic bottles is increasing as more brands are making commitments to increase recycled content in new products and consumer packaging. The increasing demand for recycled plastics, particularly PET, may have contributed to the increase of PET recovery during FY 2023-24. Additionally, more recycling processors are putting emphasis and making investments to capture polypropylene tubs and containers (represented in the other plastic containers category) so recovery may grow in the coming years.

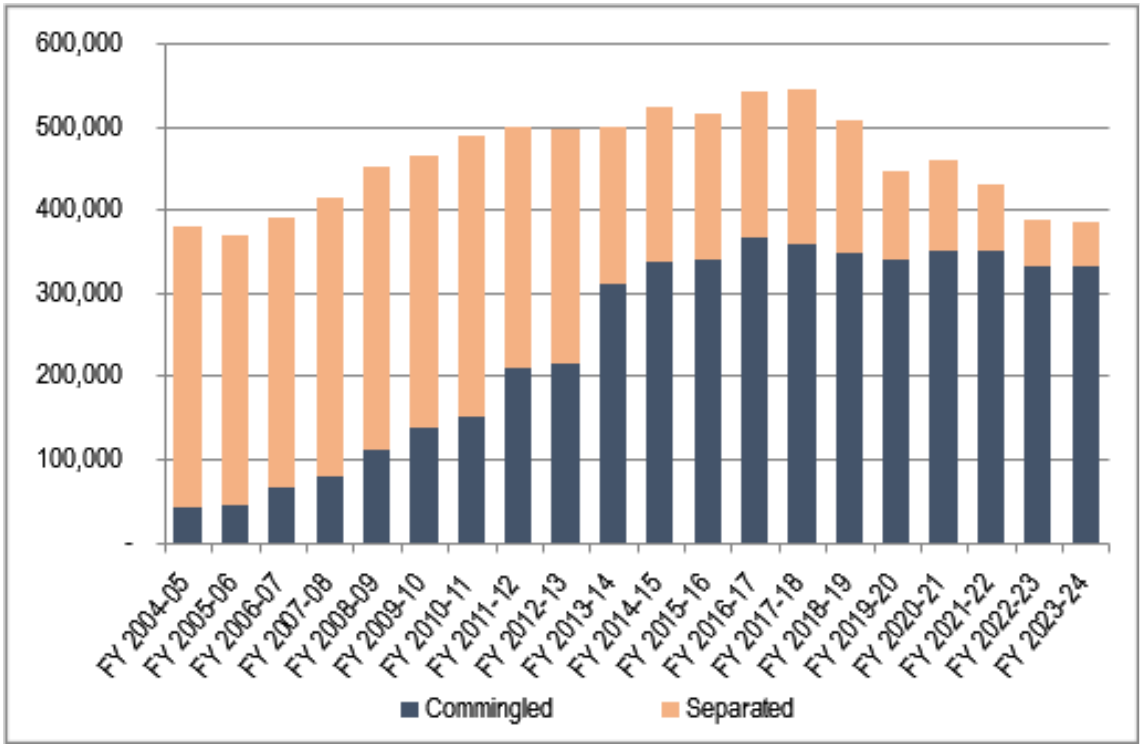
7. Collection of Commingled Recyclables

The nature of public recycling collection has changed substantially during the past two decades, with the public recycling system moving from the collection of source-separated (sorted) materials to the collection of commingled or mixed recyclables. The recycling industry uses the term commingled to describe when commodities of different types are mixed for collection and processing. The collection of mixed recyclables is commonly known as single-stream recycling and includes the traditional recyclable materials, or cans, bottles, and paper that are discussed in the earlier section, titled Recovery of Traditional Materials.

The benefits of single-stream recycling include increased collection efficiency and public participation due to the ease of use. The transition to a single-stream collection system has been enabled by the establishment of mechanized Materials Recovery Facilities (MRFs) where mixed recyclables are processed, sorted, and prepared for sale in the recovered materials marketplace. North Carolina is home to 16 MRFs that process the recyclables collected by public recycling programs.

When local governments submit their Local Government Solid Waste and Materials Management Reports to the State, they are asked to provide data on the amounts and types of recyclable materials that they have collected. As more communities have moved to the commingled collection of recyclables, an increasing amount of traditional recycling tonnage is reported as commingled versus source separated. Figure V-13 below examines the reporting of commingled versus source-separated tonnage by communities over the last 20 years.

18Figure V-13. 20-Year Reporting of Commingled vs. Separated Recycling Tonnage

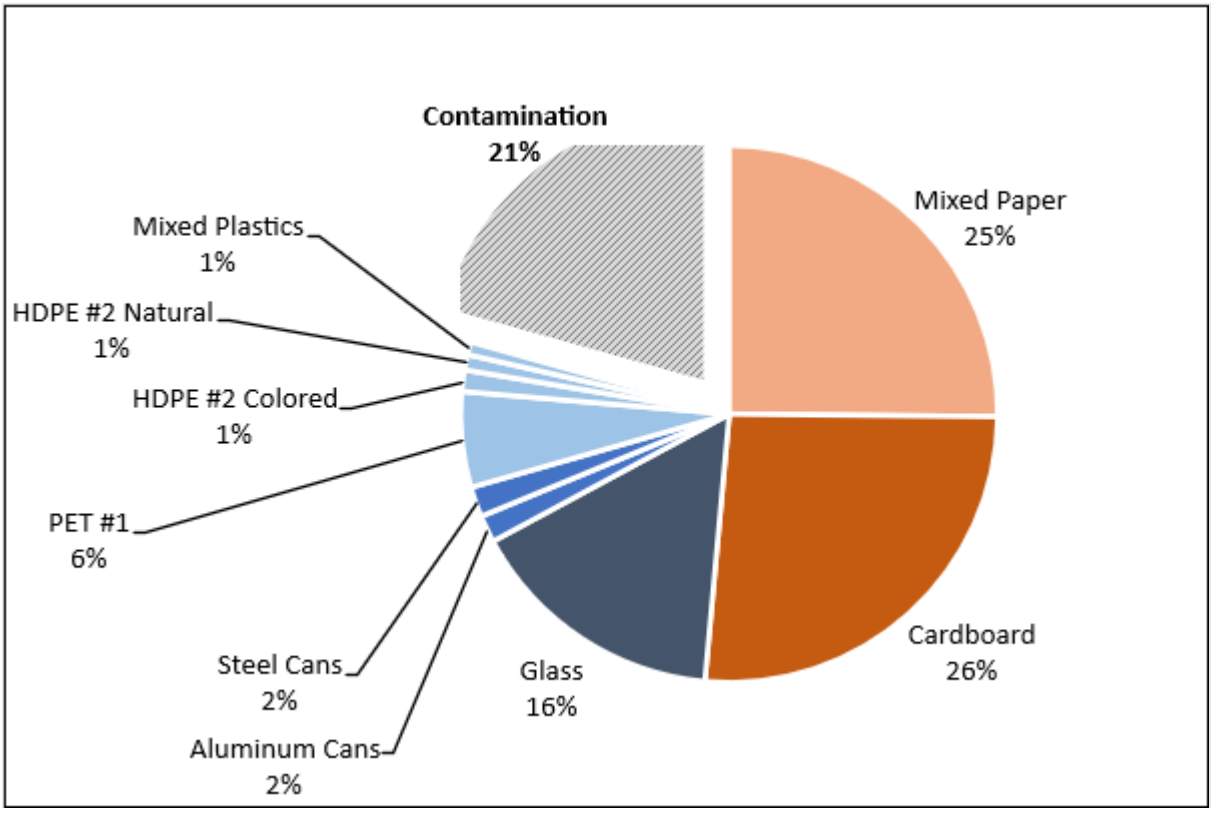


When communities report commingled recycling tonnage, it becomes necessary to make assumptions about the constituents of those commingled materials to project recycling by individual commodities. As explored earlier in the Recovery of Traditional Materials section, the changing makeup of the traditional material stream is known as the evolving ton. There are a variety of forces acting on the mix of materials in the commingled ton from the impacts of e-commerce to changes in the types of packaging used in consumer goods.

Each year, the MRFs processing the commingled materials in North Carolina are asked to voluntarily provide data on the composition of the commingled materials they process. This information is used to produce an average materials composition that is then used to project the recycling of individual materials – from paper and plastic to aluminum and steel cans to glass bottles and jars.

Fiscal year 2019-20 marked an important change in the calculation of commingled tons to project the recovery of individual materials. Beginning in FY 2019-20, contamination is factored in as a percentage of the commingled mix. Contamination is defined as non-recyclable items that are incorrectly placed in the recycling bin and cannot be recovered for recycling. Common examples include plastic bags, takeout containers, food waste, rubber hoses, wires, and textiles. While contamination has always been a part of the commingled mix of recyclables, more attention and focus have been placed on efforts to reduce levels of contamination in the past few years and better information is being collected to measure the amount of contamination. In FY 2023-24, MRFs reported an average contamination level of 20.7 percent. This proportion (67,774 tons of contamination) of the total commingled recycling tonnage (330,930 tons) is assumed to be removed by the MRFs and sent for landfill disposal, decreasing the actual recycling tons to 263,156. Figure V-14 below shows the constituents of the average ton of commingled recyclables collected in North Carolina in FY 2023-24.

19Figure V-14. Constituents per Average Ton of Commingled Recyclables in NC FY 2023-24



8. Public Electronics Recycling

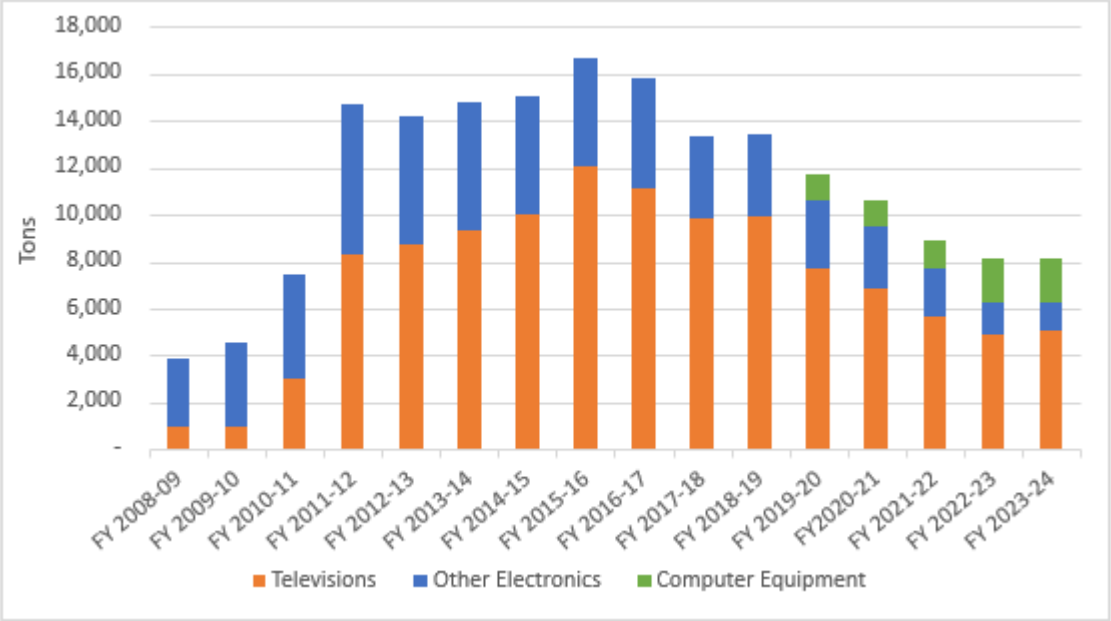
North Carolina residents continue to have wide access to recycling programs collecting electronics and televisions. Local governments operate electronics recycling programs in response to public demand for responsible e-waste management options as well as to help consumers comply with the State disposal ban on computer equipment and televisions that went into effect July 1, 2011. During FY 2023-24, 161 local governments indicated that they operated an electronics recycling program – many in partnership with another community. For example, in FY 2023-24, 25 municipalities indicated cooperating with their respective county to provide electronics recycling services, with the municipality collecting electronics from residents within their jurisdiction and then delivering the material to the county for further management. Table V-7 below describes the different types of electronics recycling services that communities offered in FY 2023-24.

25Table V-7. Types of Local Government Electronics Recycling Programs in FY 2023-24

Number of Programs	Electronics Recycling Collection Method
106	Drop-off Program *353 Total Drop-off Sites Operated*
36	Curbside Pickup
29	One-Day Event(s)
10	HHW Program
161	**Total Local Governments Operating a Public Electronics Recycling Program**

As indicated above, the most common strategy used to collect electronics is to accept them at staffed recycling sites or convenience centers. During FY 2023-24, 106 communities operated a combined 353 individual recycling sites statewide for electronics collection. Data on the amount of material collected by public electronics recycling efforts measures the collection of televisions, computer equipment, and other electronics, including printers, scanners, cell phones, tablets, video players, and other low-grade electronic devices. Figure V-15 below examines public electronics recycling efforts since FY 2008-09 and shows the relative amounts of televisions and other electronics recovered each year, with computer equipment broken out separately from other electronics beginning in FY 2019-20.

20Figure V-15. Public Electronics Recovery FY 2008-09 to FY 2023-24



Local governments recovered a combined total 8,173 tons of electronic equipment during FY 2023-24 which is consistent with the previous year. Compared to FY 2022-23, the collection of televisions increased by 4% while the collection of computer equipment and other electronics decreased by 12% and 1%, respectively. Overall combined electronics collected for recycling increased by 0.02% compared to FY 2022-23.

This leveling of electronics collected by local government programs follows seven years of decreasing tonnage. North Carolina's electronics recovery peaked in FY 2015-16 which corresponded with the largest amount of televisions collected for recycling. This general trend is consistent with national data and reflects the changing material stream of smaller and more lightweight electronic devices, which is particularly true with televisions. It is likely that FY 2015-16 marked the peak in the recycling of Cathode Ray Tube (CRT) televisions in North Carolina. Compared to more modern flat panel display televisions, CRT televisions are substantially heavier and more difficult to handle for public recycling programs.

9. Types of Public Recycling Efforts

Public recycling programs employ different strategies to recover a range of materials, including the operation of curbside recycling programs, drop-off recycling programs, and other recycling programs that collect traditional recyclable materials from parks, schools, businesses, and multi-family properties. Public recycling programs also manage specialty wastes to divert potentially toxic materials from disposal. In addition, public recycling programs offer services that target specific waste streams such as construction and demolition debris, scrap metal, yard waste, and other organic materials such as food waste, textiles, and oyster shells. Finally, North Carolina counties are statutorily responsible for providing services to collect and manage white goods and scrap tires, though in some cases these services may also be operated by municipalities on behalf of a county.

In addition to providing the types of services listed above, local governments can also implement policies and employ strategies that encourage or facilitate private-sector recycling activities without necessitating that public recycling

programs directly or contractually provide a recycling service. Examples of these strategies include local disposal bans on materials, such as corrugated cardboard, mandatory recycling ordinances, and licensed hauler systems where service providers are required to offer recycling collection as a condition of doing business in a jurisdiction. These types of strategies encourage the growth of private sector recovery activities and infrastructure.

10. Public Curbside Recycling Programs in North Carolina

Public curbside recycling programs provide an easy path for residents to recycle and typically collect the traditional recycling materials (i.e., paper, glass, metal, plastic) from households. However, curbside recycling programs continue to face challenges from increased collection and contamination charges from recycling haulers and processors following the transition to domestic recycling markets and cost models.

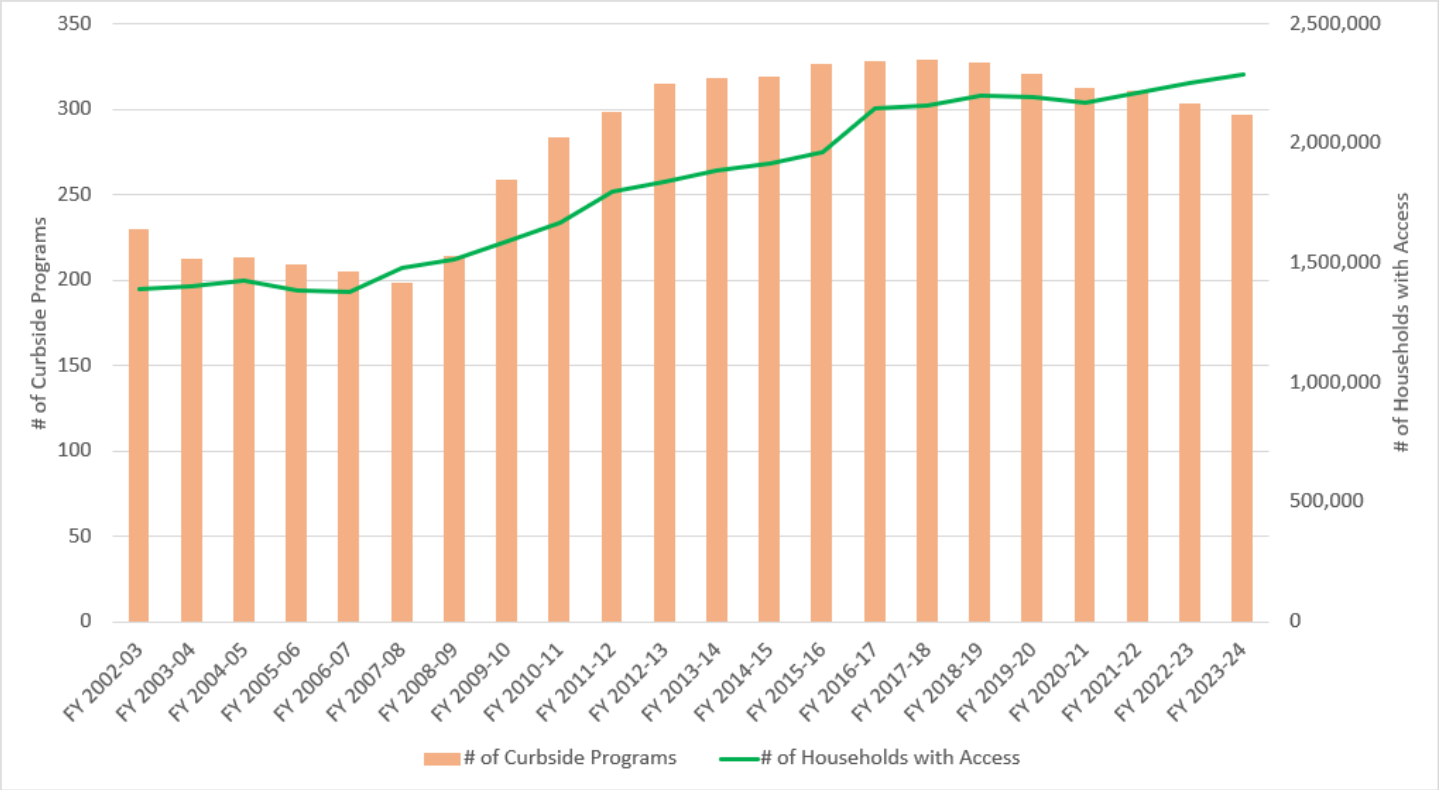
North Carolina local governments reported 297 publicly operated curbside recycling programs during FY 2023-24, as shown in Figure V-16 below. This represents a net decrease of six curbside programs compared to the 303 reported in FY 2022-23. A summary of changes is provided below.

- Edenton reinstated curbside recycling in December 2023 after suspending the program for the past 3 years bringing service back to 2,115 households.
- Sandy Creek contracted with a private hauler for its recycling program with 64 participating households. In previous years, the Town partnered with Brunswick County for recycling collection.
- Seven municipalities ended curbside recycling programs:
    - Faison ended its program in 2023 for its 328 households, citing contamination issues and carts being used as trash cans.
    - Kenansville discontinued its curbside recycling program due to price increases at the time of contract renewal, affecting 415 households.
    - Lucama ended its curbside recycling program due to issue with the contracted hauler, affecting 428 households.
    - Raeford discontinued its program for its 2,500 households. However, the Town continues to provide cardboard collection points for residents.
    - Salemburg discontinued its program in 2024 for its 305 households. The Town still has two drop-off recycling locations for residents.
    - Waco discontinued its curbside recycling program effective July 1, 2023, for its 135 households due to the rising cost of the service.
    - Wagram ended its program for its 341 households and now refers residents to Scotland County's recycling program.
- One local government (Atkinson) was mistakenly reported to have a curbside recycling program last year. However, the Town has not provided this service for several years.

With seven local governments ending curbside recycling programs, residents must use alternative avenues to recycle, if available in their areas. The Recycling and Materials Management Section within DEACS continues to work with municipalities to build sustainable recycling programs and identify solutions.

Despite the ending of some programs, curbside recycling services continue to be the most popular method of recycling collection for North Carolina residents. Through the 297 active curbside recycling programs, nearly 2.3 million households were served with an estimated 317,322 tons of material recycled in FY 2023-24. This accounts for almost 70% of the total traditional materials (i.e., paper, glass, metal, plastic) recycled through all public recycling programs, including curbside, drop-offs, and other programs).

21Figure V-16. Local Government Curbside Recycling Programs and Households Served FY 2003-04 – FY 2022-23



11. Specialty Waste Management

Many counties and municipalities in North Carolina offer their residents the opportunity to recycle a wide range of additional materials beyond the traditional paper, bottles, and cans commonly collected in curbside and drop-off programs. These 'specialty wastes' include automotive-related materials such as oil, oil filters, and antifreeze as well as other ubiquitous household items such as cooking oil, batteries, and fluorescent lamps as shown in Table V-8 below. Recycling services for specialty wastes are typically provided at staffed collection locations such as county solid waste convenience centers or municipal public works departments. Some communities only collect specialty wastes at temporary HHW collection events or programs, while others collect specialty wastes year-round at permanent locations.

Specialty waste tonnages can be affected by a range of factors, including a program's implementation or discontinuance, scheduling of specialty waste removal in relation to market price, and changes in local record-keeping and reporting. The scrap or reclamation value of a particular specialty waste can also impact its collection rate. For example, when the scrap value of lead is down, communities generally collect more lead acid batteries; whereas, when the scrap value of lead is high, residents are more likely to bring used lead acid batteries to private scrap yards where the batteries can be sold.

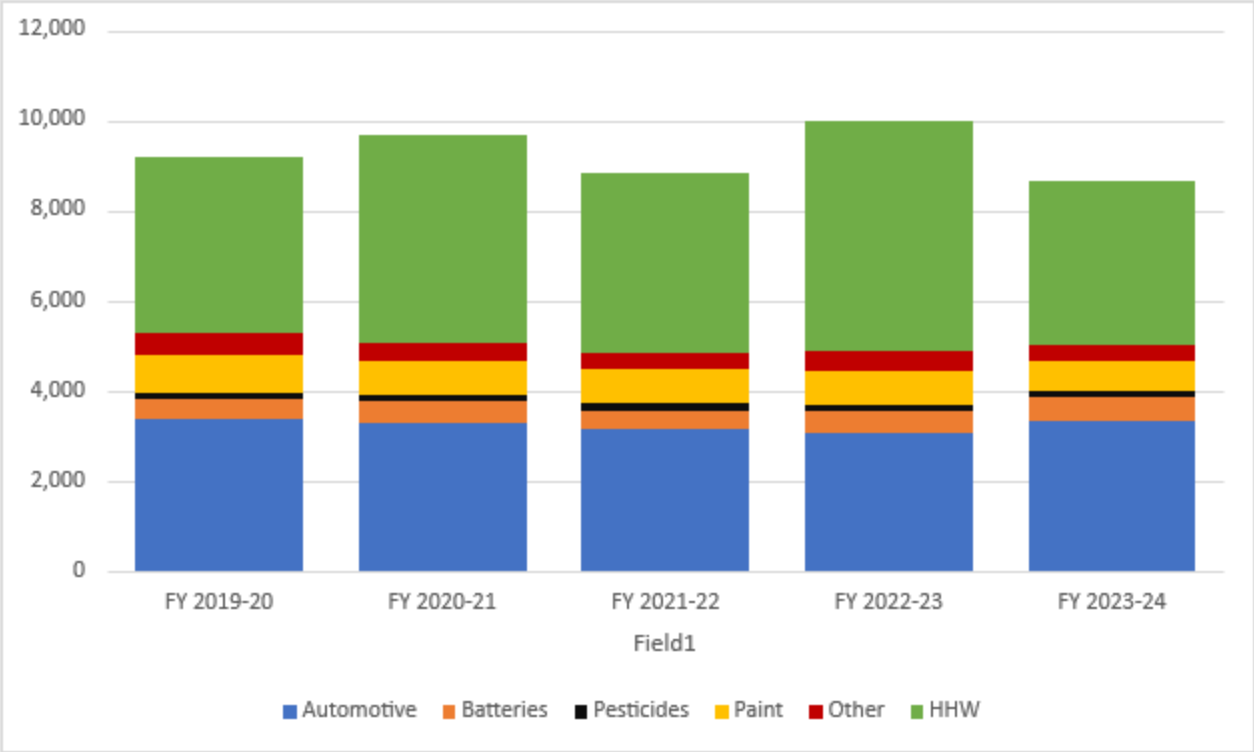
Two types of HHW programs are operated by local governments: temporary and permanent. Temporary HHW programs, also known as one-day events, are designed to collect HHW at a temporary location approved to be used for a single specific date or specified date range if concerning disaster debris cleanup. Permanent HHW programs are for the collection of materials year-round at a facility permitted by DWM. Some local governments accept materials from Very Small Quantity Generators (VSQGs), or businesses that generate small amounts of HHW and are not required to report to the Solid Waste Section. Four local governments reported HHW collected from VSQGs in FY 2023-24, totaling 4,151 pounds of material. Information about HHW collection programs is available in the Household Hazardous Waste section above.

Table V-8 below shows the recovery of specialty wastes by local governments during FY 2023-24 and Figure V-17 shows a trend over the past five years. The most notable change in FY 2023-24 from the previous year is a decrease in the amount of HHW collected. The overall amount of specialty wastes diverted through local government programs, including HHW programs, decreased by 13 percent from FY 2022-23.

26Table V-8. Local Government Specialty Waste Management FY 2023-24

Specialty Waste Type	Number of Programs	Tons Collected
Automotive		
Used Motor Oil	108	3,026
Oil Filters	76	94
Antifreeze	65	200
Batteries		
Lead Acid Batteries	62	517
Dry Cell Batteries	23	47
Paint		
Paint Recycling	12	613
Paint Reuse (Exchange Program)	9	68
Pesticides		
Pesticides	10	32
Pesticide Containers	30	87
HHW		
Permanent HHW Programs	34	3,359
Temporary HHW Events	62	284
Other		
Lights Containing Mercury	39	58
Propane Tanks	24	69
Used Cooking Oil	58	220
Other	9	2
Total		
Total Specialty Waste Recovery	**121**	**8,676**

22Figure V-17. Local Government Specialty Waste Tons Collected FY 2019-20 through FY 2023-24



12. Yard Waste Management

The overall amount of yard waste managed by local programs in FY 2023-24 increased by about 8 percent from FY 2022-23. Of the 1,054,146 tons managed by municipalities and counties during FY 2023-24, 917,972 tons of yard waste were diverted from disposal in four main ways: delivery of materials like leaves to gardeners and farmers (end-users); processing by local government mulching and composting operations; mulching and composting of locally collected materials at private facilities; and sale of yard waste materials to boiler fuel and other energy markets. Table V-9 below examines the use of these strategies in FY 2023-24 and compares that to FY 2022-23.

A portion of locally managed yard waste is disposed of in LCID landfills, which is allowed under the disposal ban. However, as in past years, not all the material delivered to LCID facilities may be disposed of. Some of it may be converted by LCID operators to mulch, compost, or biomass fuels, undercounting actual total diversion.

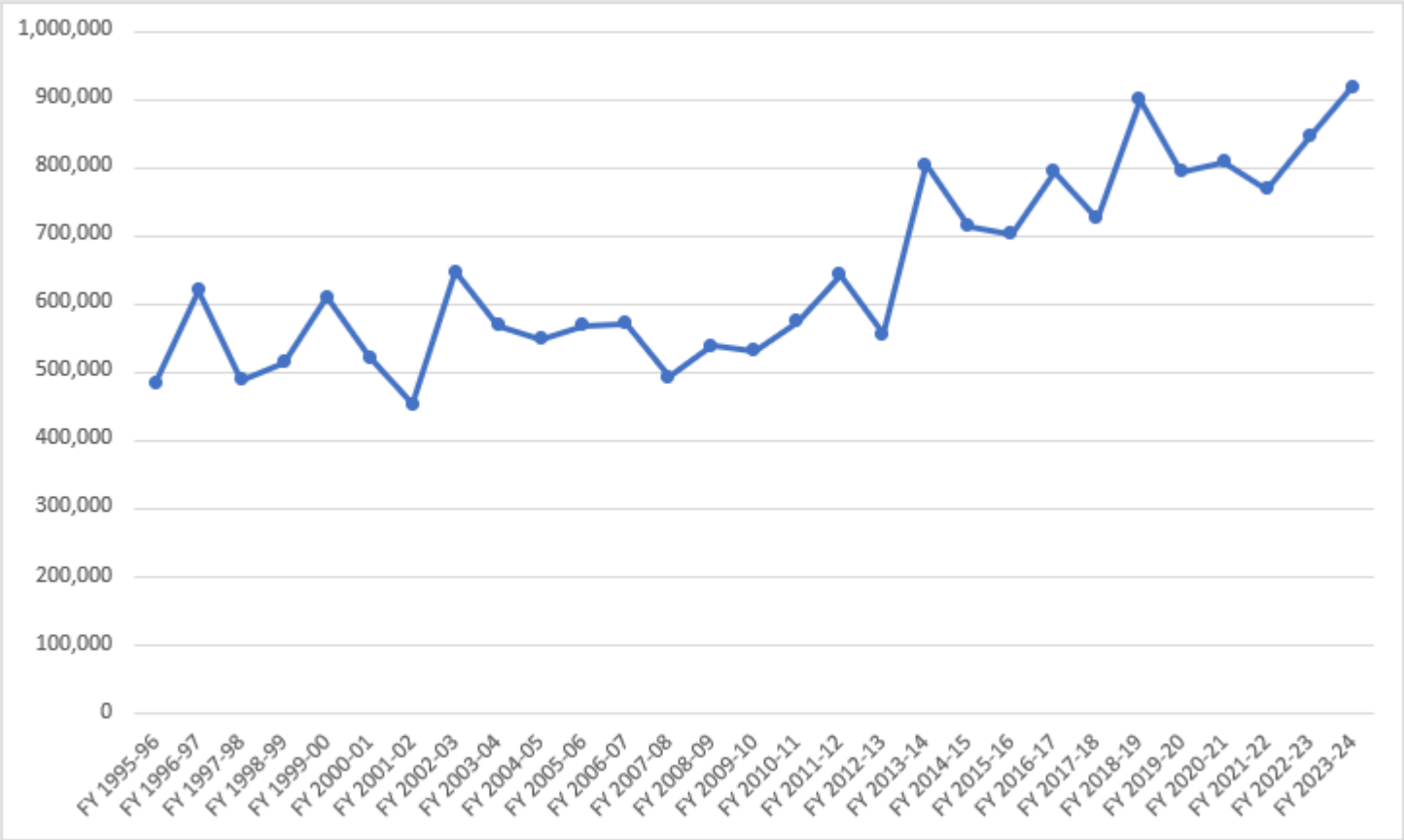
27Table V-9. Local Government Yard Waste Management FY 2022-23 and FY 2023-24

Destination of Materials	FY 2022-23 Tons Managed	FY 2023-24 Tons Managed
End Users (direct delivery)	54,259	70,201
Local Mulch/Compost Facility	608,686	657,719
Local Government Yard Waste Diverted to Private Mulch and Compost Facilities	148,556	119,385
Wood/Yard Waste Fuel Markets	34,003	70,666
TOTAL DISPOSAL DIVERSION*	**845,504**	**917,972**
LCID Landfill*	129,942	136,174
YARD WASTE TOTALS	**975,446**	**1,054,146**

Note: * Yard waste tons delivered to LCID landfills are not included in diversion calculations.

The total amount of yard waste diverted from disposal since the implementation of the State's yard waste disposal ban in January 1993 is now at 18.7 million tons of material, which is equivalent to 30.2 million cubic yards of landfill space. This is shown in Figure V-18 below.

23Figure V-18. Local Government Diversion of Yard Waste from Disposal FY 1995-96 to FY 2023-24

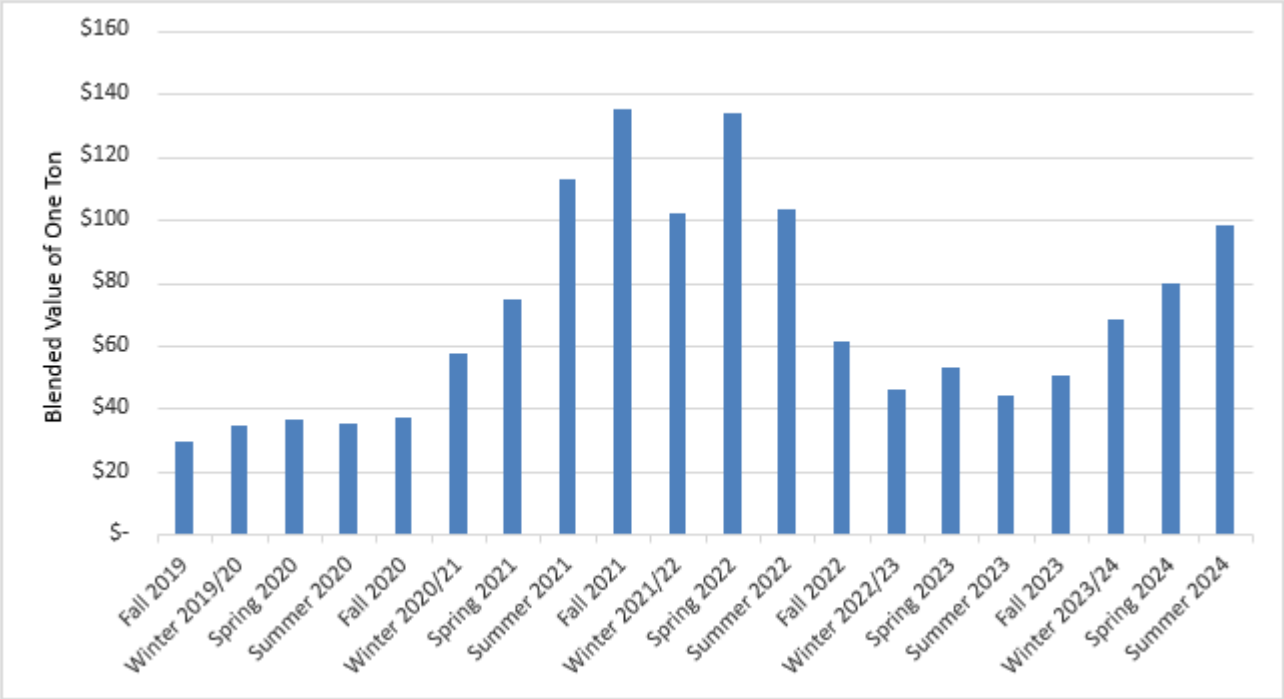


13. Recycling Markets and Prices

Recycling commodity prices increased each quarter over the course of FY 2023-24 due to higher values for paper, metal, and plastics.

Figure V-19 shows a five-year history of the quarterly blended value, or weighted average price, of a ton of commingled recycling material at MRFs and Table V-10 below shows the calculation of the MRF blended value.

24Figure V-19. Quarterly MRF Blended Material Values, FY 2018-19 to FY 2022-24



When considering the blended material value of a ton of commingled recycling, it is important to consider the makeup of the traditional recycling mix, as provided in Table V-10 below. Glass and contamination make up 36.4 percent of the weight of the commingled mix, both of which have a cost to manage. Whereas the most valuable commodities by weight (aluminum and HDPE natural in Summer 2024) make up only 2.9 percent of the weight of the commingled mix. With the blended value averaging $74 during FY 2023-24, that revenue does not cover the cost for MRFs to process the materials, meaning that most haulers or local governments are charged a tipping fee to drop off recyclables.

In addition, contamination continues to be an operational challenge for MRFs. To meet the expectations of domestic markets and the stricter standards of international markets, these facilities have added labor, slowed production lines, and invested in equipment to remove contaminants and produce higher-quality outgoing commodity bales. While the improved quality of recycling is favorable, these adjustments require increased per-ton processing costs which are directly passed on to customers, including local governments.

28Table V-10. Calculation of MRF Blended Material Value, Summer 2024

Material	Percent of a MRF Ton	Market Price Per Ton	Proportional Value in a MRF Ton
Aluminum Cans	1.6%	$1,580.00	$25.94
Steel Cans	1.8%	$167.50	$3.06
PET	5.8%	$400.00	$23.00
HDPE Natural	0.9%	$760.00	$6.99
HDPE Colored	1.3%	$340.00	$4.40
Mixed Plastics	0.8%	$0.00	$0.00
Corrugated Cardboard	26.3%	$132.00	$34.71
Mixed paper	25.2%	$85.00	$21.38
Glass	15.7%	-$44.49	-$6.98
Contamination	20.7%	-$70.00	-$14.48
Total	**100.0%**		**$98.03**

Figure V-20 below shows the history of paper pricing throughout the past 20 years, demonstrating the fluctuating aspects of commodity markets. The value of cardboard and mixed paper increased during FY 2023-24, with cardboard ending the year 65 percent higher in value and mixed paper worth more than triple the value compared to Summer 2023.

25Figure V-20. 20-Year Market Prices Received for Fiber Materials by Major North Carolina Processors

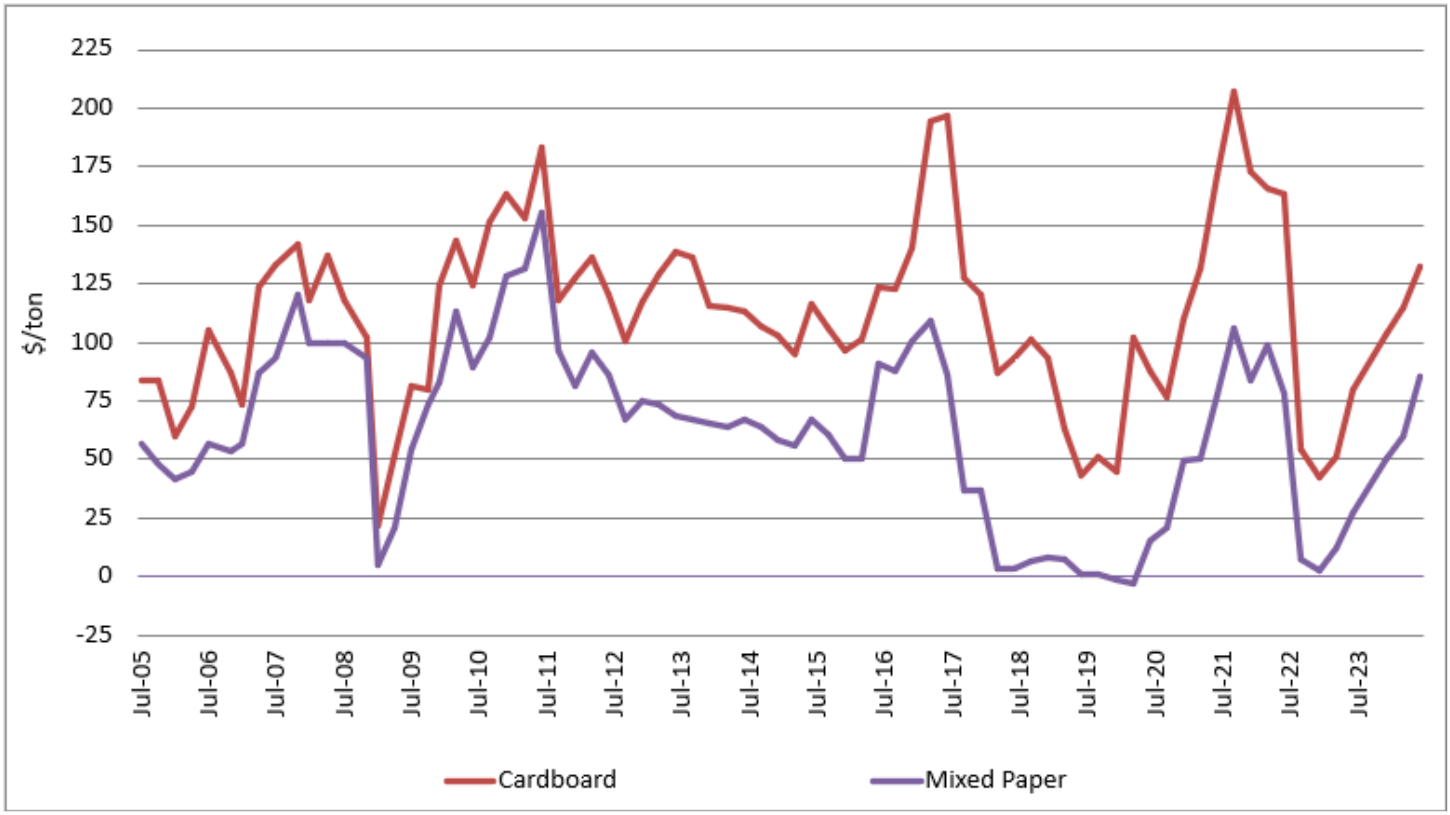
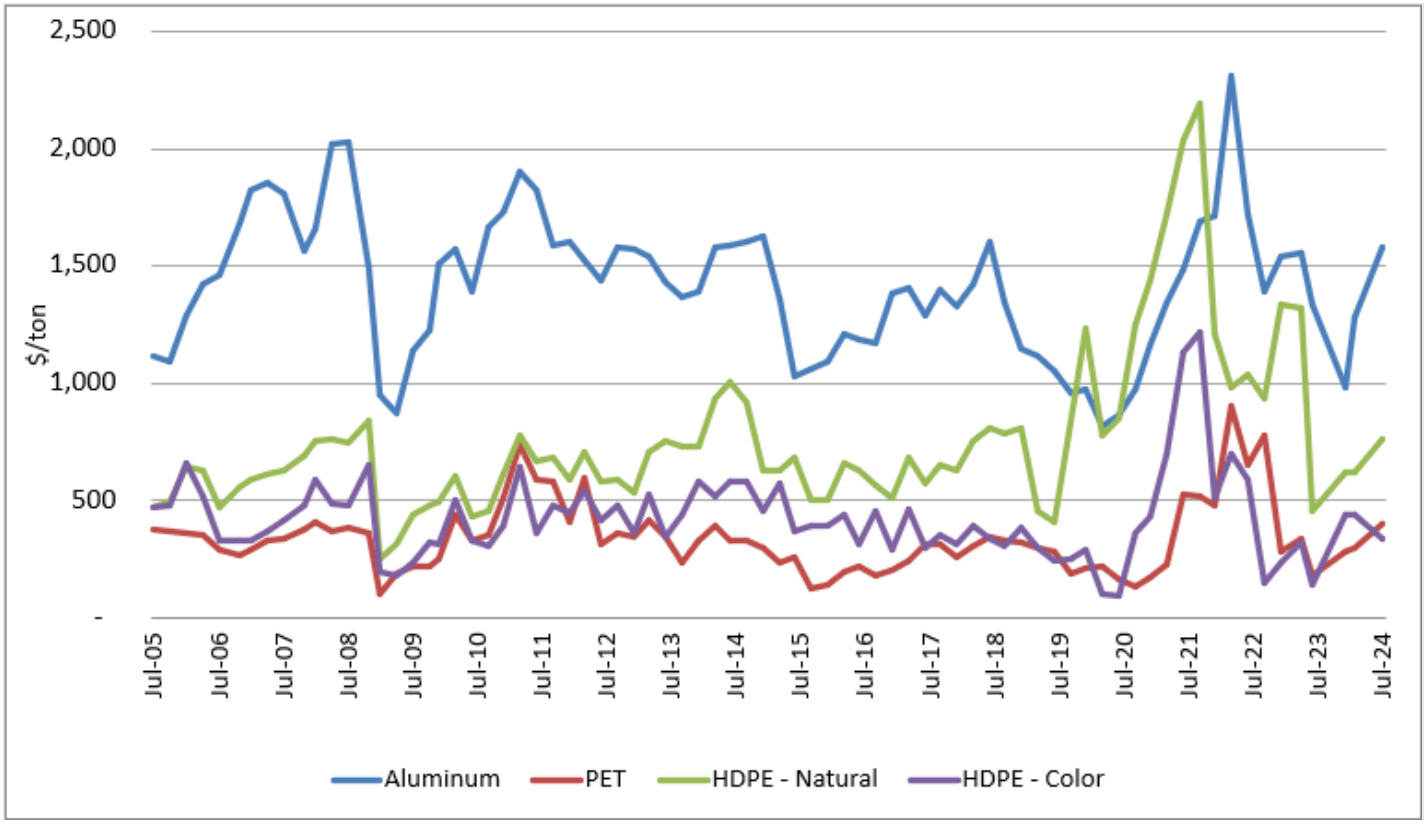


Figure V-21 shows 20-year pricing for three key container materials: aluminum, PET, and HDPE. All materials increased in value compared to the previous year, most notably PET and colored HDPE which increased 122 percent and 143 percent, respectively.

26Figure V-21. 20-Year Market Prices Received for Select Container Materials by Major North Carolina Processors



14. Recycling Market Developments in FY 2023-24

During FY 2023-24, the N.C. Circular Economy Council continued to meet on a regular basis working to identify ways to expand and accelerate beneficial impacts of recycling in the State. Members of the Council include leading recycling companies, non-profit organizations, industry associations, and product manufacturers. The Council organized a series of infrastructure tours in November 2023 to recognize the strength of the State's recycling industry. State and local decisionmakers were invited to three leading and innovative recycling facilities: Southeastern Container in Kings Mountain, Unifi in Yadkinville, and Powerhouse Recycling in Salisbury. The tours featured an in-depth look at operations and an explanation of how each facility fits into the larger circular economy.

Another set of recycling infrastructure tours was organized through the Carolinas Plastics Recycling Council (CPRC), a collaborative effort between DEQ and the South Carolina Department of Commerce, dedicated to advancing plastic container recovery in the Carolinas. CPRC launched the "Your Plastics Means Products" roadshow during FY 2023-24 hosting the first event at Atlantic Packaging in Charlotte in March 2024. The roadshow continued with an event at Milliken in South Carolina in May and two additional tours following in FY 2024-25. These gatherings showcased innovative companies creating products from recycled plastics and were organized to foster collaboration and identify pathways to boost the utilization of clean, recycled plastic materials.

North Carolina's private-sector recycling economy continued its strong momentum during FY 2023-24. In November 2023, Envision Plastics completed a multi-million-dollar expansion at the company's Reidsville plant. The project increases Envision's capacity to produce food-grade post-consumer recycled plastic by 50 percent, boosting its production by up to 30 million pounds annually. Also, during late 2023, Powerhouse Recycling opened the State's first dedicated

solar panel recycling line in Salisbury. Specialized machinery allows for 98-100 percent pure recovery of solar panel commodities; recovering the silicon, metals, glass, plastics and aluminum. This investment is the first of its kind on the east coast and a critical piece of infrastructure to manage the State's emerging solar panel waste stream. DEQ grant funding in 2023 and 2024 supported the purchase of a truck to expand transportation capacity and a second glass removal system to double the solar panel recycling line's capacity.

After 30 years of operation, the Eastern Carolina Vocational Center ceased operations at its Greenville material recovery facility, leaving eastern North Carolina without a regional curbside recycling processing outlet. In response, DEQ collaborated closely with Pitt County solid waste staff to identify solutions for the region's recycling needs. Recycling & Disposal Solutions of Virginia (RDS) ultimately purchased the facility, investing in upgrades with the support of DEQ funding in 2024. Full operations resumed in June 2024, with a grand opening planned for FY 2024-25.

In addition to these projects, the State's Recycling Business Development Grant program supported other key infrastructure investments to expand recycling opportunities around the State. Five grant-funded projects expanded plastic recycling capabilities. Three companies, Clear Path Recycling, Direct Pack Recycling, and R3cycle, focus on the recovery of PET plastic while Material Matters handles post-industrial plastics, and Verity Recycling expanded their business to recycle more nursery pots. Additional projects supported upgrades to material recovery facilities, expansion of curbside recycling services, and collection of oyster shells for recycling.

Another focus area of the State's recycling grant programs during FY 2023-24 was the diversion of food waste, which makes up 24 percent of landfill disposal according to national data from the EPA. DEQ awarded the first round of Food Waste Reduction Grants to four local governments and seven private businesses. The goal of the new grant program is to reduce the amount of food waste disposed of in landfills by expanding food donation networks or composting operations. The projects supported the growth of six compost processing facilities like Wilmington Compost Company, a new facility in eastern North Carolina that supports school composting. Five collection projects were funded, including a food scrap collection point in Durham utilizing new technology to facilitate an unmanned drop-off.

D. Scrap Tire Management Program

1. Scrap Tire Management

Whole scrap tires were banned from disposal in landfills by G.S. 130A-309.10 in 1990. The Solid Waste Section administers the Scrap Tire Management Program, part of which is the Scrap Tire Disposal Account Fund. The Account Fund was created to provide each qualifying county that incurred a Program deficit with additional funds for the disposal and recycling of scrap tires. To fund the 1993 statute, the General Assembly imposed a 1 percent tax on the sale of new large tires (bus, tractor-trailer, and construction equipment tires) and a 2 percent tax on the sale of new small tires (automobile tires). The statute requires that each county provides at least one collection site at no cost to the public and businesses for the disposal of qualifying scrap tires. Counties receive a quarterly tax distribution from the DOR to be used for scrap tire program operational costs. In the past, some of the tax collected was allocated to the scrap tire disposal account fund. However, S.L. 2013-360 (S402) eliminated the tax money allocated to the scrap tire disposal account fund. Currently, money is distributed to the Account Fund annually from the General Fund. Table V-11 shows the revenue and distribution of the taxes FY 2023-24.

29Table V-11. Distributions of Scrap Tire Tax Revenue

Net Tax Collections by the N.C. Department of Revenue	$29,894,661.10
Dept. of Revenue Cost of Collecting	$391,705.76
Amount distributed to counties (70%)	$20,652,068.74
Amount distributed to the General Fund (30%)	$8,850,886.60

Money allocated to DWM from the General Fund is used to provide additional funding to counties in the form of a grant for the cleanup of illegal tire dumps and for county-incurred deficits in their scrap tire management programs. Scrap tire

legislation requires DWM to consider county efforts to avoid free disposal of out-of-state tires and other ineligible tires and county program efficiency in using allocated funds when making decisions about grant awards. Table V-12 below provides an overview of the Scrap Tire Disposal Account Fund.

30Table V-12. Scrap Tire Management Account

Balance of Funds as of July 1, 2023		$224,360.68
Cost Overrun Grants to Counties July & September 2023	$213,476.63	
Cost Overrun Grants to Counties March 2024	$211,288.73	
Postage	$14.10	
Clean Up Grants to Counties (Table 16)	$0.00	
Total Debits		$424,779.46
Transfer from General Fund	$420,000.00	
Total Credits	-	$420,000.00
Ending Balance June 30, 2024	**-**	**$219,581.22**

2. County Tire Disposal

Seventy-six county programs applied for the Scrap Tire Disposal Account Fund Grant during the fall and spring (a total of two grant cycles) of FY 2023-24. It was reported that they collected 103,682.17 tons of scrap tires and spent $12,174,229.45 on disposal costs and received $8,735,747.16 from the scrap tire disposal tax. The counties requested $3,438,482.29 in grant requests and received $424,655.36 in grants. The average contract disposal cost is $112.30 per ton; however, that cost can vary based on tonnage, contract agreement, and distance from the disposal and recycling facility. The maximum contract disposal cost reported is $273.15 per ton.

The FY 2023-24 Local Governmental Annual Report (LGAR) submitted by each county shows that they collected a total of 178,520.46 tons of scrap tires and spent a total of $23,031,828.68 for scrap tire management and disposal and recycling. County reports state that they received a total of $20,379,933.24 in revenue (tax proceeds, grants, cleanup monies, and scrap tire charges) to operate the scrap tire management programs. The average contract disposal cost per ton is $146.64. However, the cost can vary based on tonnage, contract agreement, and distance from the disposal and recycling facility. The maximum contract disposal cost per ton reported is $201.12.

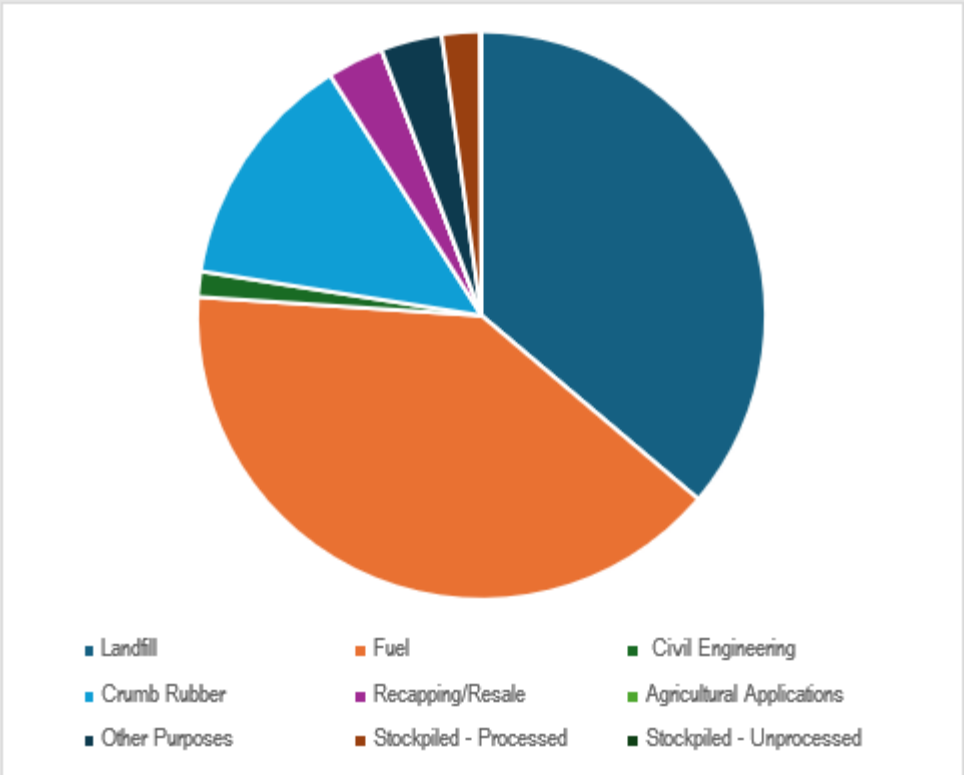
3. Tire Disposal and Recycling

In FY 2023-24, North Carolina tire processors reported they received 292,626.00 tons of scrap tires from North Carolina counties and from other states. Some tire sellers bypass the county scrap tire collection sites and have scrap tires taken directly to processors. Reuse or disposal is shown in Table V-13 and Figure V-22 below. Scrap Tire Cost Overrun Grants are summarized in Table V-14a and V-14b below. As shown in those tables, each county that applied for a grant award was awarded a percentage of that amount. The tax proceeds distributions are a combination of two quarterly distributions dispersed by the N.C. Department of Revenue (DOR). Table V-15 below shows the Illegal Tire Dump Clean-Up Costs for the fiscal year.

31Table V-13. Final Disposal/Recycling of Tires (tons)

Scrap tires disposed (landfill)	106,817.00
Scrap tires used as fuel	117,610.00
Scrap tires used as crumb rubber	40,040.00
Scrap tires re-used or re-capped	9,502.00
Scrap Tires used in civil engineering	4,273.00
Scrap tires used for other purposes	10,258
Scrap tires used as mulch	0.00
Scrap tires stockpiled - unprocessed	220.00
Scrap tires stockpiled - processed	6,406.00
Scrap tires stockpiled from previous FY	2,500.00
Total scrap tires received	292,626.00

27Figure V-22. Disposal and Recycling of Scrap Tires



32Table V-14. Scrap Tire Cost Over-Run Grant October 2021-March 2022 Grants Awarded July 2022

Applicant County	Grant Period (six-months) Tax Proceeds from NCDOR	Disposal Account Fund Grant Amount Requested	Disposal Account Fund Grant Awarded
Alexander	$35,322.85	$14,156.52	$906.02
Alleghany	$10,813.21	$5,851.94	$374.52
Ashe	$25,964.35	$16,486.67	$1,055.15
Beaufort	$43,331.61	$65,208.68	$8,042.54
Catawba	$157,273.91	$156,573.14	$23,667.65
Cherokee	$28,164.89	$31,163.01	$3,994.43
Chowan	$13,328.84	$30,373.93	$3,943.93
Clay	$10,947.41	$4,094.36	$2,262.04
Cleveland	$98,149.36	$15,713.93	$1,257.11
Dare	$36,446.94	$3,044.06	$2,194.82
Duplin	$47,408.94	$10,962.28	$701.59
Gates	$10,106.27	$9,562.20	$2,611.98
Graham	$7,822.08	$10,310.45	$2,659.87
Haywood	$60,770.85	$28,073.46	$3,245.88
Henderson	$113,490.11	$23,711.85	$3,086.64
Hertford	$19,256.66	$22,282.76	$2,426.10
Jackson	$41,437.37	$5,003.76	$1,320.24
Lenoir	$53,337.74	$45,266.73	$4,526.67
Macon	$36,316.65	$18,974.28	$3,214.35
McDowell	$43,455.12	$10,536.95	$674.36
Mecklenburg	$1,090,541.61	$110,829.47	$34,609.21
Mitchell	$14,521.02	$15,127.55	$968.16
Nash	$92,831.24	$77,333.73	$8,352.04
New Hanover	$223,599.16	$53,855.48	$7,924.10
Pasquotank	$39,508.09	$138,836.85	$18,660.42
Pitt	$167,268.33	$102,069.00	$14,473.11
Rockingham	$89,175.94	$68,361.76	$7,383.07
Rutherford	$62,490.06	$13,102.63	$1,048.21
Scotland	$32,373.52	$1,444.67	$92.46
Surry	$69,431.12	$19,041.88	$1,523.35
Vance	$41,103.83	$29,151.57	$2,332.13
Wake	$1,118,974.98	$103,546.88	$33,123.56
Washington	$10,491.34	$54,255.16	$4,340.41
Wayne	$114,415.86	$5,744.16	$1,505.49
Wilkes	$63,993.41	$18,225.34	$1,458.03
Wilson	$76,391.65	$27,351.97	$3,406.97
Totals:	**$4,200,256.32**	**$1,365,629.06**	**$213,366.63**

33Table V-15. Scrap Tire Cost Over-Run Grant April 2022-September 2022 Grants Awarded January 2023

Applicant County	Grant Period (six-months) Tax Proceeds from NCDOR	Disposal Account Fund Grant Amount Requested	Disposal Account Fund Grant Awarded
Alexander	$33,217.42	$14,378.29	$632.64
Alleghany	$10,168.69	$9,639.66	$424.15
Ashe	$24,416.76	$26,581.75	$1,169.60
Beaufort	$40,748.85	$81,744.48	$5,855.62
Catawba	$147,899.60	$165,917.72	$14,045.63
Cherokee	$26,486.16	$32,197.17	$3,416.68
Chowan	$12,534.38	$28,428.85	$3,250.87
Cleveland	$92,299.16	$22,290.03	$980.76
Forsyth	$351,206.68	$17,317.99	$3,838.19
Gates	$9,503.89	$13,815.41	$2,607.88
Graham	$7,355.84	$23,378.66	$3,028.66
Granville	$55,918.65	$8,520.19	$374.89
Halifax	$44,089.33	$30,767.77	$2,353.78
Haywood	$57,148.60	$40,205.02	$3,211.28
Henderson	$106,725.55	$9,344.75	$1,452.29
Iredell	$175,347.75	$21,480.35	$2,039.65
Jackson	$38,967.48	$30,934.76	$2,361.13
Lenoir	$50,158.53	$51,775.05	$2,847.63
Macon	$34,152.00	$26,543.02	$3,167.89
McDowell	$40,864.97	$12,962.64	$570.36
Mecklenburg	$1,025,539.99	$376,163.01	$55,205.49
Mitchell	$13,655.50	$19,501.75	$858.08
Nash	$87,298.04	$79,487.99	$4,487.54
New Hanover	$210,271.55	$106,281.69	$10,716.05
Pasquotank	$37,153.23	$124,884.44	$10,242.37
Perquimans	$12,117.38	$1,967.12	$1,586.55
Pitt	$157,298.31	$95,158.27	$7,908.49
Rockingham	$83,860.63	$66,948.07	$3,976.72
Rutherford	$58,765.33	$13,798.43	$607.13
Scotland	$30,443.90	$18,712.66	$823.36
Surry	$65,292.70	$29,922.30	$1,316.58
Tyrrell	$2,950.03	$261.02	$205.74
Vance	$38,653.83	$49,399.80	$2,716.99
Wake	$1,052,278.55	$262,745.88	$42,480.09
Warren	$17,237.40	$1,296.76	$57.06
Washington	$9,866.02	$53,328.08	$2,933.04
Wayne	$107,596.09	$19,937.18	$1,964.96

Wilkes	$60,179.10	$31,725.15	$1,395.91
Wilson	$71,838.33	$52,171.51	$4,156.38
Yadkin	$33,984.64	$938.56	$20.65
Totals:	**$4,535,490.84**	**$2,072,853.23**	**$211,288.73**

34Table V-16. Illegal Tire Dump Clean-Up Costs

County	Check Date	Amount
Anson	March 2024	$4,000.00
Iredell	September 2023	$110.00
Total		$4,110.00

E. White Goods Management

1. White Goods Tax Collections and Distributions

White goods are defined in G.S. 130A-290 as: "refrigerators, ranges, water heaters, freezers, unit air conditioners, washing machines, dishwashers, clothes dryers and other similar large domestic and commercial appliances." In 1993, the N.C. General Assembly passed the Management of Discarded White Goods Act, as white goods were difficult to dispose of and contained greenhouse gases particularly chlorofluorocarbon refrigerants (CFCs). To fund this statute, the General Assembly imposed a $3 tax on new white goods.

Counties are mandated to manage white goods by providing at least one disposal site, at no cost to residents, and to arrange for the removal of CFCs. The FY 2023-24 LGAR submitted by each county shows that they collected a total of $32,611.31 tons of white goods and spent a total of $ 6,245,436,67 on white goods management and recycling. County reports state that they received a total of $7,945,505.94 in revenue from tax proceeds and scrap metal sales to operate the white goods management programs. Much of the white goods tax revenue is distributed to county governments for use in administering their Programs as shown in Table V-17.

35Table V-17. White Goods Tax Collections/Distributions

Net Tax Collections by the Department of Revenue	$8,827,527.13
Department of Revenue Cost of Collecting	[$386,183.91]
Total Revenue Available for Distribution	$8,441,343.22
72% of Revenue - Available for Distributions to Counties	$6,077,767.11
Funds Forfeited from ineligible counties (Sent to the General Fund)	[$2,157,952.13]
Total Distributed to Counties	$3,919,814.98
Funds Forfeited from ineligible counties (Sent to the General Fund)	$2,157,952.13
28% of Revenue - Sent to the General Fund	$2,363,576.11
Total Sent to the General Fund	$4,521,528.24

County governments with an undesignated ending balance exceeding 25 percent of the tax proceeds received, or would have received them if eligible, during the preceding fiscal year and those counties that failed to submit reports demonstrating their eligibility were ineligible to receive tax proceeds. The forfeited funds went to the N.C. General Fund.

Tables V-18 and V-19 below list the ineligible counties per distribution quarter. The county fund information is from the N.C. Department of Revenue – White Goods Disposal Tax Distribution Reports issued in August and November 2023 and February and May 2024.

Prior to July 1, 2017, county governments could apply for grants from a White Goods Disposal Account for white goods program cost overruns, white goods cleanup activities, and white goods-related capital improvements. The White Goods Disposal Account was repealed effective June 30, 2017.

36Table V-18. Counties Ineligible to Receive Tax Proceeds Distributions

August 15, 2023	August 15, 2023	November 15, 2023	November 15, 2023
Anson	Montgomery	Anson	Montgomery
Bertie	Northampton	Bertie	Northampton
Caswell	Onslow	Caswell	Onslow
Cherokee	Pasquotank	Cherokee	Pasquotank
Columbus	Pender	Columbus	Pender
Cumberland	Randolph	Cumberland	Randolph
Dare	Richmond	Dare	Richmond
Davidson	Rockingham	Davidson	Rockingham
Duplin	Rowan	Duplin	Rowan
Edgecombe	Sampson	Edgecombe	Sampson
Forsyth	Stokes	Forsyth	Stokes
Halifax	Surry	Halifax	Surry
Harnett	Swain	Harnett	Swain
Henderson	Transylvania	Henderson	Transylvania
Hertford	Warren	Hertford	Warren
Hoke	Wilkes	Hoke	Wilkes
Hyde		Hyde	
Jones		Jones	
Lenoir		Lenoir	
Lincoln		Lincoln	
Martin		Martin	
Mecklenburg		Mecklenburg	
Done	38	**Done**	38
	July 2023 letter to NCDOR *2nd use of 2022 AFIR* *< ineligible counties than previous quarter*		*October 2023 letter to NCDOR* *3rd use of 2022 AFIR* *equals ineligible counties from previous quarter*

37Table V-19. Counties Ineligible to Receive Tax Proceeds Distributions

February 15, 2024	February 15, 2024	May 15, 2023	May 15, 2023
Anson	Northampton	Anson	Madison
Bertie	Onslow	Ashe	Martin
Caswell	Pasquotank	Bertie	Montgomery
Cherokee	Pender	Burke	Northampton
Columbus	Randolph	Cabarrus	Onslow
Cumberland	Richmond	Caswell	Pasquotank
Dare	Rockingham	Cherokee	Pender
Davidson	Rowan	Columbus	Randolph
Duplin	Sampson	Cumberland	Robeson
Edgecombe	Stokes	Dare	Rockingham
Forsyth	Surry	Duplin	Rowan
Halifax	Swain	Edgecombe	Sampson
Harnett	Transylvania	Forsyth	Surry
Henderson	Warren	Gates	Transylvania
Hertford	Wilkes	Graham	Vance
Hoke		Halifax	Warren
Hyde		Henderson	Wayne
Jones		Hertford	Wilkes
Lenoir		Hoke	
Lincoln		Hyde	
Martin		Jones	
Mecklenburg		Lenoir	
Montgomery		Lincoln	
Done	38	**Done**	41
	January 2024 letter to NCDOR *4th use of 2022 AFIR* *equals ineligible counties from previous quarter*		*April 2024 letter to NCDOR* *1st use of 2023 AFIR* > ineligible counties than previous quarter

Fiscal year county financial report data, see the Department of State Treasurer - Annual Financial Information Report (AFIR) link: https://www.nctreasurer.com/divisions/state-and-local-government-finance/lgc/local-fiscal-management/afir

Fiscal year local government distributions, see the Department of Revenue Local Government Distributions link: https://www.ncdor.gov/local-government-distributions

F. Abandoned Manufactured Homes (AMH) Program

As established in G.S. 130A-309.111, DEACS operated a grant program that provided a portion of DWM's annually-appropriated grant funding to North Carolina counties to facilitate the identification, deconstruction, recycling, and disposal of abandoned manufactured homes which are deemed unfit, unsafe, and hazardous. The Abandoned Manufactured Homes (AMH) Grant Program Request for Proposals (RFP) was originally developed and made available to North Carolina counties in October 2009. On October 1, 2023, the legislation authorizing the AMH program expired,

making the FY 2022-23 grant round the final set of funding awarded under this program. During FY 2023-24, DEACS still had five remaining AMH grants under contract with projects underway. Activities from these grants are detailed below, and DEACS will continue to report on the five remaining active grants until all are completed.

1. AMH Grants Awarded by Fiscal Year

Table V-20 shows the number of grants awarded during each of the 14 years of the program's operation and funding allocated to those grants.

38Table V-20. AMH Grants Awarded by Year

Fiscal Year	Number of AMH Grants Awarded	Grant Funds Allocated
FY 2009-10	10	$385,000
FY 2010-11	3	$105,000
FY 2011-12	4	$150,000
FY 2012-13	3	$117,500
FY 2013-14	4	$80,000
FY 2014-15	3	$74,500
FY 2015-16	6	$69,000
FY 2016-17	4	$35,500
FY 2017-18	5	$49,000
FY 2018-19	0	0
FY 2019-20	8	$100,000
FY 2020-21	3	$32,000
FY 2021-22	4	$40,000
FY 2022-23	3	$51,000

2. AMH Program Statistics

As required by G.S. 130A-309.117, each AMH grant program participant submits an annual report to the State every August that documents and summarizes county program information from the previous fiscal year. Based on the August 2024 grantee reports, Table V-21 below shows the total number of AMH units deconstructed under the program and the resulting amount of waste disposed of and materials recycled in FY 2023-24, including mercury thermostats, which are required to be removed before disposal. Program statistics do not include deconstruction activities conducted in counties without State grant support.

39Table V-21. AMH Units Deconstructed in FY 2023-24

Statistics for AMH Program for Fiscal Year 2023-24	
Units Deconstructed	9 Units
Materials Landfilled	58.68 Tons
Materials Recycled (percentage of total tonnage)	11.3 Tons (16.1 %)
Mercury Thermostats Recovered	5 Thermostats

During FY 2023-24, there were five remaining active AMH program grants. The number of units deconstructed during FY 2023-24 decreased significantly when compared to FY 2022-23, from 29 units to 9 units. Thus, the tons of materials landfilled in FY 2022-23 decreased from 582.54 tons to 58.68 tons. Total recycled materials also decreased from 116.54 tons to 11.3 tons. The overall percentage of materials recycled changed little from 16.7 percent in FY 2022-23 to 16.1 percent in FY 2023-24. Five thermostats were recovered during FY 2023-24 and these were from Ashe County. The following table presents the individual AMH grants that were active during FY 2023-24 and provides details from those programs.

40Table V-22. Active AMH Grant Program Participants During FY 2023-24

County	Contract Start Date	Contract End Date	Grant Award	County Costs during FY	Responsible Party Fees Collected	# Units Deconstructed with Grant Support during FY 2023-24
Ashe	6/1/2022	12/1/2024	$15,000	$26,540.00	$0	5
Iredell	7/1/2023	6/30/2025	$16,000	$5,962.93	$4,200.00	1
Jones	3/1/2023	3/1/2025	$15,000	$9,100.00	$3,600.00	3
Warren	3/5/2020	2/28/2024	$10,000	$0	$0	0
Wilson	7/6/2023	6/30/2025	$20,000	$3,800.72	$1,500.00	1

3. Program Participant Highlights, FY 2023-24

The total expenditure by counties associated with the AMH grants in FY 2023-24 was $45,403.65. This expenditure is lower than the previous year due in part to fewer units being demolished compared to the previous year. The total amount of funds contributed by responsible parties in FY 2023-24 was $ 9,300.00, which is up from the previous fiscal year. As shown in the table above, Jones, Wilson, and Iredell accounted for all the responsible party fees collected and this reflects these grants getting work underway after coming into place in the last fiscal year (FY 2022-23).

4. Additional Information on the AMH Program

An examination of the fiscal year county reports submitted by grantees showed that there were significant delays due to employment instability in county governments and slow progress due to higher costs of demolition. These challenges have also made it difficult for counties to find AMH homeowners and landowners willing to participate in the program. DEACS will continue to work with the grantees as needed to assess the impact of these issues and to assist as practicable, including grant extensions.

While the authorizing legislation for the AMH program expired on October 1, 2023, DEACS will continue to report on the progress and results of the five remaining active grants in subsequent reports until all are completed.

G. Electronics Management Program

G.S. 130A-309.130 established the Electronics Management Program. The program directs manufacturers of electronics, retailers, consumers, and state and local governments to share accountability for the responsible recycling and reuse of electronic equipment. The law applies to computer equipment and televisions intended primarily for consumer use. Computer equipment includes computers, tablets, gaming systems, monitors, video display units, printers, scanners, combination printer-scanner fax machines, and other peripherals (except for keyboards and mice). Items such as mobile telephones, video recorders, cable, and satellite boxes, and all commercial devices such as printers and data-networking systems are not covered devices under the law.

1. Manufacturers' Responsibilities
Before selling computer equipment and televisions in North Carolina, manufacturers must register with the State and pay a registration fee, which is dependent upon the type of equipment manufactured and, for computer equipment, a recycling plan (level I, II or III) is required.

Television and computer equipment manufacturers have different recycling obligations under the law. Television manufacturers are assigned an annual target weight by DWM to recycle based on their market share. Computer equipment manufacturers are required to have a plan in place to make the recycling of computers available to consumers. The law is designed to provide electronics recycling opportunities for the consumer, which is defined as an occupant of a dwelling who used the equipment primarily for personal or home business use. A nonprofit organization with fewer than 10 employees is also considered a consumer.

Television manufacturers pay an initial fee of $2,500 plus an annual fee of $2,500. Each television manufacturer is obligated to recycle or arrange for the recycling of its market share of televisions and must annually report the weight of televisions they recycled or arranged to recycle for the previous fiscal year.

Computer equipment manufacturers' responsibility:

- Pay an initial registration fee of $10,000 to $15,000, followed by an annual registration fee of $2,500 to $15,000, depending on the level of recycling plan chosen.
- Computer equipment manufacturers must provide a plan, through which consumers are provided free and reasonably convenient recycling.
- Recycling and transportation must be accomplished using environmentally sound management practices.
- Manufacturers must provide consumer recycling education and a toll-free phone number.
- Each registered computer equipment manufacturer must also submit an annual report detailing the total weight of computer equipment collected for recycling and reuse for the previous fiscal year, summarizing the actions implemented from the approved plan.

2. Retailer's Responsibilities
Retailers in North Carolina may only sell computer equipment and televisions that display the manufacturer label of a registered manufacturer in compliance with the electronics management law.

3. State Agencies and Governmental Entities Responsibilities
State agencies and governmental entities in North Carolina may only purchase computer equipment and televisions that are produced by registered manufacturers in compliance with the electronics management law. A list of manufacturers that are compliant can be viewed at:
https://edocs.deq.nc.gov/WasteManagement/DocView.aspx?id=1390200&dbid=0&repo=WasteManagement for computer equipment and
https://edocs.deq.nc.gov/WasteManagement/DocView.aspx?id=1390199&dbid=0&repo=WasteManagement for televisions.

4. Registration of Facilities Recovering or Recycling Electronics
Facilities that recover or recycle covered devices or other electronic devices diverted from the waste stream for transfer, treatment, or processing must register annually with the Department on or before August 1 each year.

5. Recycling Rates Within North Carolina
Data on the recycling of computer equipment and televisions come from two primary sources: manufacturer reports and Local Government Annual Reports (LGAR). Table V-23 below presents information reported by manufacturers registered with North Carolina.

41Table V-23. Electronics Collection by Weight

Type of Collection	CE MFRs (lbs)	CE MFRs (tons)	TV MFRs (lbs)	TV MFRs (tons)
Mail Back - MFR	503,697.00	251.85	0.00	0.00
Collection - MFR (retailer, thrift store, collection event, etc.)	507,188.00	253.59	6,734,275.06	3,367.14
Collection - Local Government	518,127.00	259.06	7,376,822.06	3,688.41
Total	1,529,012.00	764.51	14,111,097.12	7,055.55
Total minus LG	1,010,885.00	505.44	6,734,275.06	3,367.14

Permanent drop-off locations are the option most offered to consumers for their electronics recycling. Drop-off operations can be at local government locations and via manufacturer-sponsored sites, such as retailers, thrift stores, and temporary collection events. Mail-back programs are an important option for rural areas with fewer drop-off locations available, although, the weight collected through this collection method continues to be relatively small.

Almost two thirds (66 percent) of televisions being recycled by consumers are brought to local government programs. Table V-24 and Table V-25 below show the recycling of electronics collected by county and municipal collection programs as well as overall collection programs by fiscal year.

42Table V-24. Electronics Collected (Tons) by County and Municipal Collection Programs by Fiscal Year

County and Municipal Collection Programs	Televisions	Computer Equipment**	Other Electronics	Total
FY 2012-13	8,739.47		5,420.05	14,159.52
FY 2013-14	9,314.94		5,471.00	14,785.93
FY 2014-15	10,025.66		5,050.77	15,076.44
FY 2015-16	12,057.66		4,623.86	16,681.52
FY 2016-17	11,137.81		4,656.75	15,794.56
FY 2017-18*	9,833.78		3,519.09	13,352.87
FY 2018-19	9,912.60		3,531.48	13,444.07
FY 2019-20	7,742.63	1,145.35	2,847.79	11,735.77
FY 2020-21	6,847.92	1,121.02	2,655.35	10,624.28
FY 2021-22	5,613.34	1,235.70	2,058.54	8,907.58
FY 2022-23	4,893.95	1,952.24	1,325.46	8,171.65
FY 2023-24	5,080.37	1,926.98	1,165.81	8,173.16

* A correction was made to the FY 2017-18 local government television and other electronics tons in the FY 2018-19 report.

** Local governments were asked for the first time in FY 2019-20 to report computer equipment separately. In previous years, computer equipment has been combined with other electronics.

43Table V-25. Overall Recycling of Electronics

	Manufacturer Television Tons Collected	Manufacturer Computer Equipment Tons Collected	Local Government Television Tons Collected	Local Government Other Electronics Tons Collected **	Total Tons	Total Pounds Per Capita
FY 2012-13	1,624	2,099	8,739	5,420	**17,882**	3.7
FY 2013-14	2,460	1,843	9,315	5,471	**19,090**	3.9
FY 2014-15	2,834	1,193	10,026	5,051	**19,104**	3.8
FY 2015-16	1,743	1,598	12,058	4,624	**20,023**	4
FY 2016-17	2,086	694	11,138	4,657	**18,575**	3.8
FY 2017-18*	2,901	725	9,834	3,519	**16,979**	3.3
FY 2018-19	1,507	516	9,913	3,531	**15,467**	3.1
FY 2019-20	250	829	7,743	3,993	**12,815**	2.4
FY 2020-21	150	465	6,848	3,776	**11,239**	2.1
FY 2021-22	1,570	590	5,613	3,294	**11,068**	2.1
FY 2022-23	2,491	490	4,894	3,278	**11,152**	2.1
FY 2023-24	3,367	505	5,080	3,093	**12,045**	2.2

* A correction was made to the FY 2017-18 local government television and other electronics tons in the FY 2018-19 report.
** Local government other electronics include computer equipment.

6. Compliance and Enforcement of Electronics Laws

Manufacturers that have not paid their annual fees or submitted required documentation are ineligible to market their products in North Carolina. Residents and government agencies can check the DWM website https://www.deq.nc.gov/about/divisions/waste-management/solid-waste-section/special-wastes-and-alternative-handling/electronics-management#QuickLinks-11327 to determine which companies may sell in North Carolina.

DWM and DEACS have been coordinating with manufacturer stakeholder groups, as well as a national consortium of states with electronics programs – Electronics Recycling Coordination Clearinghouse (ERCC), to seek ways to streamline and automate reporting requirements for North Carolina. Manufacturer reporting requirements vary greatly from state to state. North Carolina has joined with other states in allowing manufacturers to register via web access at: https://ecycleregistration.org/.

7. Electronics Management Fund

The Electronics Management Fund, administered by DWM, is funded by computer equipment and television manufacturers' initial registration and annual fees. Fees paid into the electronics management fund are used to support approved electronics management programs within North Carolina counties. Table V-26 reflects the fund's balance and payout for FY 2023-24.

44Table V-26 Electronics Management Fund

Balance of Funds as of July 1, 2023		**$819,626.10**
Debits		
February 2024 Distributions to Local Government Programs	$540,000.00	
ERCC Membership and participation in eCycle Registration and Cost of TV Market Share Data	$13,131.25	
Administrative and Salary Costs	$93,305.28	
Total Debits		***$646,436.53***
Credits		
Computer Equipment Manufacturer Fees	$356,535.00	
Television Manufacturer Fees	$52,500.00	
Total Credits		***$409,035.00***
Ending Balance June 30, 2024		**$582,224.57**

8. Types of Equipment Recovered by Local Programs

Based on information reported from local governments in FY 2023-24, the full cost of electronics recycling through local government programs is estimated to be approximately $0.32 per person. Local governments can become eligible for funds by implementing an electronics management plan, submitting the plan and required plan elements as a Fund application, and using an electronics recycler/vendor that holds the e-Stewards or R2 certification. Although costs to operate local government programs vary significantly, the calendar year 2024 fund monies distributed covered approximately 22 percent of the estimated costs to operate programs that made themselves eligible to receive funds.

Because of consolidation among electronics manufacturers and an increasing number of computer manufacturers choosing to register with a Level II plan, the distribution amounts may vary in the future.

Electronics programs are required to demonstrate to DWM that all recycling of computer equipment and televisions is being conducted by R2 or e-Steward-certified facilities to receive future distributions. The funding must be used only for the management of electronics. The 54 local governments with approved electronics management fund applications received their pro rata share of a total of $ 540,000 in distributions from the Electronics Management Fund in February 2024. The list of local governments that received funds last fiscal year is shown in Table V-27 below.

45Table V-27 Electronics Management - Distribution February 2023

Unit of Local Government	Fund Amount
Alamance	$9,136.12
Alexander	$4,486.24
Ashe	$5,109.26
Brunswick	$14,613.58
Buncombe	$7,537.06
Cabarrus	$5,134.98
Catawba	$5,786.05
Chatham	$8,887.14
Cherokee	$1,839.85
Chowan	$1,150.20
Cleveland	$21,131.36
Cumberland	$16,468.62
Dare	$3,919.32
Durham, City of	$16,855.53
Franklin	$3,381.63
Gates	$1,376.96
Granville	$12,461.64
Guilford	$23,250.58
Haywood	$2,105.19
Henderson	$8,174.11
Iredell	$11,907.58
Jackson	$1,613.08
Lee	$5,476.29
Lenoir	$824.07
Lincoln	$20,300.28
Madison	$1,202.80
McDowell	$4,024.52
Mecklenburg	$65,579.94
Mitchell	$1,089.41
Moore	$19,201.51
Orange	$12,058.37
Pasquotank	$2,393.91

Pender	$9,672.64
Perquimans	$1,092.92
Person	$2,156.62
Pitt	$28,638.04
Polk	$958.50
Randolph	$5,779.04
Richmond	$1,175.91
Robeson	$876.67
Rutherford	$1,101.10
Stanly	$3,027.45
Stokes	$5,419.02
Surry	$6,475.70
Transylvania	$3,319.67
Union	$20,113.25
Vance	$3,416.69
Wake	$95,222.06
Watauga	$700.17
Warren	$528.34
Wayne	$11,569.77
Wilkes	$4,072.45
Winston-Salem, City of	$15,344.14
Yadkin	$862.65
54 Applicants	$540,000.00

H. Additional Documentation from the N.C. Department of Administration and Department of Transportation

Please refer to these links for reports from the N.C. Department of Administration and Department of Transportation that summarize the environmental and resource conservation programs provided by those agencies.

The N.C. Department of Administration promotes the purchase and use of sustainable, efficient supplies and products. As the department progresses with this effort, more of those types of products are being added to statewide term contracts and agency-specific term contracts awarded through open market bids. For more information, visit the Division of Purchase and Contract's website at: https://ncadmin.nc.gov/about-doa/divisions/purchase-contract.

G.S. 136-28.8(g) and G.S. 130A-309.14(3) mandate that the N.C. Department of Transportation prepares an annual report on the amounts and types of recycled materials specified or used in construction and maintenance projects during the previous State fiscal year and review of bid procedures, respectively. The types of recycled materials incorporated into the report would routinely contribute to the consumer and industrial waste streams, compounding the problem of declining space in landfills.

Chapter VI: Utility-Scale Solar Project Decommissioning

A. Executive Summary

S.L. 2023-58, s. 2, (H130) effective June 26, 2023, enacted a new Part within Article 9 of Chapter 130A of the N.C. General Statutes: Part 2J "Management of Solar Energy Equipment" (G.S. 130A-309.240 though 130A-309.243). The Session Law also revised G.S. 130A-309.06(c) to require DEQ to annually report on utility-scale solar project decommissioning pursuant to Part 2J to the N.C. General Assembly's Environmental Review Commission and Fiscal Research Division.

B. Program Background

S.L. 2023-58 made DEQ the lead agency in the statewide administration and enforcement of utility-scale solar project registration, decommissioning, and financial assurance program for new projects, and for enforcing the new state-level statutory registration and decommissioning requirements for existing utility-scale solar projects. The Session Law requires the owner of a utility-scale solar project capable of generating two (2) or more megawatts (MW) alternating current (AC) that is directly connected to the electrical grid to:

- Properly decommission the project upon cessation of operations and restore the property.
- Register with the DEQ and pay a fee.
- Submit a decommissioning plan and establish financial assurance for new and rebuilt/expanded utility-scale solar projects.

To administer Part 2J of Article 9, DEQ has created a new program within DWM, the Utility-Scale Solar Project Decommissioning Program. As a part of establishing the new program, DWM has created a new webpage that provides information and updates about the program and the requirements of Part 2J. This webpage can be accessed on the DWM's website at: https://www.deq.nc.gov/about/divisions/waste-management/utility-scale-solar-management-program.

Sections 2.(c) and (d) of the Session Law also required DEQ to adopt rules and submit quarterly reports to the Environmental Review Commission and the Joint Legislative Commission on Energy Policy on the implementation of the requirements of S.L. 2023-58, s. 2, including program development and the status of the Department's rulemaking efforts. The quarterly reports must be submitted December 1, 2023, through December 1, 2025.

Additional background, data, and information pertaining to the requirements in S.L. 2023-58 can be reviewed in the following legislation and the associated reports/plans submitted to the General Assembly as required in the respective legislation:

- S.L. 2019-132 (H329): The Environmental Management Commission and DEQ evaluated the end-of-life management of renewable energy equipment and summarized the evaluation in the January 1, 2021 "Final Report on the Activities Conducted to Establish a Regulatory Program for the Management and Decommissioning of Renewable Energy Equipment."
- S.L. 2021-165 (H951): DEQ evaluated options for the decommissioning of utility-scale solar projects and financial assurance and summarized the evaluation in the March 1, 2022 "Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects."
- S.L. 2023-137 (H600), s. 19.(a): Bans photovoltaic modules from disposal in unlined landfills.

C. Program Activity

Because most of the new program requirements do not become effective until November 1, 2025, DEQ does not have any information on the decommissioning of utility-scale solar projects to provide for this annual report. This report provides information on the activities conducted to develop and establish the new program within DWM, including rulemaking and the registration process. The latest updates on the development of the new program and the status of rulemaking can be

found in the quarterly reports submitted to the General Assembly beginning December 1, 2023, and also on the program's webpage.

DWM published proposed rules for the program in the N.C. Register for public comment from October 15 to December 16, 2024, and held a public hearing on November 7, 2024. DWM also published the proposed rules and regulatory impact analysis on the DEQ Proposed Rule website and the DWM Program website during the comment period and provided notice to interested parties of the comment period via email on October 14, 2024.

DWM is also working with the Department of Information Technology to develop an all-in-one electronic/online platform solution for the registration form and review process, the database for site inventory, invoicing and payment of the registration fee, and the five-year registration updates. The platform should allow project owners to create an account online where they can do the following:

- register all of their utility-scale solar projects,
- upload copies of decommissioning plans and financial assurance mechanism documents, as applicable, and
- view and pay invoices for the registration fee.

Appendix A

Brownfield Agreements Finalized Between January 1, 2024 through December 31, 2024.

Appendix B

Sites with Dry-Cleaning Solvent Contamination by County and City and Sites Certified into the DSCA Program by County and City

Appendix C

Inactive Hazardous Waste Sites Priority List

Appendix D

Inactive Hazardous Sites Inventory – Site Status

Appendix E

Inactive Hazardous Sites Inventory – Pre-Regulatory Landfills

Appendix F

Landfill Capacity Report FY 2023 - 24

Appendix G

Public and Private Construction and Demolition Disposal FY 2023-24

Appendix H

County Population, Waste Disposal, Per Capita Rate and Percent Reduction FY 2023-24

Appendix I

NC Waste Disposal Report FY 2023-24

Appendix J

Municipal Solid Waste and Construction and Demolition Waste – Exports and Imports FY 2023-24

Appendix K

Industrial Waste Disposal FY 2023-24

Appendix L

Public and Private Municipal Solid Waste and Construction and Demolition Disposal FY 2023-24

Appendix M

Public and Private Municipal Solid Waste FY 2023-24

Appendix N

Public and Private Tipping Fees FY-2023-24

Appendix O

Transfer and Mixed Waste Processing Facilities FY 2023-24

Appendix P

Recycling and Solid Waste Management Report for Highway Construction, Maintenance Projects and Office Products

Appendix Q

Department of Administration Environmentally Preferred Purchasing