New York State Comptroller
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Department of Environmental Conservation

Oversight of Recyclables Handling and Recovery Facilities

August 2026 | Report 2024-S-28

Prepared by the Division of State Government Accountability

Audit Highlights

Objective

To determine whether the Department of Environmental Conservation (DEC) is adequately monitoring recyclables handling and recovery facilities to ensure recyclables are properly handled and recovered throughout the State. The audit covered the period from January 2021 through December 2023.

About the Program

Climate change refers to long-term changes in the average weather patterns that define the Earth's global, regional, and local climates. Often, when we think of climate change, we think of the physical effects such as heat waves, sea level rise, heavy rainfall, smoke from wildfires, and the impacts on communities and the environment, such as floods and droughts. While some climate change is influenced by naturally occurring changes in the Earth's temperature, the international scientific community has found that human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming and that the pace of warming is accelerating. The solid waste sector is a sizable contributor to greenhouse gas emissions, responsible for 12% of statewide emissions. Therefore, reducing the amount of waste sent to landfills and combustion facilities is an important strategy for achieving the State's climate goals. Recycling and the use of recycled materials provide significant environmental and economic benefits. They conserve natural resources, reduce greenhouse gas emissions, save energy by decreasing the need for virgin material extraction and processing, and reduce waste and pollution.

DEC regulates several types of facilities, including Recyclables Handling and Recovery Facilities (RHRFs). RHRFs process source-separated non-putrescible recyclable materials. Non-putrescible materials are materials that do not readily decompose or rot and therefore do not produce odors or attract pests. Source-separated materials are recyclable items that are separated from trash and other non-recyclable waste at the point of generation—such as in homes, businesses, or institutions—before collection. These materials include paper, cardboard, plastics, metals, and glass. At RHRFs, collected recyclables are received, sorted, cleaned, and processed into distinct material streams. Regulations require that RHRFs be registered or permitted by DEC to operate unless otherwise exempt. To be registered, RHRFs must generate less than 15% residue (materials that can't be recycled but must be disposed of) based on their intake for a full year of operation. RHRFs that do not meet registration criteria (such as residue rate or storage requirements) must obtain a permit that authorizes the operation and closure of the facility in accordance with DEC regulations.

All registered and permitted RHRFs are required to submit an RHRF Annual Report (annual report) to DEC by March 1. Annual reports must include the type and quantity of recyclable materials received, processed, and shipped; service area of recyclables received; destination of recovered material; and residue rate to enable DEC to monitor operations and support statewide recycling and solid waste planning. Environmental Conservation Law gives DEC the power to impose fines if RHRFs do not submit an annual report. Regulations allow DEC to inspect RHRFs to ensure they are following regulatory requirements for proper recyclables handling and recovery. DEC staff manually enter and track RHRF permits and registrations, annual reports, and inspections in the Solid Waste Information Management System (SWIMS). SWIMS data is used not only internally but is also compiled with other recycling and materials management data DEC collects and publishes in aggregate form in the New York State Solid Waste Management Plan (Plan) that feeds into statewide efforts to mitigate the effects of climate change. During our 3-year audit scope, we identified 406 RHRFs operating in the State.

Key Findings

DEC's oversight of RHRFs may be limited by weaknesses in how facilities are identified, reported, and monitored. Some of the information DEC maintains identifying which facilities operate as RHRFs is unreliable, which affects its ability to ensure all required facilities submit the appropriate annual reports. In addition, DEC does not consistently review annual reports submitted by RHRFs; therefore, many of the reports it receives are incomplete or contain inaccurate information. As a result, the data DEC relies on to understand RHRF activity may be unreliable, which could limit the data's usefulness in the Plan. Unreliable data could also affect DEC's ability to determine an accurate accounting of how much waste is being recycled in the State or decisions about the State's overall climate mitigation efforts involving solid waste reduction. Additionally, DEC has not established written guidance or policies to direct enforcement and inspection efforts and documentation; therefore, we found inconsistencies in how facilities were inspected and how inspection results were recorded, potentially reducing the effectiveness of inspections as a mechanism to monitor RHRFs. We found similar inconsistencies with DEC enforcement activities, which also lacked written procedures. Our audit found:

- For the period January 2021 through December 2023, the 406 RHRFs operating in the State should have submitted a total of 1,065 RHRF annual reports. However, DEC did not receive 341 (32%) RHRF annual reports for 148 RHRFs. DEC instead received 308 non-RHRF reports from facilities that also operated a different facility type, but had only submitted reports for the other type of operation, not their RHRF activities. The remaining 33 reports were not submitted at all.

- Of the 406 RHRFs, 389 (96%) were maintained in SWIMS data and 17 (4%) were not; therefore, SWIMS did not include data for all RHRFs.

- Quantities of recyclable materials that facilities reported were frequently inaccurate or not adequately supported. Notably, facilities were able to support only 21% of recyclable materials received, 9% of recyclable materials recovered, and 6% of residue reported. Also, we analyzed residue rates reported on 695 RHRF annual reports and found 443 of

695 (64%) annual reports were missing information. For example, 433 (62%) annual reports were missing the residue rate.

- Using SWIMS data, we assessed whether and how frequently DEC conducted inspections of RHRFs during the period January 1, 2021 through December 31, 2023. Of the 389 registered and permitted RHRF facilities, 138 (35%) were not inspected. We selected a sample of 16 of the 251 facilities that were inspected and reviewed their corresponding inspection reports. For the 16 facilities, there were 21 inspection reports on file with DEC; however, only 15 (71%) of the reports were for RHRFs during the period we selected. Five (24%) were reports for other types of facilities (e.g., transfer stations) and one (5%) was the correct type of report but for a date other than the one recorded in SWIMS.

Key Recommendations

- Develop a reliable means of determining what type of operations facilities are performing and make corrections to the SWIMS data as necessary.
- Develop and implement procedures to determine the accuracy of residue rates and that, at a minimum, require staff to follow up as appropriate with facilities that leave residue rates blank and document these efforts.
- Develop procedures to guide inspectors during inspections and document the work they perform during an inspection, which may include, but not be limited to: implementing a review of data submitted to DEC, including annual report information for completeness and accuracy, and supporting documentation from facilities to determine if the residue rate reported is accurate; applying follow-up and enforcement actions for non-compliance; and establishing written procedures for inspection frequency.

Office of the New York State Comptroller
Division of State Government Accountability

August 7, 2026

Amanda Lefton
Commissioner
Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1011

Dear Commissioner Lefton:

The Office of the State Comptroller is committed to helping State agencies, public authorities, and local government agencies manage their resources efficiently and effectively. By so doing, it provides accountability for the tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities, and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit entitled *Oversight of Recyclables Handling and Recovery Facilities*. This audit was performed pursuant to the State Comptroller's authority under Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

Division of State Government Accountability

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Glossary of Terms

Term	Description	Identifier
DEC	Department of Environmental Conservation	*Auditee*
EPA	United States Environmental Protection Agency	*Key Term*
NOV	Notice of Violation	*Key Term*
Plan	New York State Solid Waste Management Plan	*Key Term*
RHRF	Recyclables Handling and Recovery Facility	*Key Term*
SWIMS	Solid Waste Information Management System	*Key Term*

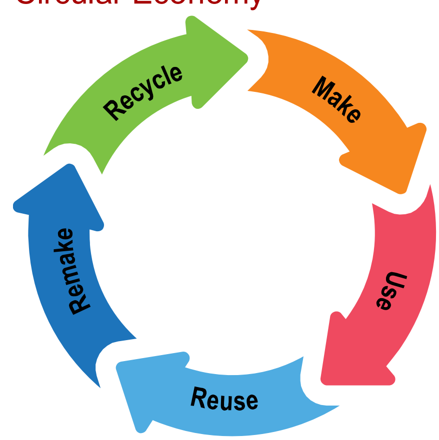
Background

Climate change refers to long-term changes in the average weather patterns that define the Earth's global, regional, and local climates. Often, when we think of climate change, we think of the physical effects such as heat waves, sea level rise, heavy rainfall, smoke from wildfires, and the impacts on communities and the environment, such as floods and droughts. While some climate change is influenced by naturally occurring changes in the Earth's temperature, the international scientific community has found that human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming and that the pace of warming is accelerating, with the global average surface temperature between 1990 and 2021 showing an increase of up to 1°F per decade for most of the planet.

The solid waste sector is a sizable contributor to greenhouse gas emissions, responsible for 12% of statewide emissions. Therefore, reducing the amount of waste sent to landfills and combustion facilities is an important strategy for achieving the State's climate goals to reduce greenhouse gas emissions. Recycling and the use of recycled materials provide significant environmental and economic benefits. They conserve natural resources, reduce greenhouse gas emissions, save energy by decreasing the need for virgin material extraction and processing, and reduce waste and pollution. They also support economic growth by supplying manufacturers with reusable materials and creating jobs in a growing industry. The Department of Environmental Conservation (DEC) estimates at least 80% of the material currently disposed of has monetary value, either directly as material that could be used to produce new goods or through the creation of jobs in the recycling sector.

To protect communities and mitigate the effects of climate change, New York State's Solid Waste Management Plan (Plan) builds upon sustained efforts to reduce waste and advance the State's transition to a circular economy, helping to change New Yorkers' understanding of waste and their relationship to it. In a circular economy, the goal is to keep materials circulating in productive use as long as possible and minimize disposal. It is a model of production and consumption that involves sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products for as long as possible (see Figure 1).

Figure 1
Circular Economy



The Plan establishes six major areas with goals and action items to move the circular economy and materials management industry forward in the State:

- Waste Reduction and Reuse
- Recycling and Recycling Market Development and Resiliency

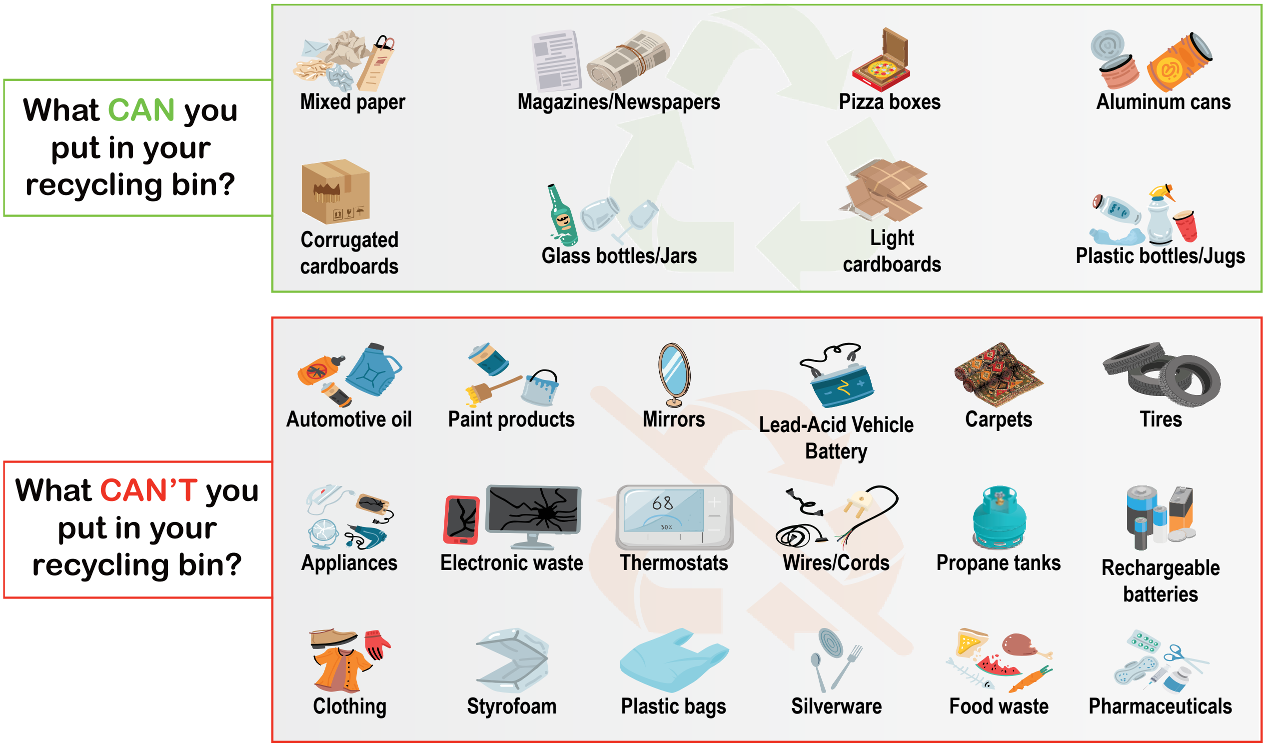
- Product Stewardship and Extended Producer Responsibility
- Organics Reduction and Recycling
- Toxics Reduction in Products
- Advanced Design and Operation of Solid Waste Management Facilities and Related Activities

The Plan reported in 2018 that municipal solid waste, more commonly known as trash or garbage, was managed by disposal through a combination of landfills in the State (39%), export for disposal (27%), and combustion in the State (15%), for a combined total of 81%, with the remaining 19% recycled. Based on the most recent available data (2018), New York trails the national average in municipal solid waste recycling. In that year, the United States Environmental Protection Agency (EPA) reported that approximately 24% of municipal solid waste was recycled nationwide, compared to the 19% New York recycled.

DEC is responsible for protecting public health and the environment by implementing proper and progressive materials management practices. This is achieved through the integration of solid waste management facility permitting and operation with State and local solid waste management planning. DEC's central office sets statewide solid waste policies, and its nine regional offices implement these requirements through permitting, inspecting, compliance monitoring, and enforcement within their respective regions. DEC regulates several types of facilities, including Recyclables Handling and Recovery Facilities (RHRFs).

RHRFs process source-separated non-putrescible recyclable materials. Source-separated materials are recyclable items that are separated from trash and other non-recyclable waste at the point of generation—such as in homes, businesses, or institutions—before collection. Non-putrescible materials are materials that do not readily decompose or rot and therefore do not produce odors or attract pests. These materials include paper, cardboard, plastics, metals, and glass. New York has separate collection and recycling programs for other items that should be properly managed outside the recycling bin, such as electronic waste, paint products, and rechargeable lithium-ion batteries. DEC also regulates other materials management facilities, such as transfer facilities, where solid waste, including source-separated recyclables, is received, consolidated, and then transported to another facility for processing, treatment, further transfer, or disposal. See Figure 2 for examples of materials that can and cannot be recycled through RHRFs.

Figure 2
Recycling Dos and Don'ts



RHRFs often serve as a processing link for many municipalities and businesses to allow them to get these source-separated non-putrescible recyclable materials into the recycling stream. These facilities are commonly referred to as "single stream" recyclers. At RHRFs, collected recyclables are received, sorted, cleaned, and processed into distinct material streams. Using a combination of manual labor and mechanical systems—such as magnets, optical sorters, and robotics—these facilities separate materials into clean, marketable commodities that are then baled and sold to manufacturers for creating new products, effectively diverting waste from landfills and reducing the need for virgin materials.

DEC is responsible for recycling education and outreach at the State level, while municipalities are responsible for direct consumer education on what is recyclable in their community. This is because recycling rules and accepted materials can vary by locality, and residents need locally relevant information to recycle correctly. Unclear education can lead to "wishcycling," the well-intentioned but misguided act of putting items in the recycling bin hoping they are recyclable, which contaminates the recycling stream, slows down processing, damages equipment, and can send entire loads to the landfill. Lithium-ion batteries, which may often be wishcycled, should not be put in household recycling or trash, because of their high potential for causing fires when damaged. The EPA reported that between 2013 and 2020, 245 fires were caused or potentially caused by lithium-ion batteries nationally. The most common sources of lithium-ion batteries are from small consumer devices, including cell phones, tablets, laptops, hoverboards, and e-cigarettes. It is important that these batteries be handled separately from regular household trash and instead be brought to electronics recyclers or hazardous waste collection facilities. Other commonly wishcycled items include plastic bags, polystyrene foam packaging and food containers, and mixed-material packaging (items that combine different materials like paper, plastic, and metal into one product that can't be separated such as nut cans, chip bags, kids' juice pouches, and toothpaste tubes).

Regulations require that RHRFs be registered or permitted by DEC to operate unless otherwise exempt. Exempt facilities include, but are not limited to, retailers or wholesalers that collect recyclables similar in nature to the products that they sell or redistribute (take-back sites), facilities operated by government or not-for-profit organizations that take back consumer goods for reuse, and municipal RHRFs that accept no more than 20 cubic yards of source-separated recyclables per day.

To be registered, RHRFs must generate less than 15% residue (materials that can't be recycled but must be disposed of) based on their intake for a full year of operation, and before July 2023, had to accept less than 250 tons per day of source-separated materials based on a weekly average. Beginning in July 2023, DEC lifted the 250-tons-per-day requirement to simplify the registration process, allowing larger facilities that receive more than that, with a residue rate below 15%, to register instead of obtaining a permit. Residue represents materials that are deemed unmarketable and ultimately sent for disposal; it does not include materials that remain temporarily stored on site. According to DEC officials, the residue rate is the percentage of total residue to total materials received.

RHRFs that do not meet regulatory registration criteria (such as residue rate) must obtain a permit that authorizes the operation and closure of the facility in accordance with DEC regulations. Permit requirements can vary depending on the specific operations at the facility and, therefore, permitted RHRFs are not restricted to the maximum residue rate.

All registered and permitted RHRFs are required to submit an RHRF Annual Report (annual report) to DEC by March 1. Annual reports contain self-reported information that RHRFs certify as accurate and complete when submitting to DEC. Annual reports must include the type and quantity of recyclable materials received, processed, and shipped; service area of recyclables received; destination of recovered material; and residue rate to enable DEC to monitor operations and support statewide recycling and solid waste planning. Facilities must maintain operating records on site or at an approved secondary location, and the operating records must be readily available for inspection for at least 7 years. According to DEC officials, staff should review the annual reports for completeness and compliance each year to confirm that the correct form was submitted, all required information and attachments are included, and facilities meet reporting requirements. Environmental Conservation Law gives DEC the authority to impose fines if RHRFs do not submit an annual report. Regulations allow DEC to inspect RHRFs to ensure they are following regulatory requirements for proper recyclables handling and recovery. DEC delegates responsibility for conducting inspections of RHRFs to its regional offices.

DEC staff manually enter and track RHRF permits and registrations, annual reports, and inspections in the Solid Waste Information Management System (SWIMS). SWIMS data is used not only internally but is also compiled with other recycling and materials management data DEC collects and publishes in aggregate form in the Plan that feeds into statewide efforts to mitigate the effects of climate change. For the period January 1, 2021 through December 31, 2023, we identified 406 RHRFs operating in the State.

Audit Findings and Recommendations

DEC's oversight of RHRFs may be limited by weaknesses in how facilities are identified, reported, and monitored. Some of the information DEC maintains identifying which facilities operate as RHRFs is unreliable, which affects its ability to ensure all required facilities submit the appropriate annual reports. In addition, DEC does not consistently review annual reports submitted by RHRFs; therefore, many of the reports it receives are incomplete or contain inaccurate information. As a result, the data DEC relies on to understand RHRF activity may be unreliable, which could limit the data's usefulness in the Plan. Unreliable data could also affect DEC's ability to determine an accurate accounting of how much waste is being recycled in the State or decisions about the State's overall climate mitigation efforts, including solid waste reduction. Additionally, DEC has not established written guidance or policies to direct enforcement and inspection efforts and documentation; therefore, we found inconsistencies in how facilities were inspected and how inspection results were recorded, potentially reducing the effectiveness of inspections as a mechanism to monitor RHRFs. We found similar inconsistencies with DEC enforcement activities, which also lacked written procedures.

Annual Reporting Requirements and Reliability

To make informed decisions and evaluate an organization's performance in achieving key objectives, information needs to be relevant and of high quality. For information to be relevant, it must come from reliable internal and external sources in a timely manner; however, RHRFs are, in many instances, not submitting RHRF annual reports to DEC as required and DEC is not performing the necessary review to identify when RHRFs do not submit them. Also, DEC hasn't developed a mechanism to accurately identify what facilities are operating as RHRFs, other types of facilities (e.g., transfer facilities, municipal solid waste processing facilities, municipal solid waste landfills), or a combination of both.

Additionally, for those facilities that did submit annual reports, we found the quantities of recyclable materials that facilities reported were frequently inaccurate or not adequately supported by RHRFs' documentation, adding to data quality issues. Therefore, certain information from the annual reports and data maintained in SWIMS (DEC's system of record) may be incomplete and inaccurate, which limits its usefulness in the Plan. It also could affect DEC's ability to determine an accurate accounting of how much waste is being recycled in the State or decisions about the State's overall climate mitigation efforts involving solid waste reduction.

Facility Classification and Reporting

For the period January 2021 through December 2023, the 406 RHRFs operating in the State should have submitted a total of 1,065 annual reports (including 29 RHRFs that we found were submitted to DEC but were not in SWIMS). However, DEC received only 724 (68%). Of the 406 RHRFs, 389 (96%) were in SWIMS' data and 17 (4%) were not; therefore, SWIMS did not include data for all RHRFs. In other instances, RHRFs were inconsistently submitting annual reports, missing at least 1 year for the period. DEC did not receive 341 (32%) RHRF annual reports for 148 facilities, as displayed in Table 1.

Table 1
RHRF Annual Reports Received by DEC

Report Status	# Reports	% Reports	# Facilities	% Facilities
RHRF report received	724	68%	258	64%
RHRF report not received	341	32%	148	36%
Total	**1,065**	**100%**	**406**	**100%**

Note: Regarding the 341 RHRF reports not received, facilities either submitted a report other than an RHRF annual report and/or a correct report for a different year (308 reports), or facilities submitted no report (33 reports).

Additionally, for 12 of 29 reports that were not included in SWIMS, DEC could not determine why they were missing from SWIMS. For the remaining 17 reports, officials stated they were not included for various reasons. For example, officials stated some facilities operated as both an RHRF and transfer facility, but the facility was recorded in SWIMS only as a transfer facility, and therefore, the RHRF portion of the facility was not accurately recorded.

Facilities operating as both an RHRF and another type of facility must submit required reports for all types of operations; however, we found RHRFs did not do this consistently. Of the 341 RHRF annual reports DEC did not receive, 308 other non-RHRF reports were submitted by RHRFs that also operated a different facility type, but had only submitted reports for the other type of operation, not for their RHRF activities. Although these facilities reported information to DEC on their other operations, the information they submitted for those operations is not the same as is required by the RHRF annual report. For example, transfer station reports do not report on residue rate.

Because facilities are listed as RHRFs in the SWIMS data but submitted transfer facility (or other) reports, it is unclear whether these facilities are correctly classified or whether they are submitting the appropriate annual reports. The reliability of the SWIMS data along with the various reporting practices left us and, at times, DEC, unable to determine whether these facilities are operating as RHRFs at all. DEC does not have an adequate method for reliably determining this. For example, officials stated they have in practice allowed facilities that operate as both an RHRF and another type of facility (specifically transfer facilities) to report RHRF data on the other facility type's form and that facilities submitted reports as transfer facilities because the term "transfer station" appears in their facility name. However, our review of SWIMS data showed that facilities with "transfer station" in their name submitted a mix of RHRF and non-RHRF reports. Of the 406 facilities we reviewed, 163 (40%) had “transfer station” in their name:

- 72 (44%) submitted only non-RHRF annual reports
- 69 (42%) submitted only RHRF annual reports
- 21 (13%) submitted both RHRF and non-RHRF annual reports
- 1 (1%) submitted no report

Ultimately, the name of the facility could not be used to accurately identify what type of facility was being operated or what reporting requirements it was subject to. We recommend DEC develop a reliable means of determining what type of operations facilities are performing and make corrections to the SWIMS data as necessary so that DEC can collect the necessary information to both oversee facility operations and provide accurate information that is useful in evaluating recycling performance and progress toward the State’s solid waste reduction goals.

Annual Report Reliability

We analyzed residue rates reported on 695 RHRF annual reports that were included in SWIMS and found 443 of the 695 (64%) annual reports were missing information. For example, 433 (62%) were missing the residue rate. Specifically, at least one of the following sections was incomplete in each of the 443 reports:

- Section 2 – Materials Received (in tons)
- Section 4 – Residue (rate)
- Section 5 – Recyclables & Recovered Materials (in tons)

We also reviewed supporting documentation for a total sample of 55 facilities to determine if they were accurately reporting their recyclable materials. For each of the 165 reports submitted by the 55 facilities, we reviewed the sections listed above, comparing reported information to supporting documentation, and categorized the results as either:

- Inaccurate – Supporting documentation did not agree with amounts reported by the facility.
- Unsupported – The facility did not provide sufficient documentation to verify the reported amounts.
- Agreed – Supporting documentation agreed with the amounts reported.

Overall, we found the quantities of recyclable materials that facilities reported were frequently inaccurate or not adequately supported in each section reviewed, as shown in Table 2. Notably, facilities were able to support only 21% of recyclable materials received, 9% of recyclable material recovered, and 6% of residue reported.

Table 2
Annual Report Supporting Documentation Review

Determination	Section 2 (Materials)	Section 4 (Residue)	Section 5 (Recyclables & Recovered Materials)
Inaccurate	62 (38%)	4 (2%)	61 (37%)
Unsupported	68 (41%)	152 (92%)	89 (54%)
Agreed	35 (21%)	9 (6%)	15 (9%)
Total	**165 (100%)**	**165 (100%)**	**165 (100%)**

Additionally, of the 262 (38%) reports that did include residue rates, 31 (12%) reports for registered facilities listed a residue rate greater than the maximum 15% requirement. Facilities must report the amount of residue to calculate the residue rate because the rate can't be determined solely from the weight of materials received and shipped because some facilities—such as transfer facilities—temporarily store materials or operate in a manner that results in little or no residue. However, in most cases, facilities did not provide documentation showing how the residue amount was determined and, likewise, we could not ascertain how it was calculated.

DEC officials stated they do not, as a practice, require facilities to submit supporting documentation and they try and work with facilities when they have an elevated residue rate or if the residue rate is blank on the form. However, 60% of RHRF annual reports submitted were missing the residue rate and DEC provided no additional information or support showing communication with the facility to obtain the residue rate. If RHRFs are not effectively recovering recyclable materials, more material may ultimately be sent to landfills rather than recycled, which could undermine waste diversion goals, which are critical to the transition to a circular economy and mitigation of negative environmental consequences. We recommend DEC develop and implement procedures to determine the accuracy of residue rates and that, at a minimum, require staff to follow up as appropriate with facilities that leave residue rates blank and document these efforts.

Inspections and Enforcement

Inspections

Inspections are an important oversight tool to provide assurance that facilities adhere to operating requirements. During inspections, DEC evaluates areas such as facility management, operational controls, residue rates for registered facilities, water management, site access, and waste handling practices. The results of the inspections are recorded on an inspection report, which is the information DEC staff manually enter into SWIMS. Verification of the accuracy of any information reported to DEC, including information on the annual reports, is largely performed via these inspections.

DEC has not established in policy a frequency for inspecting facilities; however, its goal is to inspect registered facilities once every 3 years and permitted facilities annually, but regional offices may establish inspection goals that may vary from year to year. Also, other than the inspection form template used by its staff, DEC does not have written procedures guiding inspections. The lack of prescribed inspection frequency and procedures may have contributed to inconsistencies we found in how facilities were inspected and how inspection results were recorded, potentially reducing the effectiveness of inspections as a tool to monitor RHRFs. Furthermore, because inspections are the key mechanism DEC uses to verify information on the annual reports, it is important that they're performed frequently and thoroughly enough to act as a control for data quality and reliability. We recommend DEC develop procedures to provide assurance that inspections are effective to monitor RHRF activities.

Using SWIMS data, we assessed whether and how frequently DEC conducted inspections of RHRFs during the period January 1, 2021 through December 31, 2023. Of the 389 registered and permitted RHRF facilities, 251 (65%) were inspected at least once and 138 (35%) were not inspected. We selected a random sample of 16 of the 251 facilities inspected and reviewed their corresponding inspections reports. For the 16 facilities, there were 21 inspection reports on file with DEC; however, only 15 (71%) of the reports were for RHRFs during the period we selected. Five (24%) were reports for other types of facilities (e.g., transfer stations), and one (5%) was the correct type of report but for a date other than the one recorded in SWIMS.

For each of the 15 RHRF inspection reports, we determined whether it was complete and whether there was documentation of operational records review and review of residue rate information, and support that DEC found violations, if applicable. Of the 15, nine (60%) were incomplete in some way: for six (40%), the inspector didn't document that a review of operational records was performed; for two (13%), the inspector didn't document review of residue rate was performed; and for one (7%), the inspector didn't fill out the review of operational records section.

Additionally, one report identified a violation, but did not document any follow-up DEC planned to address the facility's non-compliance with program requirements. While the inspection report template includes a section for documenting violations, it does not require inspectors to document corrective actions or follow-up. DEC officials stated that when violations are identified, inspectors typically notify facilities verbally and provide an undocumented timeline for correction, followed by a subsequent inspection. If violations persist during a follow-up inspection, DEC issues a Notice of Violation (NOV) that includes required corrective actions; however, without documentation to support when a violation is identified, we cannot determine if or when this practice is followed. We recommend DEC develop procedures to guide inspectors during inspections and document the work they perform during an inspection.

Enforcement

Enforcement provides assurance that requirements are not merely written but are actively practiced. To this end, enforcement should be consistently applied as often as practicable, recognizing that circumstances may vary individually. While Environmental Conservation Law authorizes DEC to enforce non-compliance with RHRF requirements, including the failure to submit annual reports, we found enforcement of RHRFs' compliance with reporting and other requirements is inconsistent and infrequent, which may contribute to why RHRFs often fail to submit annual reports and why the reports are inaccurate.

As previously stated in our report, facilities failed to submit 33 annual reports of any type. DEC officials stated if a facility fails to submit an annual report, they will start enforcement action, first issuing a NOV to the facility with continued non-compliance, possibly resulting in fines or penalties. During our audit period, DEC issued five NOVs to three RHRFs. One facility received an NOV in each of the 3 years of our audit period and a penalty of $33,250 was assessed; the violations were mainly related to improperly storing certain items, not for late or missing annual reports. A second facility was fined $2,500 for failing to submit an annual report. A third facility received an NOV for not submitting its annual report but was not assessed a fine. It is unclear why DEC did not issue NOVs for any of the other 28 RHRFs that did not submit annual reports during the period January 2021 through December 2023. To provide increased assurance that enforcement promotes compliance, we recommend DEC develop written procedures that direct staff on how to apply enforcement action for violations and document actions taken.

Recommendations

1. Develop a reliable means of determining what type of operations facilities are performing and make corrections to the SWIMS data as necessary.
2. Develop and implement procedures to determine the accuracy of residue rates and that, at a minimum, require staff to follow up as appropriate with facilities that leave residue rates blank and document these efforts.
3. Develop procedures to guide inspectors during inspections and document the work they perform during an inspection, which may include, but not be limited to:
    - Implementing a review of data submitted to DEC, including annual report information for completeness and accuracy, and supporting documentation from facilities to determine if the residue rate reported is accurate.

- Applying follow-up and enforcement actions for non-compliance.
- Establishing written procedures for inspection frequency.

Audit Objective, Scope, and Methodology

The objective of our audit was to determine whether DEC is adequately monitoring recyclables handling and recovery facilities to ensure recyclables are properly handled and recovered throughout the State. The audit covered the period January 2021 through December 2023.

To accomplish our audit objective and to assess related internal controls, we reviewed relevant laws and regulations, DEC's policies and procedures, interviewed DEC officials, attended site visits to two RHRFs, and examined DEC records. We reviewed 695 RHRF annual reports submitted during our 3-year audit scope to determine completeness and accuracy. Additionally, we sent a survey to 150 facilities to gain a general understanding of the program.

We used a non-statistical sampling approach to provide conclusions on our audit objective and to test internal controls and compliance. We selected both judgmental and random samples. However, because we used a non-statistical sampling approach for our tests, we cannot project the results to the respective populations, even for random samples. Our samples, which are discussed in detail in the body of our report, were:

- A total sample of 55 facilities (for a total of 165 RHRF annual reports) to review supporting documentation for report completeness and accuracy: one random sample of 20 of 115 total facilities with less than a 15% residue rate, one random sample of 20 of 177 total facilities with no residue listed in their annual report, and all 15 facilities with a greater than 15% residue rate.
- A random sample of 16 of the 251 RHRF DEC-inspected facilities (for a total of 21 inspection reports) to examine for completeness.

We obtained DEC's SWIMS export of RHRF facility data. We assessed the reliability of that data by reviewing existing information, and tracing to and from source data. As described in the body of this report, we found SWIMS data to be unreliable, as it contained inaccurate and incomplete data. However, it was the only data available to us, and we limited our reliance on the data by using hard copy records to support our findings and conclusions.

Statutory Requirements

Authority

The audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

We conducted our performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. These duties may be considered management functions for the purposes of evaluating organizational independence under generally accepted government auditing standards. In our professional judgment, these duties do not affect our ability to conduct this independent performance audit of DEC's oversight of recyclables handling and recovery facilities.

Reporting Requirements

We provided a draft copy of this report to DEC officials for their review and comment and considered their comments in preparing this final report. We have included their response in its entirety at the end of this report. In their response, DEC officials generally agreed with our audit recommendations and have indicated actions to implement them. However, DEC disagreed with some of our findings. We added State Comptroller's Comments embedded within their response in several areas for clarification.

Within 180 days of the final release of this report, as required by Section 170 of the Executive Law, the Commissioner of the Department of Environmental Conservation shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendation contained herein, and where the recommendation was not implemented, the reasons why.

DEC Response and State Comptroller’s Comments

New York State Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Commissioner

Heather Pratt
Office of the State Comptroller
Division of State Government Accountability
110 State Street – 11th Floor
Albany, New York 12236-0001

Dear Heather Pratt:

The New York State Department of Environmental Conservation (DEC) has reviewed the Office of the State Comptroller's Draft Audit Report *Oversight of Recyclables Handling and Recovery Facilities.*

DEC's comments with respect to this report are contained in the enclosed document. Please contact Andrew Fischler, Audit Director, at (518) 402-9761 if you have any questions regarding our response.

Sincerely,

Amanda Lefton
Commissioner

Department of Environmental Conservation
Oversight of Recyclables Handling and Recovery Facilities
2024-S-28
Response to OSC Draft Report

The New York State Department of Environmental Conservation (DEC) has reviewed the Office of the State Comptroller's (OSC) April 2025 draft audit report on DEC's oversight of Recyclables Handling and Recovery Facilities (RHRFs) and appreciates the opportunity to respond.

DEC's Division of Materials Management implements regulations pertaining to the authorization and operation of solid waste management facilities. The Division's Bureau of Solid Waste Management (Bureau) is responsible for registering, permitting, and regulating RHRFs and provides financial assistance to municipalities for the construction of recycling facilities and purchases of recycling processing equipment. RHRFs receive and sort source-separated recyclables and/or collect recyclables to transfer to another facility for sorting.

Since the enactment of RHRF regulations in 1988, Bureau staff have approved registrations and permits for nearly 1,100 RHRFs and provided over $255 million in funding for waste reduction and recycling programs, supporting more than 2,000 projects to aid municipal facilities in building and improving their infrastructures. RHRFs have in turn processed millions of tons of recyclable materials for reentry into the recycling stream to create new products and reduce waste sent to landfills. In addition, DEC is working to identify new ways to increase marketability for various recyclables, especially glass and plastics, through funding research at the State University of New York, and promoting changes to regulations that encourage recycling and reuse of certain materials. DEC also works diligently to promote waste reduction through public outreach, encouraging less consumption of single-use containers, utensils, and packaging (even if recyclable).

While the audit report asserts that recyclables facilities' recordkeeping and DEC monitoring of those facilities is essential to meeting circular economy goals in the State Solid Waste Management Plan, it must be noted that the facilities handling non-putrescible source-separated recyclables, whether sorting or transferring them, have a limited role in the planning and policy decisions affecting increased recycling in New York State. DEC's oversight focuses on ensuring facilities are designed and operating in accordance with regulatory requirements and in a manner that protects public health and the environment, but it does not effectuate recycling rates in New York State. Local governments, in part, through their development of local waste management plans, lay the foundation for planning and programs designed to increase recycling and reuse, and reduce waste.

State Comptroller's Comment – While RHRFs have a limited role in planning and policy decisions affecting recycling, DEC's role is significant. As such, it has established through regulation that registered RHRFs must generate no more than 15% residue (non-recyclable material) and is responsible for ensuring RHRFs adhere to this requirement. This requirement is directly tied to information reported on and utilized in the State's Solid Waste Management Plan (Plan), issued by DEC, which outlines six major focus areas, two of which have recycling as a component. It is concerning that DEC does not recognize the importance of its regulatory role in supporting this area of the State's Plan.

DEC generally accepts OSC's findings and will take appropriate action to implement recommendations cited in the report. The following is our response to the report's findings and recommendations.

Findings

- For the period January 2021 through December 2023, DEC should have received a total of 1,065 annual reports from RHRFs but received 724, and DEC is not performing the necessary review to identify when RHRFs do not submit them. Of the 341 RHRF annual reports DEC did not receive, 308 other non-RHRF reports were submitted by RHRFs that also operated a different facility type but had only submitted reports for the other type of operation, not for their RHRF activities.

  DEC Response:

  - A point of clarification is necessary regarding this finding. OSC's annual report submission testing results, which were shared with DEC, showed that all but 28 annual reports were received by DEC; however, OSC conflates RHRF annual reports that were submitted on non-RHRF annual report forms with those that were not received. A majority of the RHRF annual reports that OSC classified as not being received were submitted on transfer facility annual report forms, which capture quantities of recyclables handled and their destination in the same manner as RHRF annual report forms. In addition, regulations do not prohibit RHRFs from reporting their activities on transfer facility annual reports. Instead, they require that facilities submit an annual report in a format acceptable to DEC. RHRFs reporting data on transfer facility annual report forms has long been accepted by DEC as a means of reporting for facilities operating as both RHRFs and transfer facilities and DEC does not consider RHRF reports submitted in such a way as not being received.
  - Even when RHRFs present operational information on a non-RHRF annual report form, DEC staff can easily decipher recycling quantities received and processed for reuse, which are subsequently validated for use in the New York State Solid Waste Management Plan.

State Comptroller's Comment – Our report accurately depicts the number of RHRF annual reports that DEC received for the period and explains that other annual reports were received and accepted by DEC. Our report identified 33 (341 - 308 = 33) reports were never received—not 28—which DEC states in its response. However, DEC's statement that transfer facility annual reports "capture quantities of recyclables handled and their destination in the same manner as RHRF annual report forms" is inaccurate and misleading. Transfer facility annual report forms do not contain all the information required to calculate the residue rate, which is necessary to measure the facilities' effectiveness. Additionally, although DEC officials state that RHRFs' reporting data on transfer facility annual report forms has long been accepted by DEC as a means of reporting for facilities operating as both RHRFs and transfer facilities, DEC's own instructions direct facilities operating multiple activities to complete annual report forms for each activity.

- DEC has not developed a mechanism to accurately identify what facilities are operating as

RHRFs, other types of facilities (e.g., transfer facilities, municipal solid waste processing facilities, municipal solid waste landfills), or a combination of both.

DEC Response:

- DEC does have a mechanism to identify facilities operating as RHRFs, other types, or a combination of both. Activity codes that identify facilities' operational characteristics (as described in regulation) and types of waste handled are assigned to registered and permitted facilities and tracked in SWIMS.

State Comptroller's Comment – DEC's current mechanism to identify facility operations is inadequate, and additional controls are needed to ensure accuracy. Some of the information DEC maintains identifying which facilities operate as RHRFs is unreliable, which affects its ability to ensure all required facilities submit the appropriate annual reports. As demonstrated throughout our report, we found facilities that were not classified correctly as RHRFs or transfer facilities, inaccurate and/or unsupported quantities of recyclable materials, and in some instances, facilities not present in SWIMS data at all.

- For 17 RHRF annual reports that were not in SWIMS, officials stated they were not included for various reasons. For example, officials stated some facilities operated as both an RHRF and transfer facility, but the facility was recorded in SWIMS only as a transfer facility, and therefore, the RHRF portion of the facility was not accurately recorded.

DEC Response:

- DEC provided justification for each of the 17 facilities not having an RHRF annual report in SWIMS. The majority (71%) were not required to submit an RHRF annual report because they were transfer and other waste type facilities or ceased operations. Additionally, two had changed their name and had RHRF reports in SWIMS under their new name; two operated as an RHRF and transfer facility and both were classified in SWIMS as transfer facilities, which are allowed to submit information on a transfer facility annual report form; and one was an RHRF that should have had an annual report in SWIMS.

State Comptroller's Comment – DEC's response provides additional context to what we reported. While this information is consistent with our findings, it does not address the 12 reports provided that were not included in SWIMS or provide an explanation for why the reports were missing. For example, we received RHRF annual reports for one facility for both 2021 and 2022, but DEC had no record of them in SWIMS data until 2023, demonstrating DEC's data was incomplete and inaccurate.

- The reliability of the SWIMS data along with the various reporting practices made us unable to determine whether these facilities are operating as RHRFs. DEC does not have an adequate method for reliably determining this.

DEC Response:

- Regulations define an RHRF and detail the rules applicable to those facilities, including the types of materials they accept and allowable operations – key factors dictating how a facility is registered or permitted. Prior to the 2023 regulatory revisions, registrations were valid for five years, which granted continued registration status until 2028 for facilities registered in 2023. The updated regulations no longer consider facilities that receive and transfer recyclables without processing (i.e., transfer facilities) as RHRFs, but for those maintaining their registration status under the old regulatory framework, reporting using previous practices is acceptable until renewal. Under these circumstances, data analyses performed by those unfamiliar with the complexities in facility tracking introduced by the new regulations could cause SWIMS data to appear unreliable. DEC is able to validate operations and determine compliance by evaluating the recyclables quantities stated in annual reports.

State Comptroller's Comment – DEC's response is not relevant to what we found and does not address our finding that the data in SWIMS is unreliable and hinders its ability to effectively oversee and monitor recycling activities in the State. The RHRF annual report submissions reviewed during our audit were for years 2021, 2022, and 2023—therefore, a regulatory change that occurred in July 2023 would be largely immaterial to our audit work. Further, our analysis is based on the information provided by DEC and contained in its system. Therefore, DEC was responsible for appropriately classifying the facilities based on what regulations require. If a facility is a transfer station and not an RHRF, it should be correctly classified as that in SWIMS.

- Residue rates were missing in 433 of the 695 RHRF annual reports that we analyzed in SWIMS.

  DEC Response:

  - This finding does not distinguish between facilities that sort and process recyclables versus those that simply pass them through. Residue may have been missing because rates did not apply to facilities, or the portion of facilities (operating as both an RHRF and transfer facility) that transfer recyclables without sorting them.

State Comptroller's Comment – Our analysis is based on how the facility has been classified by DEC in its data. If a facility is a transfer facility and does not need to report residue, it should be correctly classified by DEC in SWIMS data. If these facilities were correctly classified as transfer facilities by DEC, we would not have received them in the data we requested, and it would not have been included in our analysis. As stated in our report, we were unable to determine whether facilities are operating as RHRFs due to mismatches in how a facility was classified by DEC versus the type of report submitted. Further, based on DEC's response that "residue may have been missing because rates did not apply to facilities," DEC also can't discern from the data whether the facility is operating as an RHRF or a transfer facility. Without accurate data, DEC cannot effectively monitor RHRFs' compliance with regulations.

- For 55 sampled facilities, we found the quantities of recyclable materials reported were frequently inaccurate or not adequately supported, and (in most cases) they did not provide documentation showing how the residue amount was determined, nor could we ascertain how it was calculated. DEC does not require facilities to submit supporting documentation, but they work with facilities when they report an elevated residue rate or if it is left blank.

  DEC Response:

  - DEC regulations do not require facilities to provide supporting documentation along with their annual reports but do require facilities to attest to the accuracy of the information provided on the accompanying forms. As necessary, DEC validates form information and follows up with facilities to obtain supporting documentation when discrepancies are identified; however, facility operating regulations only require that they maintain daily logs of materials received and removed from the facility, not specific information related to residue.

State Comptroller's Comment – By not collecting support for residue rates, DEC has limited assurance that the information reported on the RHRF annual reports is accurate and the residue rates are correct.

- DEC officials stated they do not, as a practice, require facilities to submit supporting documentation for residue rates. However, 60% of annual reports submitted were missing the residue rate and DEC provided no additional information or support showing communication with the facility to obtain the residue rate. If RHRFs are not effectively recovering recyclable materials, more material may ultimately be sent to landfills rather than recycled.

  DEC Response:

  - Missing residue rates on annual reports are not an indicator of facility effectiveness. But more importantly, most of the annual reports that were flagged in OSC's sample for missing residue rates were transfer facilities. These facilities transfer recyclables to other facilities who sort and process them for reuse and do not generate residue or send recyclables to landfills.

State Comptroller's Comment – During our audit, DEC was unable to identify which facilities from the SWIMS data—which are classified as RHRFs—are transfer facilities. Since that time, DEC has provided no documentation, analysis, or other evidence to support its statement that "most of the annual reports that were flagged in OCS's sample for missing residue rates were transfer facilities." Furthermore, in its response, DEC provides no actual numbers or statistics to support use of "most."

- We found enforcement of RHRFs' compliance with reporting and other requirements is inconsistent and infrequent which may contribute to why RHRFs often fail to submit annual reports and why the reports are inaccurate.

  DEC Response:

  - We do not agree that RHRFs often fail to submit annual reports. The auditors testing identified 28 facility annual reports that were missing during their testing; however, when reporting on the total number of unsubmitted annual reports, OSC conflated the number of missing annual reports with the number of annual reports that were submitted on non-RHRF annual report forms, which does not constitute a failure to submit.

State Comptroller's Comment – We did not conflate the number of missing annual reports that were submitted. Our report accurately depicts the number of RHRF annual reports that DEC received for the period and explains that other annual reports were received and accepted by DEC. However, DEC failed to consistently enforce submissions for those facilities that did not submit any reports. Our report identified 33, not 28, facility reports that were missing—five that NOVs were issued for. DEC did not take enforcement action in the other 28 instances.

Recommendations

1. Develop a reliable means of determining what type of operations facilities are performing and make corrections to the SWIMS data as necessary.

DEC Response:

- ➢ DEC will work to develop a web-based facility interface allowing for a more accurate and efficient transfer of regulatory specific annual report information into SWIMS. In addition, staff will be sent reminders regarding appropriate use of activity codes when registering facilities and entering data into SWIMS.

2. Develop and implement procedures to determine the accuracy of residue rates and that, at a minimum, require staff to follow up as appropriate with facilities that leave residue rates blank and document these efforts.

DEC Response:

- ➢ DEC will work to develop a web-based facility interface for reporting annual report information that incorporates application controls to ensure required data is included before being accepted by the system.

3. Develop procedures to guide inspectors during inspections and document the work they perform during an inspection, which may include, but not be limited to, implementing:

- A review of data submitted to DEC, including annual report information for completeness and accuracy.
- A review of supporting documentation from facilities to determine if the residue rate reported is accurate.
- Follow-up and enforcement actions for non-compliance.
- Establishing written procedures for inspection frequency.

DEC Response:

- ➢ DEC will schedule additional training for staff that perform facility inspections. The training will focus on assessing facility operations and maintenance of appropriate records. DEC will also work on developing procedures for performing facility inspections.

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