Report to the Joint Standing Committee on the Environment and Natural Resources

132nd Legislature, Second Session

Maine Solid Waste Generation and Disposal Capacity Report for Calendar Years 2023 & 2024

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TABLE OF CONTENTS

I. Introduction 2

II. Overview of Solid Waste Management in 2023 & 2024 2

A. Solid Waste Generated in Maine in 2023 & 2024 3

B. Solid Waste Exported from Maine in 2023 & 2024 9

C. Solid Waste Imported into Maine in 2023 & 2024 9

D. Solid Waste Diverted from Disposal in 2023 & 2024 15

E. Solid Waste Disposed by Facility 16

F. Licensed Disposal Capacity by Facility 23

III. Progress Toward Maine's Waste Reduction and Recycling Goals 26

A. Maine's Municipal Solid Waste Recycling Goal 27

B. Maine's Municipal Solid Waste Reduction Goal 34

IV. Conclusions 38

Appendix A – Definitions 40

Appendix B – Proposed Amendments to 38 M.R.S. § 1310-Y 41

I. Introduction

This report is submitted to the Joint Standing Committee on Environment and Natural Resources pursuant to 38 M.R.S. § 2124-A which requires the Maine Department of Environmental Protection ("Department") to submit an annual report to the Legislature setting forth information on the statewide generation of solid waste, statewide recycling rates, and available disposal capacity for solid waste. It provides an overview of Maine's solid waste generation, diversion, recycling, and disposal activities for 2023 and 2024, and an evaluation of Maine's progress toward the municipal solid waste ("MSW") reduction and recycling goals established at 38 M.R.S. § 2132(1-B), and Maine's statewide recycling goal at 38 M.R.S. § 2132(1).

38 M.R.S. § 2124-A was amended by Public Law 2023, Chapter 331 to revise the biennial reporting requirement to an annual requirement beginning January 15, 2026. This report contains information for 2023 and 2024 to cover the previous biennial reporting period. Future annual reports will only reflect information from one year, beginning with 2025 information in the report due January 15, 2027.

The Department received the information in this report from the annual reports of licensed solid waste facilities and municipalities.

II. Overview of Solid Waste Management in 2023 & 2024

Solid waste in Maine is generated by residential, commercial, institutional, and industrial entities, and categorized based on characteristics as well as how the material was generated. These categories include MSW, construction and demolition debris ("CDD"), woody brush and land clearing debris, special waste (SPW), and universal waste. Various types of waste exist within each of these categories. This report primarily addresses waste generated by households and businesses, as the generation, recycling rates, and disposal of these waste materials are the focus of 38 M.R.S. § 2124-A. The term "municipal solid waste" is defined in 06-096 C.M.R. ch. 400, § 1(NNNN) as "[. . .] solid waste emanating from household and normal commercial sources […]." Maine has historically included CDD as a subset of MSW since it fits the criteria included in the definition of MSW.

Although CDD is considered a subset of MSW, it is generally handled as a separate waste stream and transported, processed, and disposed of separately from MSW. There are several facilities across Maine that accept loads of mixed CDD for processing which involves the separation or grinding of materials for recovery. Recovered marketable materials, such as scrap metal or wood chips, are then sent for recycling. Once the readily salable materials are removed, the processing residue is typically ground up and used as alternative daily cover ("ADC") at landfills or for shaping and grading within those landfills. In addition to the larger landfills that accept MSW and CDD for disposal, several municipalities operate their own smaller CDD-only landfills as discussed later in this report.

38 M.R.S. § 1305 assigns responsibility for the management of solid waste to municipalities: "Each municipality shall provide solid waste disposal services for domestic and commercial solid waste generated within the municipality […]." Waste is managed through combinations of

municipal and commercial waste handling services, facilities, and systems as each municipality determines how to fulfill their responsibility. Once collected, solid waste may be consolidated, temporarily stored, transported, recycled, processed, composted, anaerobically digested, or beneficially used in place of virgin materials or as fuel, combusted at waste-to-energy facilities, or landfilled. Maine's *Solid Waste Management Rules* (06-096 C.M.R. chs. 400–419) set risk-based standards for the handling of solid waste for the purpose of protecting public health and the environment.

The total amount of MSW generated in the State has been calculated through analysis of the amounts of waste at their final points of disposition – waste disposed in landfills, incinerated at waste-to-energy facilities, processed at waste processing facilities, sent for recycling, beneficially used, composted, or sent for anaerobic digestion. Most of the data in this report were acquired from the annual reports of licensed facilities and recycling establishments in Maine for this 2023 and 2024 report period. For smaller operations that lack scales to weigh incoming and outgoing materials, waste quantities are estimated rather than verified using an exact measurement. Data were also requested from out-of-state sources, such as landfills that accept exported waste that was generated in Maine.

Information on organics recovery by commercial-scale organics management entities is included, but data on backyard, school-based, and small, on-farm composting operations are generally not collected and thus are not included in the calculation of Maine's MSW recycling rate. Data on managing electronics, vehicle batteries, consumer batteries, paint and paint containers, mercury-added lamps and mercury thermostats are obtained through a combination of voluntary and mandatory reporting by the specialized entities that manage these consumer products, including reports required by Maine's product stewardship laws,[1] data from hazardous waste manifests, and reporting by major collectors of recyclable items. Management of these materials is covered in greater detail in Maine's Annual Product Stewardship Reports, which are submitted annually to the Legislature and can be found on the Department's Reports webpage.[2]

It should be noted that the Department is currently in the process of developing an online reporting and licensing system that will greatly simplify the process of data gathering while making it easier for facilities to submit their reports. This system, known as the Maine Enterprise Licensing System ("MELS"), will provide significant efficiencies, enabling all reports to be submitted online in a simple, convenient, and accurate manner in addition to providing online access to public report data.[3]

A. Solid Waste Generated in Maine in 2023 & 2024

Waste materials generated in or imported into Maine are managed through licensed solid waste facilities, processing or recycling facilities, and drop-off collection points. In 2023, a total of

[1] Maine's Product Stewardship Framework law affirms product stewardship programs as an integral part of the State's solid waste management strategy. Learn more at https://www.maine.gov/dep/waste/productstewardship/index.html
[2] Department Reports are available at https://www.maine.gov/dep/publications/reports/index.html
[3] Recycling reports must be submitted in compliance with 38 M.R.S § 2145. Recycling reports that contain confidential business information will not be provided to the public pursuant to https://legislature.maine.gov/statutes/38/title38sec2145.html

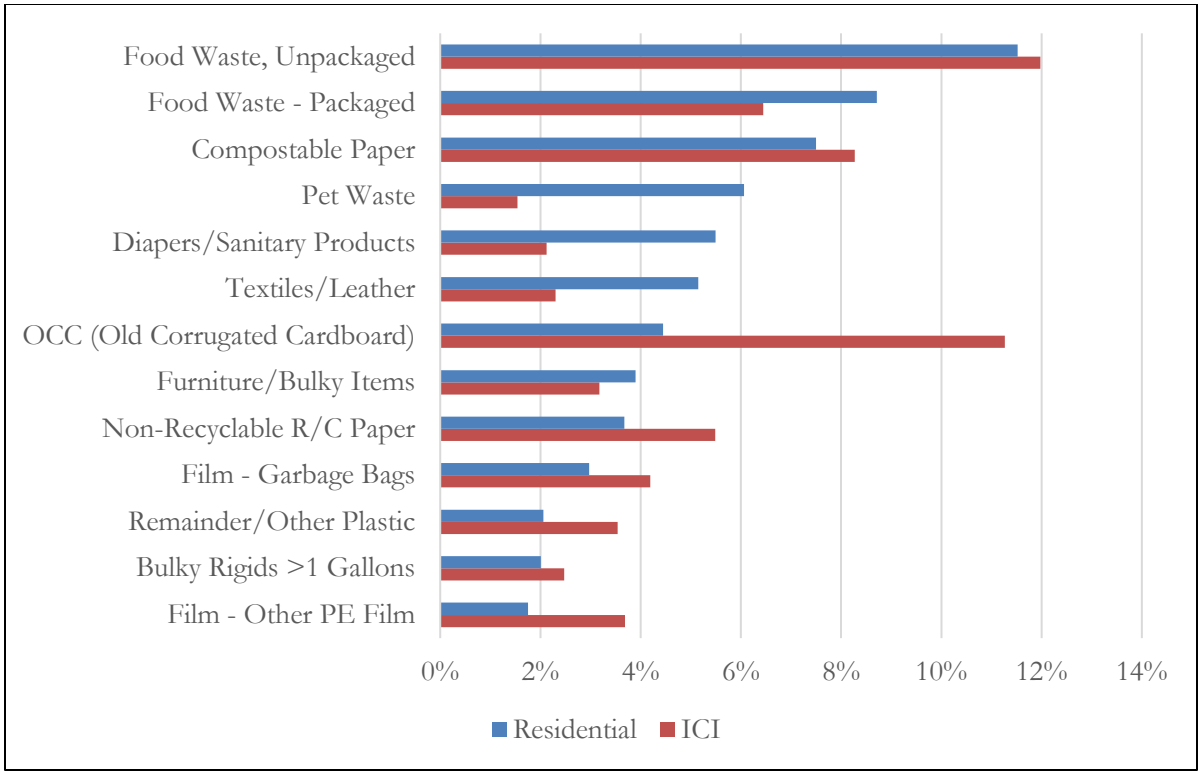
2,087,318 tons of MSW and CDD were managed in Maine, with 498,166 tons diverted from disposal and the remainder sent to landfills or incinerators, for a combined MSW and CDD recycling rate of 25.53%. In 2024, a total of 2,082,167 tons of MSW and CDD were managed, with 520,329 tons of that material diverted from disposal and the rest disposed, for a combined recycling rate of 26.84%. Approximately 910,708 tons of MSW were disposed in 2023, with 925,448 tons disposed in 2024. Maine's per capita MSW disposal rate in 2023 was approximately 0.65 tons per person (1,305 pounds), increasing slightly to approximately 0.66 tons per person in 2024 (1,317 pounds). Maine's estimated MSW recycling rate (excluding CDD) was 35.36% in 2023, increasing slightly to 35.99% in 2024. These per capita disposal and recycling rate estimates were calculated using the best available data as reported by facilities and recycling establishments. This report will provide an overview of how these materials were managed.

As discussed in the Maine Materials Management Plan: 2024 State Waste Management and Recycling Plan Update and 2022 Waste Generation and Disposal Capacity Report, a recently completed statewide waste characterization ("WC") study was funded through a United States Environmental Protection Agency ("US EPA") Solid Waste Infrastructure for Recycling ("SWIFR") grant. This study will be finalized and posted for public review early in 2026. A limited subset of data from the WC study is incorporated into this report for reference. The WC study provides insights into the specific materials within Maine's MSW and CDD waste streams. These study findings will be invaluable to the Department in developing recommendations for targeted waste reduction and recycling initiatives in the next Materials Management Plan update which is due in 2029.

Waste materials are typically commingled when being sent for disposal, whether in a household trash can or a dumpster. Total waste amounts disposed of are reported by weight for each waste category, such as MSW or CDD. Typically, there is no way to know what specific materials by type are in the waste. For example, total tons of MSW disposed of are reported, rather than tons of plastic bottles, paper, toys, food, etc. Similarly, total tons of mixed CDD discarded are reported rather than tons of wood, brick, drywall, etc.

In contrast, the WC study included both hands-on waste sorts and visual waste audits conducted at waste management facilities throughout the state, assessing specific materials in the waste destined for disposal. Primarily focused on MSW and CDD, the WC study provides an in-depth understanding of the types, amounts, and sources of material in these two common waste streams that are generated in significant quantities and sent for disposal. The waste analysis grouped materials in high-level categories such as packaged and unpackaged food, textiles, books, pet waste, etc. The WC study also assessed waste materials based on whether they were generated by residents or by the industrial, commercial, and institutional ("ICI") sectors. Figure 1 highlights the most prevalent items observed in the MSW stream by generator sector.

Figure 1. Comparison of Most Prevalent Materials by Generator Sector



Separate assessments were conducted for residential and ICI solid waste. Residential MSW stream components are shown in Figure 2, with ICI MSW stream components shown in Figure 3. The WC study data highlights an opportunity to increase recycling and composting rates, with several readily recoverable materials such as cardboard and food in the top ten most common items in the MSW stream. Other common MSW materials are more challenging to manage, such as pet waste and diapers.

Figure 2. Residential MSW Disposed Composition by Material Type

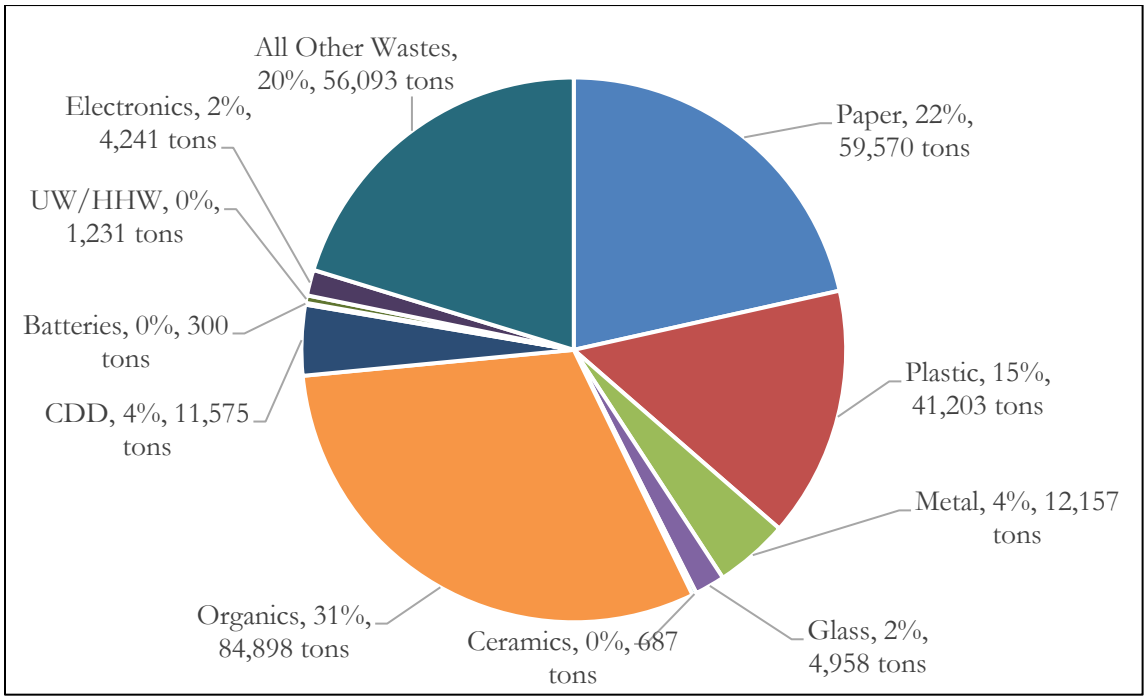
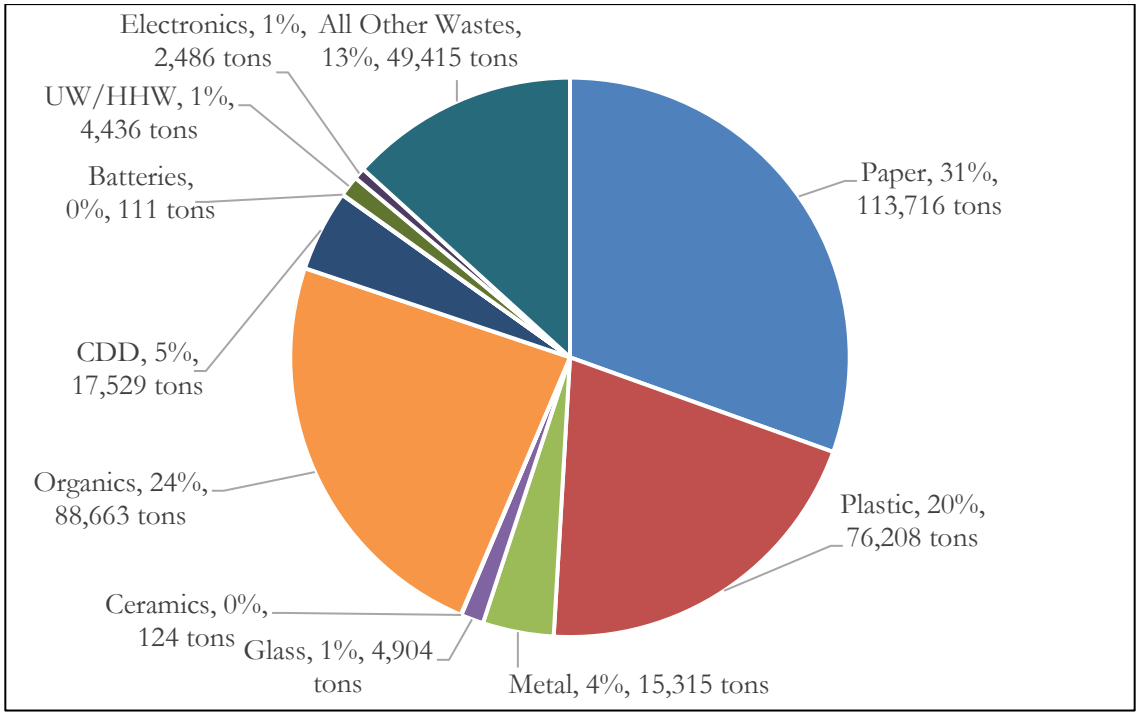


Figure 3. ICI MSW Disposed Composition by Material Type



As the data from the WC study show in Figures 4 through 6, there is crossover in the MSW and CDD waste streams, with CDD present in MSW, and vice versa. While some materials are more prevalent in the ICI stream, and some in the residential stream, the proportions of specific material types in the two waste streams were generally similar.

Figure 4. Comparison of MSW Composition by Generator Sector

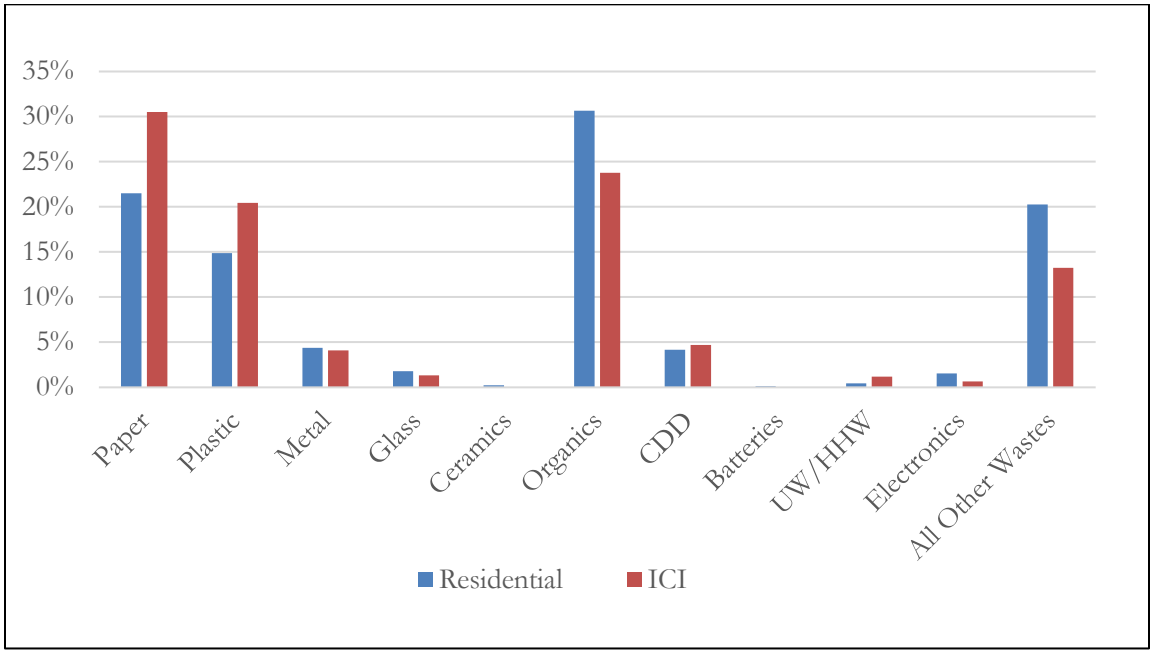
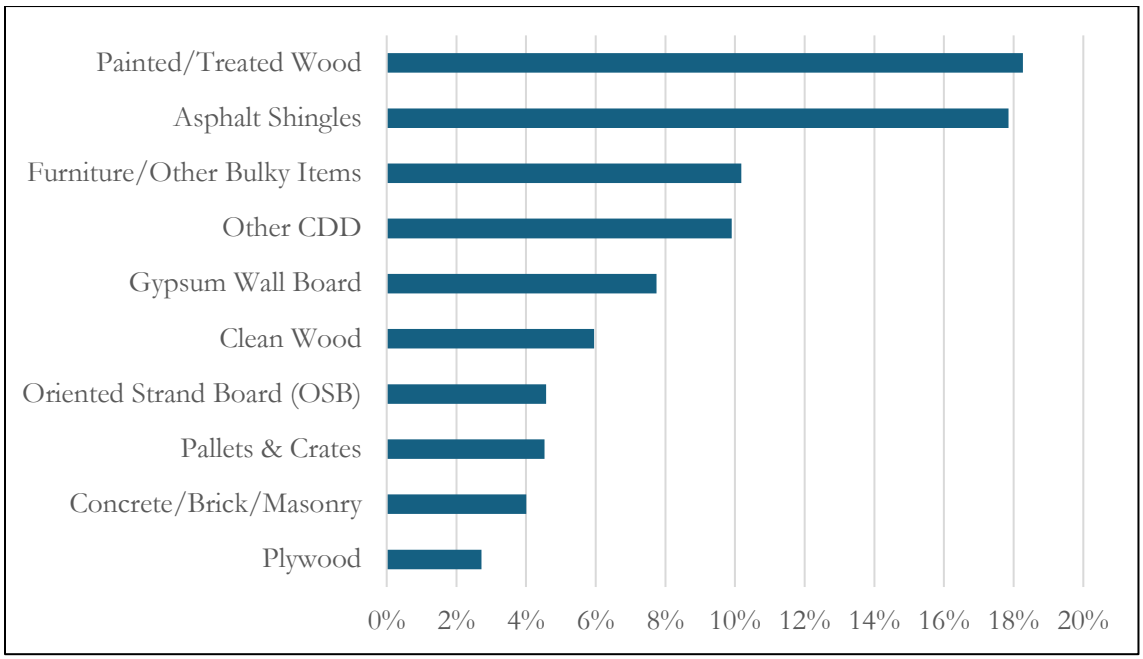
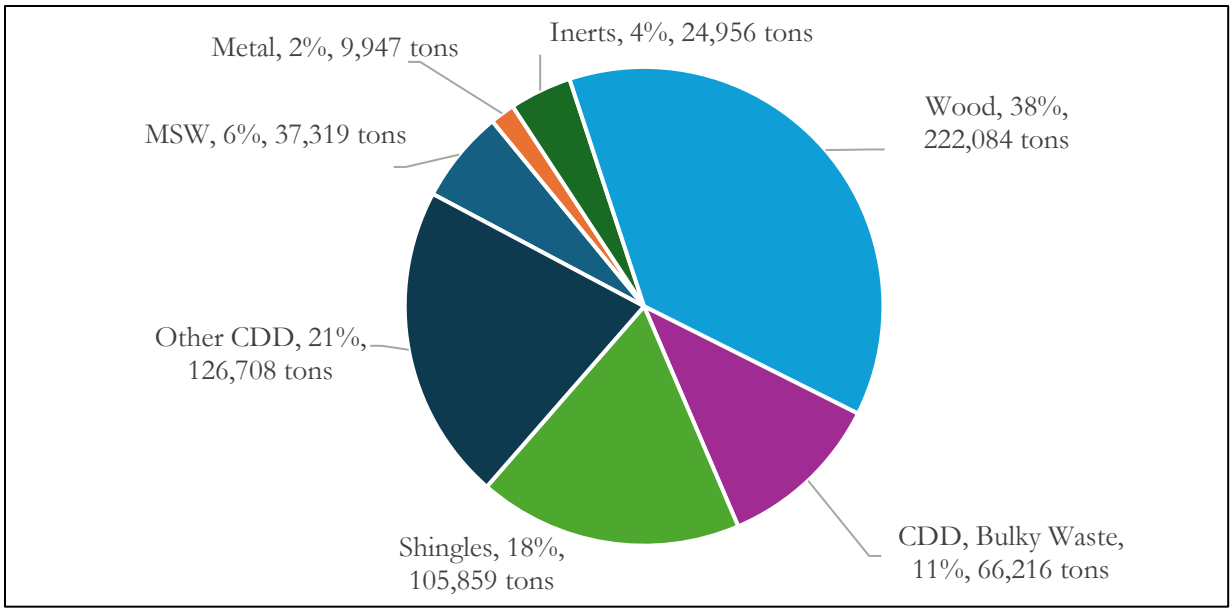


Figure 5. Most Prevalent Material Categories (By Weight) in Disposed CDD/Bulky Waste[4]



[4] The "Other CDD" category is comprised of a mix of asphalt paving, insulation, carpet and padding, ceiling tiles, ceramic fixtures, gypsum wallboard and various materials or material components that could not be categorized.

Figure 6. Detailed Composition of CDD/Bulky Waste

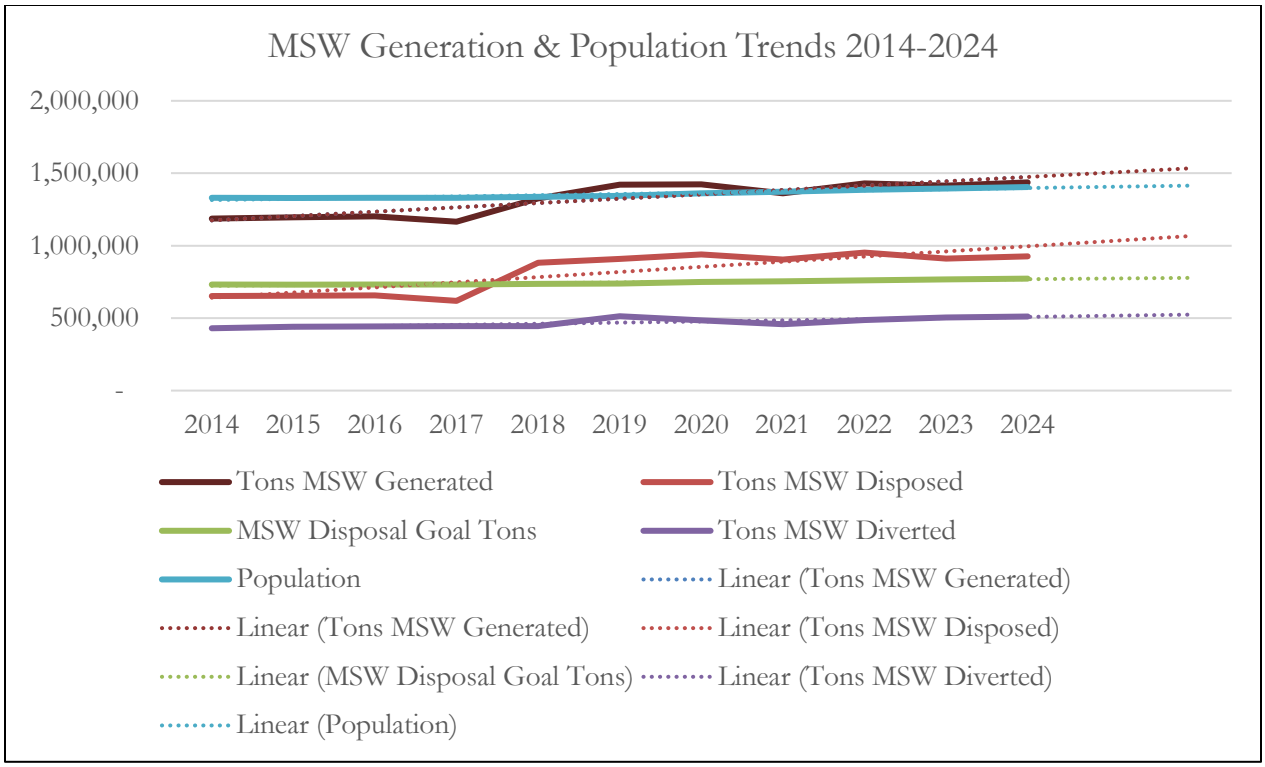


The WC study provides a significantly improved understanding of Maine's waste stream, providing clear data regarding how much of Maine's waste stream is comprised of such material currently, which will enable targeted diversion efforts based on the specific materials found to be prevalent in both the CDD and MSW streams that could be repurposed, reused, or recycled. While these waste materials are currently a financial burden due to direct costs of transportation and disposal as well as the unquantified cost of negative externalities from landfilling and incinerating materials, they also represent untapped economic opportunity.

For example, the WC provides an analysis of the estimated value of the recoverable materials currently being disposed of in Maine's waste stream and found an economic loss of approximately $21.8 million in 2024 alone. In addition, the WC study found that roughly 480,972 metric tons of greenhouse gas emissions[5] could potentially be avoided if just the typical household recyclable and compostable materials were diverted from the disposed MSW stream, let alone recoverable CDD materials such as metal and clean wood. Long-term trends continue to show MSW generation and disposal increasing at a faster rate than population or MSW diversion, as shown in Figure 7. However, legislative changes made in recent years are anticipated to reduce waste generation and disposal in the future, as discussed in more detail in Section III of this report.

[5] This calculation was made with the US EPA Waste Reduction Model ("WARM"). To most accurately reflect the potential environmental benefits of recycling in Maine, this estimate subdivided the disposed recyclables going to both landfill and the State's two operating WTE facilities in proportion to MSW tonnage disposed. As shown, WARM estimates that recycling the currently disposed recyclable materials, plus composting the currently disposed food and yard waste, would prevent emissions of over 480,000 metric tons of carbon dioxide equivalent ("MTCO2E"). Over 312,000 tons MTCO2E could be reduced from paper recycling, with the remaining amount reduced from container recycling and food/yard waste composting.

Figure 7. MSW Generation, Management, and Population Trends from 2014-2024



B. Solid Waste Exported from Maine in 2023 & 2024

The data in Table 1 below reflect information voluntarily shared by disposal facilities in New Hampshire and Canada on waste materials accepted from Maine in 2023 and 2024. This may not be a comprehensive accounting of all exported materials that were exported for disposal, as out-of-state and out-of-country facilities are not obligated to report to the Department. Those that provide these data do so voluntarily.

Table 1 – Maine Solid Waste Exports to OOS Landfills (Tons) Calendar Years 2023 & 2024

Year	Residential MSW	Commercial MSW	Total MSW	CDD	Special Waste	Subtotal	ADC	Total All Waste
2023	32,342	5,600	**37,942**	8,031	43,641	**87,405**	16,972	**106,586**
2024	30,714	5,360	**36,075**	10,733	50,754	**93,802**	7,439	**105,001**

C. Solid Waste Imported into Maine in 2023 & 2024

During 2023 and 2024, a minimal amount of MSW was imported into Maine and sent directly for disposal at waste-to-energy incinerators. Two of Maine's waste-to-energy facilities accepted small quantities of waste from other states in 2023 and 2024, as shown in Table 2 below.

Table 2 – Waste Imports to WTE Facilities - Calendar Years 2023 & 2024

Facility	2023 Tons	2024 Tons
ecomaine	1,270	1,258
Penobscot Energy Recovery Corporation	352	-
Total	1,622	1,258

WM (formerly known as Waste Management) owns and operates the Crossroads Landfill in Norridgewock, a commercial landfill that accepted several types of out-of-state waste in 2023 and 2024, as detailed in Table 3. The Crossroads Landfill did not accept any out-of-state MSW in 2023 and 2024.

Table 3 – Waste Imports to Crossroads Landfill - Calendar Years 2023 & 2024

Material	2023 Tons	2024 Tons
ADC	46,331	42,755
CDD	307	480
SPW	90,073	47,223
Total	**136,711**	**90,459**

While this report is broadly focused on the management of Maine-generated waste, data on waste materials that have been imported into Maine for management are also included in alignment with 38 M.R.S. § 2124(1)(B) in order to more accurately estimate future landfill capacity. Total quantities landfilled are included in the tables depicting landfill capacity use for an accurate accounting of how much material was placed in landfills. More substantial amounts of waste are imported into Maine for processing than for direct disposal.

Commercial-scale CDD processing facilities often accept mixed CDD from nearby states including Massachusetts and New Hampshire. CDD processors remove recyclable components like scrap metal and clean wood from the mixed CDD to export for recycling. Maine's largest CDD processor, ReSource Waste Services of Lewiston LLC ("ReSource") in Lewiston, typically grinds up the remaining materials, sending the processing waste residues for disposal or use at a landfill, such as for ADC or temporary road construction. While there are many solid waste processing facilities[6] in Maine, this report focuses on those that manage larger quantities of waste.

Solid waste processing facilities (including CDD processing facilities) that generate residue requiring disposal are required under the provisions of 38 M.R.S. § 1310-N(5-A)(B)(2) to recycle or process into fuel for combustion all waste accepted at the facility to the maximum extent practicable, but in no case less than 50%. Historically, Maine law defines "recycling" to include the use of residue at a solid waste landfill "for daily cover, frost protection or other operational or engineering related purpose, including [. . .] landfill shaping or grading [. . .]" for the purposes of licensing compliance.

[6] Annual facility reports for all permitted facilities are public records and available upon request except for those that are designated to contain confidential business information.

Recent amendments to this statute placed a cap on the percentage of processing residue that facilities will be able to "count" towards the 50% minimum recycling rate. Under the revised statute, "[…] at least 50% of the waste that a solid waste processing facility characterizes as recycled under this subparagraph must have been reused or recycled by the facility through methods other than placement of the waste in a solid waste landfill […]." While processors can still include some landfill material use towards their recycling goals, at least 25% of their recycling must occur outside of a landfill, through uses like plastic-to-plastic recycling, reuse,[7] recovery of metals, material substitutes in construction, or boiler fuel substitutes.

It is worth noting that the recent amendment does not currently apply to ReSource due to a statutory exemption for, "a solid waste processing facility that was in operation during calendar year 2018, that accepts exclusively construction and demolition debris and that accepted more than 200,000 tons of such debris in calendar year 2018," a description that applies only to ReSource. Rather, ReSource will be required to gradually increase the total percentage of material recovered via pathways other than placement in a landfill from 2026 through 2030, at which time they will also be required to meet the same 50% minimum recycling rate as the other facilities.

Another important amendment impacting processing facilities is a change to the definition of "Waste generated within the State" at 38 M.R.S. § 1303-C(40-A) which was amended in 2021:

> *Beginning February 1, 2023, notwithstanding paragraphs B, C and E, if the total weight of the residue generated in a calendar year by an incineration facility, recycling facility or solid waste processing facility that is disposed of or otherwise placed in a solid waste landfill in that calendar year exceeds the total weight of the solid waste initially generated within the State that was incinerated or processed by that facility in that calendar year, any such excess residue generated by that facility is not considered waste generated within the State.*

To provide a specific example, this amendment means that if a processing facility accepted 200 tons of CDD from out-of-state entities and 50 tons of CDD from Maine entities and sent 100 tons of material to a Maine landfill after processing, approximately 50 tons of the material sent to a landfill would be considered "out-of-state" waste as the amount landfilled as residue exceeded the amount of waste originally generated within Maine by 50 tons.

Two of Maine's largest CDD processing facilities, ReSource and WIN Waste Innovations of Northern New England Inc. ("WIN Waste") in Eliot, accepted approximately 232,591 tons of waste materials from out-of-state for processing in 2023, as shown in Table 4. These materials were comprised primarily of mixed CDD.

Table 4 – Incoming Materials to CDD Processors - Calendar Year 2023

	Tons from Maine	Imported Tons	Total Tons	Percent from Maine	Percent Imported
ReSource	53,270	125,739	179,009	30%	70%
WIN Waste	15,833	37,749	53,582	30%	70%

[7] Reuse of waste generated within the State as defined in 38 M.R.S. § 1303-C(40-A)(C).

	Tons from Maine	Imported Tons	Total Tons	Percent from Maine	Percent Imported
Total	**69,103**	**163,488**	**232,591**	**30%**	**70%**

During 2024, these CDD processors imported slightly less material; a total of 211,793 tons, again primarily comprised of mixed CDD, as shown in Table 5.

Table 5 – Incoming Materials to CDD Processors - Calendar Year 2024

	Tons from Maine	Imported Tons	Total Tons	Percent from Maine	Percent Imported
ReSource	57,757	94,440	152,197	38%	62%
WIN Waste	16,586	43,010	59,596	28%	72%
Total	**74,343**	**137,450**	**211,793**	**35%**	**65%**

ReSource, Maine's largest CDD processor, accepted a total of 179,009 tons of mixed CDD in 2023. Table 6 provides a detailed breakdown of how these materials were managed after processing.[8] Approximately 91,048 tons of construction processing fines (41,245 tons processing fines, 49,803 tons construction fines[9]) or 48% of all processed material was sent to Juniper Ridge Landfill ("JRL") for daily cover, shaping, and stabilization while 78,532 tons or 42% was sent to the landfill as residue for disposal. The remaining 19,072 tons, roughly 10% of all processed material, were sent to various end markets for recycling into new products such as particle board.

Table 6 – ReSource Management Summary - Calendar Year 2023

Material & Disposition	Total Tons Sent to Facility	Percent of Total Tons by Disposition	Receiving Facility	Facility Type
CDD Fines for Shaping, Grading, Cover (Use)	41,245	22%	JRL	Landfill
Construction Fines (Use)	49,803	26%	JRL	Landfill
Subtotal Landfill Use	**91,048**	**48%**		
CDD Residual (Disposal)	78,532	42%	JRL	Landfill
Landfill Subtotal (Use & Disposal)	**169,580**	**90%**		
CDD Wood Chips - Fuel	1,139	1%	ReEnergy Livermore Falls	Processor

[8] While the 78,532 tons of processing residue ReSource sent to landfill in 2023 did exceed the 53,270 tons of material originally accepted from within Maine by 25,262 tons, the facility was not out of compliance due to a provision in PL 2025, ch. 373, which stated: "1-A. Any additional excess residue associated with the processing of the oversized bulky waste amount identified in subsection 1 generated by the solid waste processing facility in that 12-month period and used at a solid waste landfill, not to exceed 75,000 tons in that 12-month period, is deemed to be waste generated within the State within the meaning of Title 38, section 1303-C, subsection 40-A, as long as that additional excess residue is not composed of oversized bulky waste and is used at a state-owned solid waste landfill as daily cover…" retroactive to June 23, 2023.

[9] "Fines" are defined in in 06-096 C.M.R. ch. 400, § 1(BBB) as "soil material that passes through a #200 U.S. Standard Sieve," but may also be comprised of non-soil material, including "Residue," which is defined in 06-096 C.M.R. ch. 400, § 1(Tt) as "waste generated as a result of the handling, processing, composting, incineration, or recycling of solid waste including, without limitation, front end process residue, fines and other residues from construction demolition debris processing facilities, and ash from incineration facilities and non-compostable compost screenings."

Material & Disposition	Total Tons Sent to Facility	Percent of Total Tons by Disposition	Receiving Facility	Facility Type
CDD Wood Chip - Particle Board	7,587	4%	Tafisa Canada	Processor
Aggregate	5,852	3%	Multiple	Processor
Metal	3,959	2%	Multiple	Processor
Plastic, Sheetrock, Tires	535	0%	Multiple	Processor
Non-Landfill Subtotal	**19,072**	**10%**		
Total	**188,652**	**100%**		

ReSource had a total non-landfill recycling rate of 10% in 2023 but as previously noted, is not required to achieve a specific non-landfill recycling rate at this time.

In 2024, ReSource sent approximately 97,181 tons of construction processing fines (35,909 tons processing fines, 61,272 tons construction fines) or 58% of all processed material to JRL for daily cover, shaping, and grading or stabilization while 46,868 tons or 28% was sent to JRL as residue for disposal, with 3,552 tons or 2% sent to the WM landfill in Norridgewock. While ReSource shipped 144,049 tons of material to the JRL landfill in 2024, only 46,868 tons of that was classified as CDD processing residue for disposal. The facility accepted 57,757 tons from within Maine during 2024, which exceeds the 46,868 tons of residue sent to JRL for disposal. The remaining 21,004 tons, roughly 12% of all processed material, were sent to various end markets for recycling into new products such as particle board. A management summary is shown in Table 7.

Table 7 – ReSource Management Summary - Calendar Year 2024

Material & Disposition	Total Tons	Percent of Total Tons	Receiving Facility	Facility Type
CDD Fines for Shaping, Grading, Cover (Use)	35,909	21%	JRL	Landfill
Construction Fines (Use)	61,272	36%	JRL	Landfill
Subtotal Landfill Use	**97,181**	**58%**		
CDD Residual (Disposal)	46,868	28%	JRL	Landfill
CDD Residual (Disposal)	3,552	2%	WM	Landfill
Subtotal CDD Residual (Disposal)	50,420	30%	JRL (93%) & WM (7%)	Landfill
Landfill Subtotal (Use & Disposal)	**147,601**	**88%**		
CDD Wood Chips - Fuel	2,256	1%	ReEnergy Livermore Falls	Processor
CDD Wood Chip - Particle Board	4,928	3%	Tafisa Canada	Processor
Aggregate	8,179	5%	Multiple	Processor
Metal	5,297	3%	Multiple	Processor
Plastic, Sheetrock, Tires, Cardboard	344	0%	Multiple	Processor
Non-Landfill Subtotal	**21,004**	**12%**		
Total	**168,605**	**100%**		

In 2024, ReSource shipped 147,601 tons of material to landfills, roughly 50,420 tons of which was processing residue. The facility had a total non-landfill recycling rate of 12%.[10]

A similar management summary for processed materials management is shown in Tables 8 and 9 for another large CDD processor, WIN Waste.

Table 8 – WIN Waste Management Summary - Calendar Year 2023

Material	Tons	Percent of Total Tons	Destination	Disposition
Mixed CDD	14,382	27%	Juniper Ridge Landfill	Disposal
Mixed CDD	6,276	12%	Crossroads, Norridgewock	Disposal
Mixed CDD	2,209	4%	Turnkey, Rochester, NH	Disposal
Subtotal (All Landfills)	**22,867**	**43%**	**All Landfills**	**(Any)**
Subtotal (Maine Landfills)	**20,658**	**39%**	**Maine Landfills**	**Maine**
CDD Wood Chips	1,875	3%	Tafisa	Recycling
Mixed CDD	477	1%	WIN Waste, Leominster	Processing
Steel	8	0%	MAC Metals	Recycling
Mixed CDD	23,034	43%	ReSource, Lewiston	Processing
Mixed CDD	1,879	4%	UMM Millbury	Processing
Mixed CDD	3,500	7%	New England Recycling	Processing
Non-Landfill Subtotal	**30,772**	**57%**		
Total Tons	**53,640**	100%		

In 2023, WIN Waste sent 1,883 tons of wood chips and scrap metal for recycling, 28,890 tons of mixed CDD to other processors, including ReSource, for further processing, and 22,867 tons of mixed CDD to landfills for disposal (2,209 tons to NH, 14,382 tons to JRL, and 6,276 tons to WM's Crossroads Landfill). Approximately 57% of the tonnage shipped out was sent to a non-landfill facility. However, the majority of that was mixed CDD shipped on to other CDD processing facilities, rather than recycling facilities. This should not be interpreted as a recycling rate, as those processing facilities, which include ReSource Lewiston as well as out-of-state facilities for which data is not available, will further process the materials and will have varying rates at which they are able to recover materials for use outside of landfills. As shown in Table 4, WIN Waste accepted 15,833 tons of waste from Maine and 37,749 tons of imported waste. The facility sent 22,867 tons of mixed CDD to landfills for disposal.

[10] In 2024, ReSource Lewiston accepted 57,757 tons of mixed CDD from within Maine. This equated to 38% of the total material accepted by the facility in 2024. ReSource sent 50,420 tons of processing residue to JRL for disposal, which means that the amount sent to landfill as waste was approximately 7,337 tons less than was originally accepted from Maine. The facility also sent 91,048 tons of processing fines to JRL that were not considered to be disposed as they were used for landfill cover, shaping, grading, and stabilization. As noted previously, virgin soil must be used for such purposes when waste materials cannot be utilized.

Table 9 – WIN Waste Management Summary - Calendar Year 2024

Material	Tons	Percent of Total Tons	Destination	Disposition
Mixed CDD	13,003	24%	Juniper Ridge Landfill	Disposal
Mixed CDD	7,144	13%	Crossroads, Norridgewock	Disposal
Mixed CDD	3,760	7%	Turnkey, Rochester, NH	Disposal
Subtotal (All Landfills)	*23,907*	43%	**Sent to Landfills**	**(Any)**
Subtotal (Maine Landfill)	20,147	37%	**Sent to Landfills**	**Maine**
CDD Wood Chips	3,215	6%	Tafisa	Recycling
Asphalt Shingles	1,068	2%	Not provided	Recycling
Mixed CDD	1,256	2%	WIN Waste, Leominster	Processing
Steel	289	1%	Excel Recycling	Recycling
Mixed CDD	21,740	39%	ReSource, Lewiston	Disposal
Mixed CDD	3,114	6%	UMM Millbury	Processing
Mixed CDD	562	1%	New England Recycling	Processing
Non-Landfill Subtotal	**31,243**	57%		
Total Tons	**55,150**	100%		

In 2024, WIN Waste sent 4,571 tons of wood chips, asphalt shingles, and scrap metal for recycling, 26,672 tons of mixed CDD to other processors, including ReSource, for further processing, and 23,907 tons of mixed CDD to landfills for disposal (3,760 tons to NH, 13,003 tons to JRL, and 7,144 tons to WM's Crossroads Landfill). As in 2023, 57% of the tonnage shipped out was sent to a non-landfill facility. As shown in Table 5, WIN Waste accepted 16,586 tons of waste from Maine and 43,010 tons of imported waste. The facility sent 23,907 tons of mixed CDD to landfills for disposal.

D. Solid Waste Diverted from Disposal in 2023 & 2024

A summary of materials diverted from disposal is shown in Tables 10 and 11 below. An in-depth analysis of material diversion from disposal and Maine's statewide recycling rate and per capita waste generation is provided in Section III, Progress toward Maine's Waste Reduction and Recycling Goals.

Table 10 – MSW & CDD Diversion (in Tons) - Calendar Year 2023

Maine MSW Diversion	2023 Tons
Paper; cardboard; plastic, metal, and glass containers, textiles; and stewardship program materials recycled	205,820
Other MSW recycled (white goods, ferrous and non-ferrous scrap metal, and vehicle batteries)	246,982
Estimates for MSW reused (textiles, household goods, etc.)	11,032
Reported food rescue	3,826
Reported animal feed diversion of food scraps	1,713
Reported MSW composted (yard waste and food scraps, food processing waste; backyard	10,861

Maine MSW Diversion	2023 Tons
composting and < 60 yds³/month not included)	
Anaerobic digestion (source separated organics, not including industrial commercial waste such as deicer, slurries, manufacturing waste, etc.)	17,933
Total Maine MSW reused, rescued, recycled & composted	**498,167**
Maine CDD diversion	
Processed CDD used as fill outside of a landfill	5,852
CDD exported for recycling (scrap metal and wood sent for manufacturing uses)	18,866
CDD exported to out-of-state CDD processing facilities	8,550
Processed CDD beneficially used as fuel	1,376
Total Maine CDD recycled & beneficially used as fuel	**34,644**
Total MSW & CDD diversion	**532,811**

Table 11 – MSW & CDD Diversion (in Tons) - Calendar Year 2024

Maine MSW Diversion	2024 Tons
Paper; cardboard; plastic, metal, and glass containers, textiles; and stewardship program materials recycled	210,248
Other MSW recycled (white goods, ferrous and non-ferrous scrap metal, and vehicle batteries)	256,837
Estimates for MSW reused (textiles, household goods, etc.)	15,330
Reported food rescue	3,770
Reported animal feed diversion of food scraps	6,358
Reported MSW composted (yard waste and food scraps, food processing waste; backyard composting and < 60 yds³/month not included)	12,816
Anaerobic digestion (source separated organics, not including industrial commercial wastes such as deicer, slurries, manufacturing waste, etc.)	14,969
Total Maine MSW reused, rescued, recycled & composted	**520,328**
Maine CDD Diversion	**2024 Tons**
Processed CDD used as fill outside of a landfill	9,246
CDD exported for recycling (scrap metal and wood sent for manufacturing uses)	20,088
CDD exported to out-of-state CDD processing facilities	8,692
Processed CDD beneficially used as fuel	461
Total Maine CDD recycled & beneficially used as fuel	**38,487**
Total MSW & CDD Diversion	**558,815**

E. Solid Waste Disposed by Facility

Total waste generation is summarized below in Table 12, although special waste ("SPW") is not described in detail in this report. Data are included only to show the quantities for the purposes of landfill capacity.[11]

[11] As noted previously, many Maine processing facilities accept materials from other states and send processing residues to landfills.

Table 12 – Maine-Generated Solid Waste Disposal - Calendar Years 2023 & 2024

Year	MSW Tons	CDD Tons	Other Tons	Subtotal Tons	ADC Tons	SPW Tons	Total Tons
2023	910,708	552,207	10,739	1,473,654	192,895	43,641	1,710,190
2024	925,447	500,125	11,815	1,437,387	179,266	50,754	1,667,407

Table 13 shows the total amount of material landfilled by type in 2023 and 2024.

Table 13 – Total Landfilled Material in Tons - Calendar Years 2023 & 2024

Year	MSW Tons	CDD Tons	SPW Tons	Other Tons	Total Tons Landfilled as Waste	Cover, Shaping, Grading Tons	Total Tons to Landfill (Including Cover)
2023	563,964	544,176	183,033	2,742	1,293,915	174,932	1,468,846
2024	597,976	489,391	198,910	2,495	1,288,771	171,828	1,460,599

Landfills that accept waste requiring daily cover are frequently licensed to allow the use of some types of waste material as a specific alternative daily cover ("ADC"). In 2023 and 2024, Crossroads used the following wastes as ADC: contaminated soil, processed utility poles, crushed glass, wood chips and fines, ashes, some auto shredder fluff and some other special wastes. JRL is also licensed to use multiple types of waste as ADC: ashes, CDD fines and processing residues, and some contaminated soils. During 2023 and 2024, JRL used CDD processing fines and processing residues as ADC. It is important to note that use of ADC is necessary for proper landfill management. Landfill operators may use different materials for ADC, from manufactured materials like reusable tarps to waste materials like contaminated soils.[12] Many operators use multiple types of cover. If waste materials were not used for ADC, virgin soil would likely be used instead, increasing the overall amount of landfilled material because the waste materials used for daily cover would still need to be disposed.

Maine's MSW was disposed of via landfills and incinerators in 2023 and 2024 in the quantities and percentages shown in Table 14.

Table 14 – Maine MSW Disposal - Calendar Years 2023 & 2024

Year	MSW Landfilled	MSW Exported (OOS Landfills)	Total MSW Landfilled	% MSW Landfilled	MSW Disposed via Incineration	% MSW Disposed via Incineration	Total MSW Disposal
2023	563,964	37,942	601,906	66%	308,802	34%	**910,708**
2024	596,355	36,075	632,429	68%	293,018	32%	**925,447**

Maine's CDD was disposed of and used in landfills in 2023 and 2024 in the quantities shown below in Table 15.

[12] For more information about different landfill cover practices, see: https://www.wastetodaymagazine.com/news/landfill-insights-airspace-part-4-alternative-daily-cover/

Table 15 – Maine CDD Disposal - Calendar Years 2023 and 2024

Year	CDD Landfilled (waste)	CDD Exported (OOS Landfills)	Subtotal	CDD ADC, Shaping, Grading	Total Maine-Generated CDD
2023	544,176	8,031	552,207	91,593	643,800
2024	489,391	10,733	500,125	97,779	597,903

JRL is owned by the State of Maine, Bureau of General Services, Department of Administrative and Financial Services ("BGS") and operates under an operating services agreement ("OSA") between BGS and NEWSME Landfill Operations, LLC, a wholly owned indirect subsidiary of Casella Waste Systems, Inc., a private company. JRL is licensed to accept unprocessed MSW when it is bypassed from one of the three Maine waste-to-energy facilities, and, to a limited extent, from the solid waste processing facility in Hampden.[13] Bypass waste is generated when waste that was designated for disposal, processing, or beneficial use at a specific facility cannot be managed as planned due to a temporary malfunction, temporary insufficient capacity, temporary inability to process or burn, or temporary downtime at the facility.

Due to both the Municipal WasteHub processing facility and the Eagle Point Energy Center ("EPEC") waste-to-energy incinerator (formerly Penobscot Energy Recovery Corporation or "PERC") currently unable to process MSW, the waste destined for those facilities has been bypassed to landfills, including JRL, for several years. JRL is also licensed to accept front-end process residue, which is solid waste removed by processing prior to incineration, as well as waste-to-energy incinerator ash and other special wastes.

JRL also accepts CDD and CDD processing residue, a portion of which is utilized as ADC as discussed earlier in this report. As a state-owned resource, the facility is not licensed to accept out-of-state waste. JRL accepted approximately 874,810 tons of material in 2023, including 266,452 tons of unprocessed MSW (bypassed), 8,239 tons of residue waste from processing single-stream recyclables,[14] 425,689 tons of mixed CDD and residue, 82,962 tons of special waste, [15] and 91,468 tons of CDD residual fines used as ADC, shaping, and grading.

Bypass MSW accepted in 2023 included 61,230 tons from Municipal Review Committee (now Municipal WasteHub), 5,982 tons from ecomaine, 185,329 tons from Penobscot Energy Recovery Corporation (now Eagle Point Energy Center), and 13,862 tons from Maine Waste-to-Energy. These numbers have been rounded. The facility's report data for 2023 are shown in Table 16.

[13] JRL may also accept bypass MSW from Municipal WasteHub/Municipal Waste Solutions solid waste processing facility in Hampden in accordance with Department license #S-020700-WD-BP-M, effective April 11, 2019.
[14] Single-stream, zero-sort, or commingled/mixed recycling all refer to the process of placing mixed recyclables (paper, cardboard, plastic, metal, and glass) into a single container, with material sorting taking place at a Materials Recovery Facility ("MRF").
[15] A 2023 study by Brown and Caldwell ("BC") found that increased sludge landfill disposal in Maine following a ban on land application of sludge to limit PFAS contamination increased the need for bulky wastes such as CDD for proper landfill stabilization.

Table 16 – JRL Waste Accepted - Calendar Year 2023

Solid Waste Types (including ADC)	Total (tons)	% Total
Bypass MSW	266,452	30%
CDD/MSW Processing Residue – OBW (Disposed of in the Original 2004 Permitted Footprint)	10,679	1%
CDD/MSW Processing Residue – OBW (Disposed of in the Expansion Permitted Footprint)[16]	67,994	8%
Recycled/Reused CDD Processing Fines	50,774	6%
Mixed CDD	347,016	40%
Recycled/Reused Wood from CDD	248	0%
Residue/Trash from Single Stream	8,239	1%
Construction Fines (ADC, shaping, grading)	40,446	5%
Subtotal	**791,848**	**91%**
Special Waste Types	**Total (tons)**	**% Total**
Burn Pile Ash and/or Hot Loads Area Ash	339	0%
Burnt Structure Debris/Ash	350	0%
Catch Basin Grit & Street Sweeping	559	0%
Coal, Oil & Multi-fuel Boiler Ash	1,355	0%
Contaminated Soil & Debris	4,095	0%
Industrial (Miscellaneous)	131	0%
Industrial WWTP Sludge	9,086	1%
Leather Scraps	51	0%
Lime Mud/Grit	1,168	0%
MSW Incinerator Ash	2,619	0%
Municipal WWTP/POTW Sludge	57,090	7%
Non-Friable Asbestos	670	0%
Non-Hazardous Chemical Related	723	0%
Oil Spill Debris	2,191	0%
Polyethylene & Cellulose Trimmings	145	0%
Pulp Mill Waste	538	0%
Sandblast Grit	244	0%
Spoiled Foods	328	0%
Sulfur Scrubbing Residues	699	0%
Water/Air Filtration Media	7	0%
WWTP Grit Screenings	574	0%
Subtotal	**82,962**	**9%**
Grand Total	**874,810**	**100%**

[16] CDD/MSW Processing Residue – the OBW limit of 65,000 tons per year, set by Department license #S-020700-WD-BI-N, was modified through solid waste minor revision #S-020700-WD-CM-M. The minor revision approved the methodology and process used to determine JRL's annual OBW limit of 85,000 tons per year during 2023 and 2024.

In 2024, JRL accepted approximately 856,845 tons of material, including 300,835 tons of MSW (bypassed), 5,958 tons of residue waste from processing single-stream recyclables, 358,792 tons of mixed CDD and residue, 93,490 tons of special waste, and 97,770 tons of CDD residual fines used for daily cover, shaping, and grading. Bypass MSW accepted in 2024 included 65,236 tons from Municipal Review Committee (now Municipal WasteHub), 6,587 tons from ecomaine, 206,993 tons from Penobscot Energy Recovery Corporation (now Eagle Point Energy Center), and 22,020 tons from Maine Waste-to-Energy. As with 2023, numbers have been rounded. The facility's report data for 2024 is shown in Table 17.

Table 17 – JRL Waste Accepted - Calendar Year 2024

Solid Waste Types (including ADC)	Total (tons)	% Total
Bypass MSW	300,835	35%
CDD/MSW Processing Residue - OBW (Disposed of in the Original 2004 Permitted Footprint)	5,286	1%
CDD/MSW Processing Residue - OBW (Disposed of in the Expansion Permitted Footprint)	41,808	5%
CDD Processing Residue - Fines	36,169	4%
Mixed CDD	311,698	36%
Recycled/Reused Wood from CDD	301	0%
Residue/Trash from Single Stream	5,958	1%
Construction Fines (ADC, shaping, grading)	61,300	7%
Subtotal	**763,355**	89%
Special Waste Types	**Total (tons)**	**% Total**
Burn Pile Ash and/or Hot Loads Area Ash	596	0%
Burnt Structure Debris/Ash	435	0%
Catch Basin Grit & Street Sweeping	598	0%
Coal, Oil & Multi-fuel Boiler Ash	34	0%
Contaminated Soil & Debris	13,831	2%
Dredged Spoils	1,243	0%
Industrial (Miscellaneous)	136	0%
Industrial WWTP Sludge	220	0%
Leather Scraps	51	0%
MSW Incinerator Ash	158	0%
Municipal WWTP/POTW Sludge	63,054	7%
Non-Friable Asbestos	6,727	1%
Non-Hazardous Chemical Related	1,215	0%
Oil Spill Debris	3,424	0%
Polyethylene & Cellulose Trimmings	101	0%
Sandblast Grit	176	0%
Spoiled Foods	75	0%
Sulfur Scrubbing Residues	668	0%

Water/Air Filtration Media	30	0%
WWTP Grit Screenings	718	0%
Subtotal	**93,490**	**11%**
Grand Total	**856,845**	**100%**

The Crossroads Landfill in Norridgewock is owned and operated by Waste Management ("WM"), a private company. As Maine's only commercial landfill, it is licensed to accept waste from outside of Maine in addition to in-state waste. Tonnage of materials accepted for disposal in 2023 and 2024 are shown in Tables 18 and 19. WM refers to their ADC materials that the facility accepts as "revenue generated cover," or "RGC," as shown in the tables.

Table 18 – WM Crossroads Waste Accepted - Calendar Year 2023

Material	OOS Tons	ME Tons	Total Tons	% from ME
MSW	-	203,093	203,093	100%
RGC	46,331	33,247	79,578	42%
CDD	307	71,080	71,387	100%
SPW	90,073	34,035	124,108	27%
Total	**136,711**	**341,454**	**478,165**	**71%**

Table 19 – WM Crossroads Waste Accepted - Calendar Year 2024

Material	OOS Tons	ME Tons	Total Tons	% from ME
MSW	-	204,580	204,580	100%
RGC	42,755	28,194	70,949	40%
CDD	480	74,491	74,972	99%
SPW	47,223	44,373	91,595	48%
Total	**90,459**	**351,638**	**442,096**	**80%**

The waste accepted in 2023 and 2024 at smaller landfills throughout Maine are shown below in Tables 20 and 21.

Table 20 – Small MSW Landfills Disposal - Calendar Year 2023

Landfill	MSW Tons	CDD Tons	SPW Tons	Misc. Tons	Total Tons Waste	Cover Tons	Total Tons (Including Cover)
AWS Presque Isle (*Temporarily Closed in Aug 2023*)	4,410	874	94	-	5,378	43	5,421
AWS-TCRSL ("Tri Community") (Fort-Fairfield)	30,769	9,506	3,220	2,742	46,236	9,040	55,276
Bath	4,557	770	353	-	5,680	13,653	19,333
Dolby (E. Millinocket)	-	-	-	-	-	-	-
Hartland	-	21,202	15,517	-	36,719	125	36,843
Hatch Hill (Augusta)	44,817	9,965	172	-	54,954	10,673	65,627

Landfill	MSW Tons	CDD Tons	SPW Tons	Misc. Tons	Total Tons Waste	Cover Tons	Total Tons (Including Cover)
Lewiston	-	395	-	-	395	16,050	16,445
Mid-Coast (Rockport)	-	1,689	-	-	1,689	632	2,321
TOTAL	**84,553**	**44,399**	**19,356**	**2,742**	**151,050**	**50,217**	**201,267**

Table 21 – Small MSW Landfills Disposal - Calendar Year 2024

Landfill	MSW Tons	CDD Tons	SPW Tons	Misc. Waste Tons	Total Tons Waste	Cover Tons	Total Tons (Including Cover)
AWS-Presque Isle (*Temporarily Closed in Aug 2023*)	-	-	-	-	-	-	-
AWS-TCRSL ("Tri Community") (Fort Fairfield)	34,589	9,509	3,237	874	48,209	15,829	64,038
Bath	4,640	699	381	-	5,720	11,929	17,649
Dolby (E. Millinocket)	-	-	36	-	36	-	36
Hartland	-	30,224	14,383	-	44,607	3,869	48,476
Hatch Hill (Augusta)	45,752	10,584	157	-	56,493	-	56,493
Lewiston	-	361	-	-	361	13,948	14,309
Mid-Coast (Rockport)	-	1,497	-	-	1,497	280	1,777
TOTAL	**84,981**	**52,874**	**18,193**	**874**	**156,922**	**45,855**	**202,777**

The Lewiston Landfill, although licensed to accept unprocessed MSW, only accepted MSW incinerator ash from the Maine WTE (formerly the Mid-Maine Waste Action Corporation or "MMWAC") waste-to-energy facility and smaller amounts of CDD and special waste such as grit and screenings from various wastewater treatment facilities, or crushed glass.

As mentioned earlier, several small (less than six acres in size) municipal landfills also operate in Maine. These landfills are limited to accepting CDD, wood waste and small amounts of ash material. Additionally, the Hartland Landfill is a small secure landfill that in addition to CDD also accepts WWTP sludge for disposal from several Maine wastewater treatment plants, and Mid-Coast Solid Waste Corporation ("MCSWC") operates a landfill in Rockport. Although historically the MCSWC facility accepted MSW, they are currently only allowed to accept CDD and inert fill. The total amount of waste disposed of at these small landfills was 51,315 tons in 2023 and 48,443 tons in 2024. As many of these smaller landfills do not have scales, this tonnage is approximate.

Maine's waste-to-energy facilities accepted a little over 300,000 tons of waste in 2023 and 2024. Specific waste numbers by year are provided below in Tables 22 and 23. Due to temporary closure, the EPEC incinerator, formerly known as PERC, accepted limited amounts of waste in 2023 and did not accept any waste in 2024.

Table 22 – Summary of Solid Wastes Managed by Maine's Waste-to-Energy Facilities by Origin in 2023

Facility	Maine MSW	Recycling Residue	Other Waste	Total Maine Tons	Imported Waste	Total Tons
ecomaine	182,462	4,070	5,452	191,984	1,270	193,254
Maine WTE/MMWAC	107,596	-	-	107,596	-	107,596
EPEC/PERC	14,674	-	2,545	17,219	352	17,571
Totals	**304,732**	**4,070**	**7,997**	**316,799**	**1,622**	**318,421**

Table 23 – Summary of Solid Wastes Managed by Maine's Waste-to-Energy Facilities by Origin in 2024

Facility	Maine MSW	Recycling Residue	Other Waste	Total Maine Tons	Imported Waste	Total Tons
ecomaine	181,410	3,752	9,320	194,483	1,258	195,741
Maine WTE/MMWAC	107,855	-	-	107,855	-	107,855
EPEC/PERC	-	-	-	-	-	-
Totals	**289,265**	**3,752**	**9,320**	**302,338**	**1,258**	**303,597**

F. Licensed Disposal Capacity by Facility

In 2023 and 2024, Maine's active solid waste disposal facilities included 3 operational waste-to-energy facilities, one of which ceased operations temporarily in 2023, and approximately 40 landfills of varying sizes and types (many of which have been previously discussed in this report). Of these landfills, eight are licensed to accept MSW or MSW bypass. Of these eight, six are municipally owned, one is owned by the State but operated by a private company, and one is privately owned and operated. Of the non-MSW landfills, 19 are municipally owned smaller landfills (generally less than 6 acres in size) that accept wood waste and CDD only; one of these is a small secure landfill that in addition to wood waste and CDD accepts WWTP sludge. Additionally, one municipal landfill that accepted MSW during their operational history now only accepts CDD. The remainder of the 40 are generator-owned landfills that are associated with a specific manufacturing facility and are licensed to take waste generated from the manufacturing facility. Since the wastes disposed of at these generator-owned landfills are specific to those facilities and are not placed into the general waste stream, they are not included in this report for calculating Maine waste generated, disposed, and for determining recycling rates.

There is one waste processing facility in Maine that accepts MSW (Municipal WasteHub, Hampden), but it is currently functioning as a solid waste transfer station while it is making improvements to their waste processing facility. Once operational, the facility is anticipated to reduce the amount of waste required to be landfilled through processing to recover recyclable material and anaerobic digestion to produce biogas.

The two operational waste-to-energy facilities are currently meeting their air quality emission standards and are operated and maintained in accordance with applicable State laws, rules and Department licenses. Current future capacity of these facilities is expected to remain stable, as

currently licensed and constructed. Table 24 presents available licensed disposal capacity for the waste-to-energy facilities that are currently operational. As noted earlier in this report, the third facility, EPEC in Orrington (formerly PERC), is under new ownership and is not currently operating. The facility needs repairs to become operational again but remains licensed. The facility would have waste processing capacity of approximately 300,000 tons per year were it to reopen, based on prior years when the facility was operating at full capacity.

Table 24 - Available Licensed MSW Disposal Capacity at Maine's Waste-to-Energy Facilities

Waste-to-Energy Facilities	Annual capacity (tons/year)	2025 (tons/year)	2030 (tons/year)	2035 (tons/year)
MMWAC – Auburn	70,000	70,000	70,000	**70,000**
ecomaine – Portland	170,000	170,000	170,000	**170,000**
EPEC - Orrington	300,000	300,000	300,000	**300,000**
Total Waste-to- Energy Facility capacity in tons	**540,000**	**540,000**	**540,000**	**540,000**

Maine's long-term solid waste disposal facility outlook for MSW includes two waste-to-energy facilities with one anticipated waste-to-energy facility reopening once repairs are complete, six municipally owned landfills, one state-owned landfill, one privately-owned commercial landfill, and one processing facility. The eight landfills that accept MSW or MSW bypass are detailed in Table 25 below, with each landfill's reported amount of waste accepted, capacity data, and estimated life span, as determined by a review of each landfill's annual reports for 2023 and 2024.

Not all facilities provided an estimated lifespan in their report. In instances where lifespan was not provided, the Department estimated the remaining lifespan by dividing the total remaining landfill capacity by the amount of capacity consumed that year. Total amounts of waste placed in each landfill were calculated based on the tonnage of all waste material the landfill received, including waste materials that were utilized for cover. In most cases, the landfill capacity used and remaining capacity is calculated by the facility from annual physical surveys of the landfill. Therefore, capacity estimates include capacity that may have been gained through settling of previously disposed waste as well as capacity used by material that was utilized as daily cover.

Table 25 - Available Licensed MSW Disposal Capacity at Maine's Landfills

Landfill	Total tons of material placed in landfill during calendar year (includes cover)	Capacity used by year (cubic yards)	Total remaining licensed capacity (cubic yards)	Estimated remaining lifespan (years)
Hatch Hill - 2023	65,627	73,900	371,700	3
Hatch Hill - 2024	56,493	74,000	320,900	2
Bath - 2023	19,333	14,300	293,650	22
Bath - 2024	17,649	13,500	281,100	21

Landfill	Total tons of material placed in landfill during calendar year (includes cover)	Capacity used by year (cubic yards)	Total remaining licensed capacity (cubic yards)	Estimated remaining lifespan (years)
Presque Isle - 2023[17]	5,421	10,234	1,244,384	18
Tri-Community - 2023	55,276	48,732	1,311,400	19
Tri-Community - 2024	64,038	58,900	1,252,400	18
Lewiston Municipal - 2023	16,445	15,482	411,760	27
Lewiston Municipal - 2024	14,309	12,860	398,901	31
Crossroads Landfill - 2023	478,165	507,498	7,871,148	16
Crossroads Landfill - 2024	442,096	538,612	7,310,449	14
Juniper Ridge Landfill - 2023	874,810	975,775	5,356,397	5
Juniper Ridge Landfill - 2024	856,845	1,033,554	4,322,843	4
ecomaine - 2023	47,924	13,411	2,058,964	71
ecomaine - 2024	43,787	28,047	2,030,917[18]	72

MSW is a commodity, and waste generators and haulers continually seek to find the most cost-effective disposal method. Facility owners and operators will alter their fees and quantities accepted based on market conditions for various wastes and often set different fees for waste suitable for use as ADC versus waste placed within a landfill cell. Therefore, estimates of capacity beyond 5 to 10 years should be considered as fluid, as waste disposal amounts may vary significantly from year to year based on market fluctuations.

The Hatch Hill Landfill is expected to reach capacity in approximately three years at current filling rates. On December 16, 2025, the City of Augusta received Department approval to amend their existing license by constructing a vertical increase that would accommodate an additional 600,000 tons, which equates to approximately 12 to 15 years at the current waste filling rates. The City of Augusta operates as a regional solid waste facility for eight other communities and is considering putting a cap on how much waste is landfilled annually when the vertical increase is constructed. The ecomaine Landfill accepts ash from the ecomaine waste-to-energy facility as well as smaller amounts of industrial special waste such as WWTP grit and screenings. The ecomaine Landfill is also licensed to temporarily store MSW received by its waste-to-energy facility at times when the amount of MSW reaching the ecomaine waste-to-energy facility is greater than its capacity, which allows them to process the stored MSW during times of lower daily input.

Aroostook Waste Solutions' ("AWS") Presque Isle Landfill temporarily closed in 2023. AWS is now operating Tri-Community Landfill as its sole active landfill and will continue to do so until it reaches capacity. Existing constructed capacity at Tri-Community Landfill is estimated to last through 2036, although additional permitted capacity at the Presque Isle Landfill will allow AWS to continue operations for approximately 18 years after the Tri-Community Landfill is full. While currently closed, the Presque Isle Landfill has permitted capacities for Phase II, Phase III, and Phase IV with 255,850 cubic yards, 515,000 cubic yards, and 719,150 cubic yards respectively. Of these, Phase II is the only constructed phase and was at 96% capacity as of

[17] The Presque Isle landfill is temporarily closed but has an estimated 18 years of remaining capacity once reopened.
[18] The ecomaine landfill capacity estimate includes to-be-constructed capacity.

October 2023 upon temporary closure. When the Tri-Community Landfill reaches capacity, AWS is planning to reopen the Presque Isle Landfill.

JRL is expected to reach currently licensed capacity in 2028 at current filling rates. On October 2, 2024, the Department approved a Public Benefit Determination in accordance with 38 M.R.S. § 1310-AA for a proposed expansion of JRL. On November 12, 2024, the Conservation Law Foundation and Penobscot Nation filed a petition for review of the Department's public benefit determination decision with the Maine Superior Court. Pending a decision by the Court, the Department accepted an application for a proposed expansion of JRL as complete for processing on December 9, 2025. Subsequently, on January 7, 2026, the Maine Superior Court remanded the public benefit determination to the Department and directed the Department to conduct further fact finding and issue a revised decision within 75 days. The Court found that the Department had not adequately evaluated the statutory criteria at 38 M.R.S. § 1310-AA(3) for issuance of a public benefit determination, particularly paragraph (E) related to environmental justice which requires a finding that:

> *For a proposed facility or the expansion of a facility, is not inconsistent with ensuring environmental justice for the community in which the facility or expansion is proposed.*

Maine law provides no further guidance or criteria for the Department to apply when assessing whether a proposed solid waste disposal facility or expansion of a solid waste disposal facility meets this requirement.

In the mid-1990s, the Carpenter Ridge Landfill, located in T2 R8, was licensed by the Department. This landfill has not been fully designed or developed; it is held by the State for future development of disposal capacity if needed. If developed, it could provide an estimated 2,000,000 cubic yards of capacity for solid waste. However, developing the site for use as a landfill would require extensive investment.

III. Progress Toward Maine's Waste Reduction and Recycling Goals

38 M.R.S. § 2101, Maine's *Solid Waste Management Hierarchy*, sets an integrated approach to solid waste management as State policy. This "hierarchy" establishes waste reduction as the preferred approach and highest priority, followed by reuse, recycling, composting, volume reduction through waste-to-energy incineration, and landfilling as the management option of lowest priority. In conjunction with the waste hierarchy, 38 M.R.S. § 2101-B., Maine's *Food Recovery Hierarchy* establishes similar priorities for reducing wasted food and ensuring all of the valuable resources that go into producing food are not wasted.

P.L. 2025, ch. 419, *An Act Regarding the Reduction and Recycling of Food Waste*, which passed in 2025, will help reduce the amount of food waste generated and disposed. The resulting law 38 M.R.S. § 2147, *Food Waste Management; Diversion,* establishes requirements for large generators of food waste to separate wasted food from the rest of their waste and manage it in alignment with 38 M.R.S. § 2101-B, Maine's *Food Recovery Hierarchy*. These requirements do not take effect until 2030 and will initially only apply to large food waste generators who produce 2 tons or more of food waste weekly (based on an annual average) and are located within 20 miles of an organics recycler with capacity to accept their food waste.

A. Maine's Municipal Solid Waste Recycling Goal

38 M.R.S. § 2132(1), which sets Maine's statewide goal for the recycling of MSW, establishes a statutory goal to divert 50% of the municipal solid waste generated in the State through recycling or composting.

> ***State recycling goal.*** *It is the goal of the State to recycle or compost, by January 1, 2021, 50% of the municipal solid waste tonnage generated each year within the State.*

Maine's MSW recycling rate is calculated by dividing the total amount of MSW diverted from landfills and incinerators through recycling, composting, anaerobic digestion, etc. by the total amount of MSW reported to be generated within the State. The statewide recycling rates for 2023 and 2024 were higher than in recent years, reaching a 35.36% rate in 2023 and increasing slightly to 35.99% in 2024. An estimated 1,408,874 tons of MSW was generated in Maine in 2023, and approximately 1,445,776 tons of MSW was generated in 2024. Out of that MSW, approximately 910,708 tons of MSW were sent for disposal in 2023, and approximately 925,448 tons were sent for disposal in 2024. Maine's MSW is disposed of at either landfills or at waste-to-energy facilities with the resultant ash being landfilled. An estimated 498,166 tons of MSW was diverted from disposal in 2023, and approximately 520,329 tons were diverted in 2024. Maine's recycling rate is depicted in Tables 26 and 27 below. The MSW recycling rate is calculated by dividing the total amount of MSW generated by the amount of MSW recycled and composted. Some other states and the US EPA exclude CDD from their calculations of MSW recycling rates, while Maine considers CDD to be a subset of MSW, as noted earlier in the report. To address this, the Department has calculated the recycling rate for MSW as defined by the US EPA, a recycling and diversion rate for CDD alone, and a separate recycling rate that includes both MSW and CDD. This approach allows Maine to perform a like comparison with other states' MSW recycling rates, while also enabling Maine to evaluate where additional efforts are needed to improve diversion of the array of materials handled by municipalities in Maine.

In both 2023 and 2024, Maine's recycling rate was several percentage points higher than the national average reported in US EPA's 2018 "Facts and Figures" report,[19] which indicated an average national recycling and composting rate of 32.1. Maine's respective MSW recycling and composting rates were, in contrast, 35.4% in 2023 and 35.9% in 2024.

As noted earlier in the report, processing facilities may count a percentage of certain types of materials sent to a landfill after processing as recycling if those materials are used for stabilization, shaping, grading, and cover to meet recycling requirements in facility licenses. However, materials placed in a landfill are not included in the recycling rate calculation.

Table 26 – Maine's MSW Management and Recycling Rate for Calendar Year 2023

Maine MSW Disposition	2023 Tons
Maine MSW landfilled in state	563,964

[19] See US EPA's *National Overview: Facts and Figures on Materials, Wastes and Recycling* 2018 report for details: https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials.

Maine MSW Disposition	**2023 Tons**
Maine MSW disposed via waste-to-energy	308,802
Maine MSW disposed of out-of-state	37,942
Subtotal Maine MSW (exclusive of CDD) Disposed	**910,708**
Paper; cardboard; plastic, metal, and glass containers; textiles; and stewardship program materials recycled	205,820
Other MSW recycled (white goods, ferrous and non-ferrous scrap metal, and vehicle batteries)	246,982
Estimates for MSW reused (textiles, household goods, etc.)	11,032
Reported food rescue	3,826
Reported animal feed diversion of food scraps	1,713
Reported MSW composted (yard waste and food scraps; food processing waste; backyard composting and < 60 yds^3/month not included)	10,861
Anaerobic digestion (source separated organics, not including industrial commercial waste such as deicer, slurries, manufacturing waste, etc.)	17,933
Subtotal Maine MSW Reused, Rescued, Recycled & Composted	**498,166**
Total Maine MSW (exclusive of CDD)	**1,408,874**
Maine's MSW Recycling Rate (exclusive of CDD)	**35.36%**
Maine CDD Disposition	**2023 Tons**
Mixed CDD disposed of in state	544,176
Mixed CDD disposed of out of-state	8,031
Processed CDD sent to a landfill for daily cover, shaping, and grading	91,593
Processed CDD used as fill outside of a landfill	5,852
CDD exported for recycling (scrap metal and wood sent for manufacturing uses)	18,866
CDD exported to out-of-state CDD processing facilities	8,550
Processed CDD beneficially used as fuel	1,376
Subtotal Maine CDD Recycled (non-landfill uses) & Beneficially Used as Fuel	**34,644**
Total CDD Generated	**678,444**
Maine's CDD Recycling Rate (all non-landfill uses)	**5.11%**
Total MSW & CDD Generated	**2,087,318**
Total MSW & CDD disposed (includes materials used in landfill for cover, shaping, and grading)	1,554,508
Total MSW, CDD, and organics recycled and composted (including wood waste used as fuel chips)	532,810
Maine's Combined MSW, CDD & Organics Recycling Rate	**25.53%**

Table 27 – Maine's MSW Management and Recycling Rate for Calendar Year 2024

Maine MSW Disposition	**2024 Tons**
Maine MSW landfilled in state	596,355
Maine MSW disposed via waste-to-energy	293,018
Maine MSW disposed of out-of-state	36,075
Subtotal Maine MSW (exclusive of CDD) Disposed	925,448

Paper; cardboard; plastic, metal, and glass containers; textiles; and stewardship program materials recycled	210,248
Other MSW recycled (white goods, ferrous and non-ferrous scrap metal, and vehicle batteries)	256,837
Estimates for MSW reused (textiles, household goods, etc.)	15,330
Reported food rescue	3,770
Reported animal feed diversion of food scraps	6,358
Reported MSW composted (yard waste and food scraps; food processing waste; backyard composting and < 60 yds^3/month not included)	12,816
Anaerobic digestion (source separated organics, not including industrial commercial waste such as deicer, slurries, manufacturing waste, etc.)	14,969
Subtotal Maine MSW reused, rescued, recycled & composted	**520,329**
Total Maine MSW (exclusive of CDD)	**1,445,776**
Maine's MSW Recycling Rate (exclusive of CDD)	**35.99%**
Maine CDD disposition	2024 Tons
Mixed CDD disposed of in state	489,391
Mixed CDD disposed of out of-state	10,733
Processed CDD sent to a landfill for daily cover, shaping, and grading	97,779
Processed CDD used as fill outside of a landfill	9,246
CDD exported for recycling (scrap metal and wood sent for manufacturing uses)	20,088
CDD exported to out-of-state CDD processing facilities	8,692
Processed CDD beneficially used as fuel	461
Subtotal Maine CDD Recycled (non-landfill uses) & Beneficially Used as Fuel	38,487
Total CDD Generated	636,391
Maine's CDD Recycling Rate (all non-landfill uses)	**6.05%**
Total MSW & CDD generated	2,082,167
Total MSW & CDD disposed (includes materials used in landfill for cover, shaping, and grading)	1,523,351
Total MSW, CDD, and organics recycled and composted (including wood waste used as fuel chips)	558,816
Maine's Combined MSW, CDD & Organics Recycling Rate	**26.84%**

38 M.R.S. § 2133(7) establishes a requirement for municipalities to submit biennial progress reports that include data on what options are available to residents and businesses within each municipality for managing solid waste, including recyclables, organics, and CDD. The report is intended to help municipalities and the State assess progress toward achieving an MSW recycling rate of 50%. Municipalities are not required to meet the statewide goal of 50% but are required to demonstrate "reasonable progress" in achieving that goal, as determined by the Department. The law does not provide for any consequence to municipalities that do not demonstrate "reasonable progress" or fail to report as required. The Department considers submittal of the report to be the minimum requirement for demonstrating "reasonable progress," as completion of a report works to ensure awareness of each municipality's respective recycling rate. Waste management decisions remain the responsibility of the municipality and decisions and actions at the local level significantly impact statewide MSW recycling rates.

Figures 8 through 11 show the composition in tons and percentage of traditional recyclables by material type in 2023 and 2024. Traditional recyclables include regularly generated items such as bottles, cans, cardboard boxes, jugs, tubs, office paper, unwanted mail, etc. The recyclable materials represented in these figures are typically collected curbside or at municipal transfer stations, as well as through the beverage container redemption program and store drop-off points for plastic film or recyclables managed internally by businesses that generate large quantities of specific materials, such as cardboard. Scrap metal is represented separately from these typical household or business materials. Each pie chart shows the overall amount by weight and percent of each distinct material per category of recyclable.

Figure 8. 2023 Total Recycling by Material Type, Tons, and Percent

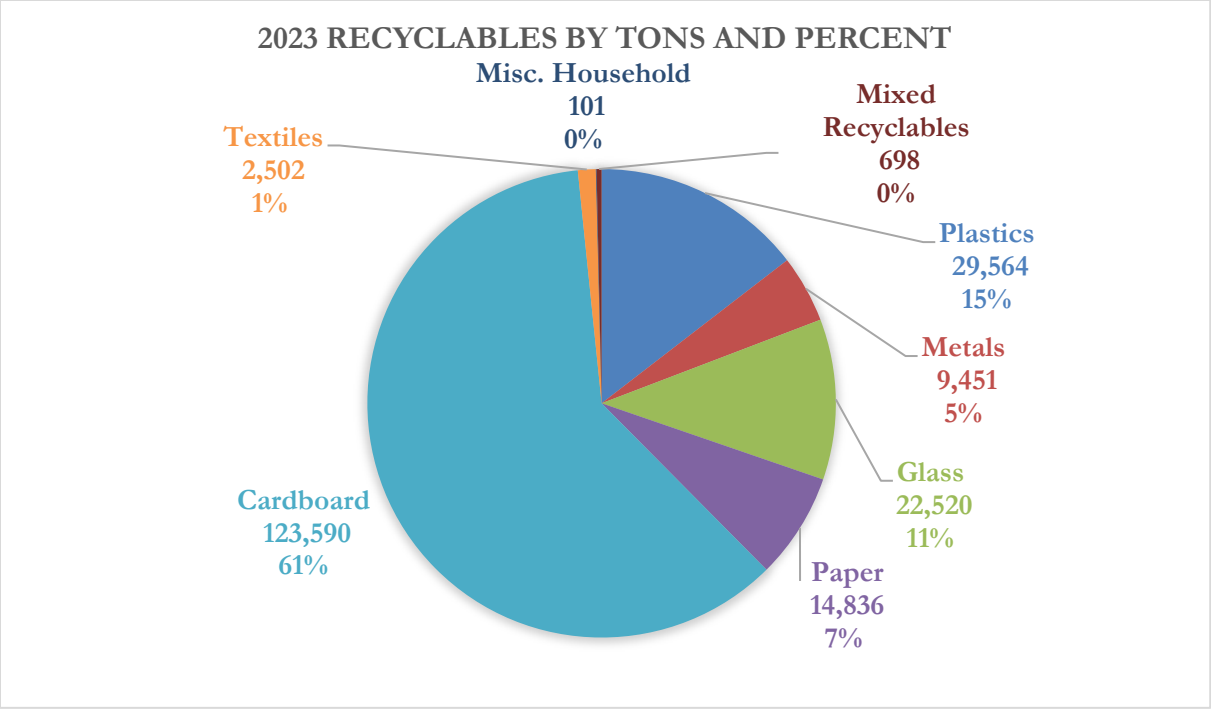


Figure 9. 2024 Total Recycling by Material Type, Tons, and Percent

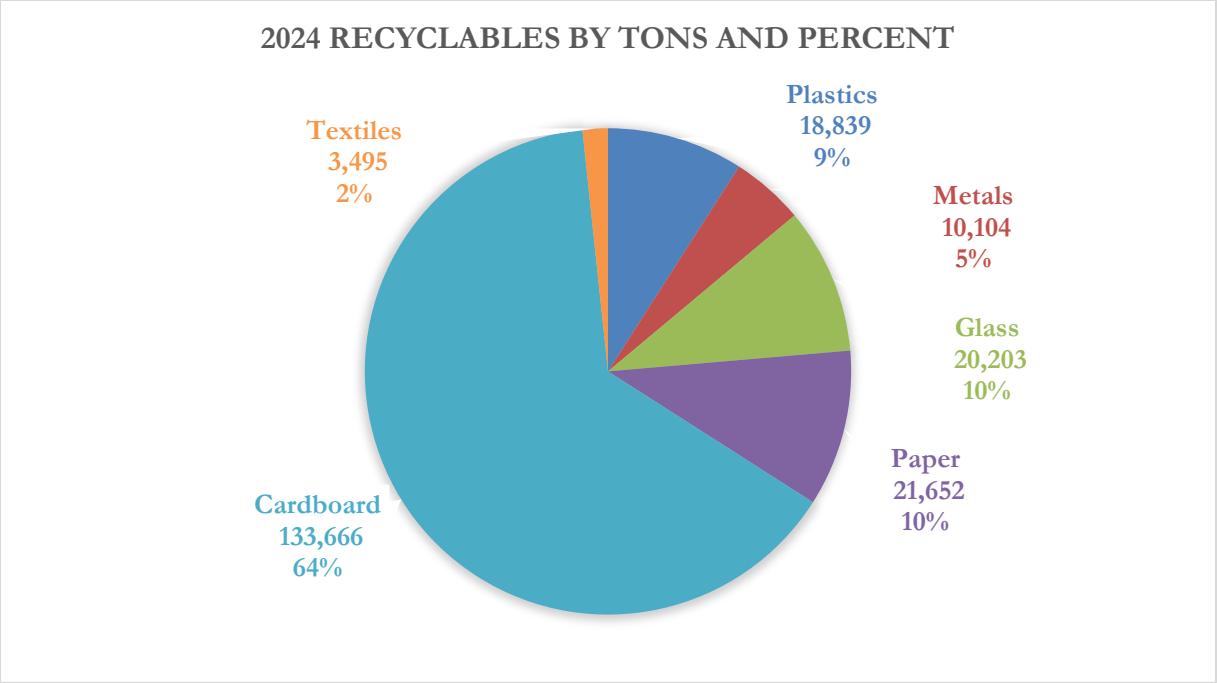


Figure 10. 2023 Comparison of Bottle Bill vs. Municipal/Other Recycling Exports

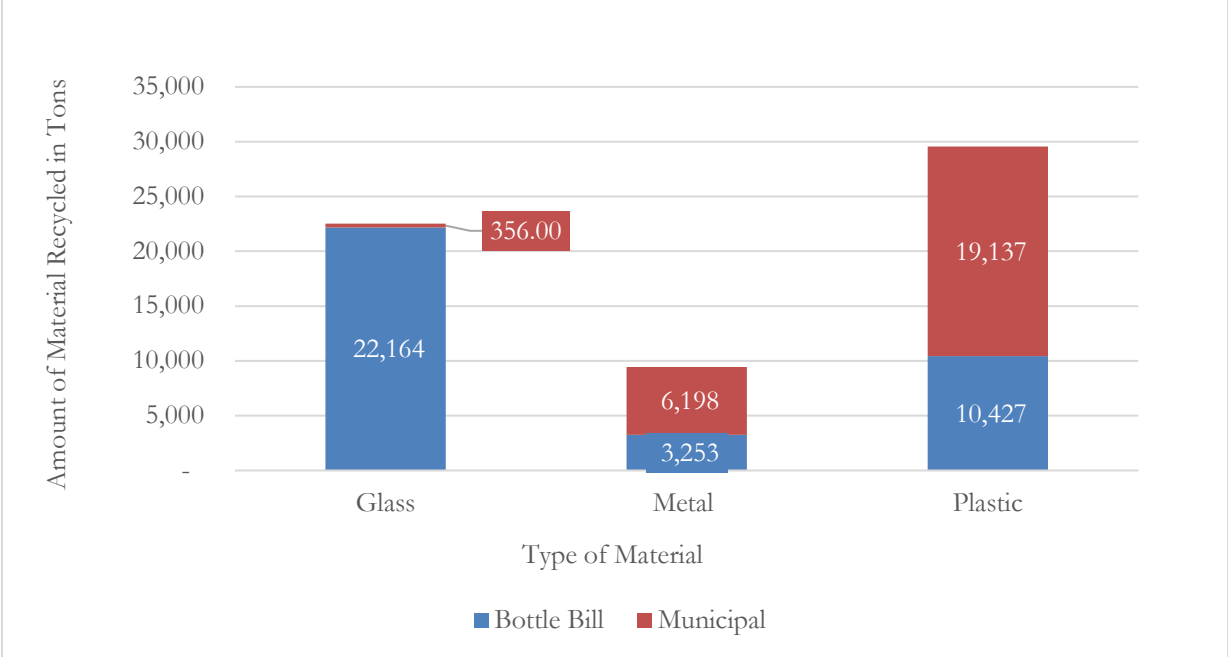
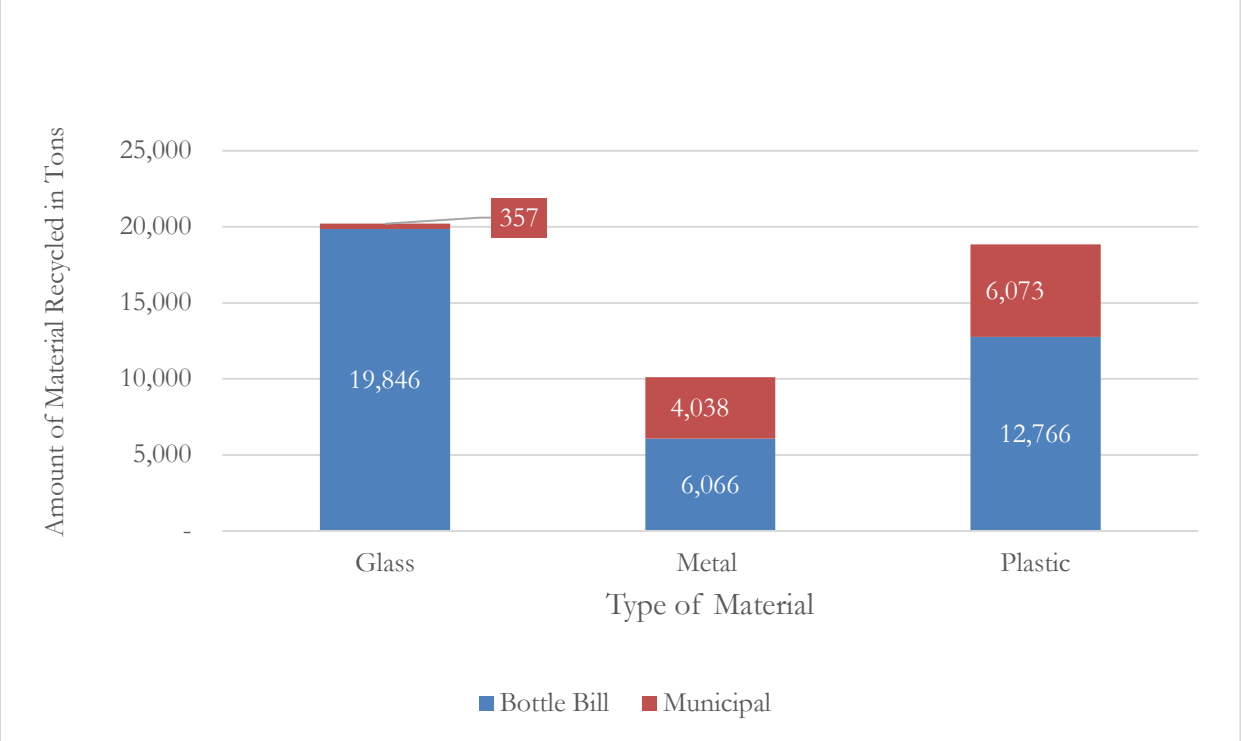


Figure 11. 2024 Comparison of Bottle Bill vs. Municipal/Other Recycling Exports



1. Scrap Metal Recycling

Scrap metal dealers in Maine recycled an estimated 246,374 tons of scrap metal in 2023 and 254,971 tons in 2024.

Year	Ferrous Metal (Tons)	Non-Ferrous Metal (Tons)	Total Tons Recycled
2023	234,702	11,673	246,374
2024	246,442	8,529	254,971

2. Product Stewardship Programs

Maine has several product stewardship laws that mandate some level of manufacturer or producer responsibility for proper management of specific products at the end of life for the products that they produce. These laws may also be known as extended producer responsibility ("EPR") laws. EPR provides an incentive for manufacturers to consider the end-of-life impacts of their products and relieves the public sector of some of the burden of managing those products. The Department publishes a separate Annual Product Stewardship Report each year focused specifically on Maine's product stewardship programs, which provides a more in-depth analysis of each program with detailed information on material recovery as well as program performance.

Approximately 2,558 tons of material were collected for safe management and recovery

through Maine's product stewardship programs in 2023, with 2,378 tons diverted in 2024, as shown in Table 29 below.

Table 29 – Materials Recovered via Maine's Product Stewardship Programs in 2023 & 2024 (Tons)

Year	Paint	Paint Cans	Mercury Lamps	Mercury Thermostats	Electronic Waste	Rechargeable Batteries	Total
2023	110	126	48	0.01	2,259	14	2,558
2024	98	110	84	0.01	2,065	21	2,378

In addition, approximately 1,709 tons of vehicle batteries were recycled through Maine's lead-acid battery take-back program[20] in 2023, with 1,578 tons recycled in 2024.

3. Organics Management: Composting and Anaerobic Digestion

Organics management covers a wide range of materials; however, for the purpose of this report, MSW is the primary focus. Food scraps/waste and yard waste are the most common materials entering the waste stream from municipalities and offer a significant opportunity for diversion to enrich soil via compost or to generate and capture methane via anaerobic digestion.

a. Composting

As with reuse, a significant portion of composting activity is not tracked as it takes place informally and at a small, local scale. Composting activity that is not tracked includes backyard, school-based, and exempt/small, on-farm composting operations.[21] Since this activity is not tracked, the tonnage provided in this report should be considered a low estimate and is provided for informational purposes. While large-scale composting of industrial processing waste such as fish or food processing waste, wood shavings, manure, and fats, oils, and grease ("FOG"), is tracked, this activity is not described in detail here as it is separate from the MSW stream and not the focus of this report. Approximately 48,283 cubic yards of municipal POTW sludge, pulp and paper mill sludge, fish and food processing waste, ash, lime, and other industrial and commercial wastes were composted in 2023, with approximately 20,168 cubic yards composted in 2024 of similar wastes. Organics composting included in Table 30 below includes food scrap/waste and leaf and yard composting from municipalities.

Table 30 – Tracked Composting Activity in 2023 and 2024

Material	2023 Tons	2024 Tons
Food Scraps	1,183	1,933
Yard Waste	9,679	10,883

[20] See 38 M.R.S. § 1604. Lead-acid batteries: https://legislature.maine.gov/statutes/38/title38sec1604.html

[21] Compost facilities that accept less than 5 cubic yards of food scraps/waste monthly and on-farm compost facilities that accept less than 60 cubic yards of food scraps/waste monthly are exempt from Department licensing and annual reporting requirements.

Material	2023 Tons	2024 Tons
Total	**10,861**	**12,816**

b. Anaerobic Digestion

The Exeter Agri-Energy anaerobic digester located in Exeter is currently licensed for accepting Type I residuals, including food scraps/waste. During 2023, Exeter accepted approximately 17,933 tons of source-separated organics for anaerobic digestion, with 14,969 tons anaerobically digested in 2024. These organics are collected from municipalities and businesses and once digested, provide valuable outputs such as energy and animal bedding as well as nutrient-rich digestate used for growing crops at the co-located dairy farm. The Exeter facility also processed an additional 8,860 tons in 2023 and 12,439 tons in 2024 of industrial and commercial waste materials such as liquid slurry, brewery waste, distillate and aircraft deicer were also managed via anaerobic digestion. The anaerobic digester in Exeter also co-digests manure with the organics, which produces methane that is captured for use. As with other industrial and commercial processing waste that is composted, this material is not included in Maine's MSW generation or recovery figures; a list of all facilities licensed to process organics in Maine is available online.

B. Maine's Municipal Solid Waste Reduction Goal

38 M.R.S. § 2132(1-B)[22] sets Maine's waste disposal reduction goal.

> ***State waste disposal reduction goal.*** *1-B. State waste disposal reduction goal. It is the goal of the State to reduce the statewide per capita disposal rate of municipal solid waste tonnage to 0.55 tons disposed per capita by January 1, 2019 and to further reduce the statewide per capita disposal rate by an additional 5% every 5 years thereafter. The baseline for calculating this reduction is the 2014 solid waste generation and disposal capacity data gathered by the department. Methods to achieve the goal under this subsection include efforts to consume or encourage the consumption of fewer resources, to reduce or encourage the reduction of the waste or inefficient use of resources and to increase the reuse or repurposing of solid waste.*

In 2014, Maine generated and disposed at landfills and waste-to-energy facilities 757,049 tons of MSW, excluding CDD. This established the baseline per capita disposal rate at 0.57 tons (1,139 pounds) per person, based on Maine's estimated 2014 population of 1,328,903. In 2023 and 2024, Maine generated and disposed of 910,708 tons and 925,448 tons, respectively. Maine's population has increased in the years since the baseline was established, with an estimated 1,405,012 in 2024. However, as noted previously in this report, Maine's waste generation and disposal rates are increasing at a faster rate than the population and population growth alone does not account for the increasing amounts of waste.

[22] 38 M.R.S. § 2132(1-B) was amended in 2025 with the passage of P.L. 2025, ch. 419, An Act Regarding the Reduction and Recycling of Food Waste, now 38 M.R.S. § 2147, Food Waste Management; Diversion (P.L. 2025 c. 419).

Table 31 - Maine MSW Per Capita Disposal - Calendar Years 2023 & 2024

Maine MSW Disposal vs. Goal	2023	2024
Tons MSW Disposed	910,708	925,448
Statewide Population[23]	1,395,722	1,405,012
Per Capita MSW Disposal in Tons	0.65	0.66
Per Capita MSW Disposal in Pounds	1,305	1,317

1. Waste Prevention

Waste prevention activities (i.e., reuse and repair) for household goods typically take place through informal or community-level swaps, secondhand shops and online platforms, community organizations, nonprofits, and events like repair cafés. Waste reduction, reuse, and repair initiatives can help spur local economic development that relies on local resources and the creation of local jobs. Maine has a strong secondhand economy for clothing, building materials, school supplies, furniture, books, and other household goods, providing much-needed affordable choices over purchasing new goods or supplies. Unique programs have developed in recent years that reduce waste through sharing and repairing, including a municipally run electric tool library[24] and a "library of things" that provides free access to tools, musical instruments, fix-it kits to repair household goods.[25]

A nonprofit "gear share" program offers free or low-cost rentals for camping and outdoor gear to ensure everyone can afford to enjoy nature without investing in expensive and rarely used camping equipment in addition to providing repair services to keep gear in use longer, and training services to teach people how to fix their own belongings, too. Community repair cafés continue to spread across Maine, bringing people of all ages and from all walks of life together to share knowledge or learn how to repair their appliances, clothing, bicycles, and electronics.[26] Businesses are also participating, with restaurants in three Maine communities testing out reusable to-go containers, a practice that has consistently proven to save money for businesses who are willing to try switching away from disposable containers.[27] If such pilots are successful, they could even scale up over time, helping to reduce takeout container waste.

Yet opportunities remain to grow Maine's secondhand economy even more. When communities seek to reduce waste and use their local material resources more efficiently, new business opportunities arise. For example, community programs that serve as workforce development hubs that significantly reduce waste through material salvage and reuse have been popping up in states as diverse as Texas and New York. Finger Lakes Reuse[28] in Ithaca, New York offers job training, low-cost salvaged materials that allow people to repair their homes for less, and deconstruction services that save property owners

[23] Based on US Census Data for 2020 and US Census Bureau's 2021 Population Estimates Program
[24] City of South Portland: https://www.southportland.org/298/Electric-Tool-Library-SPETL
[25] Town of Brunswick, see news article: https://www.nytimes.com/2025/08/20/climate/maine-library-of-things.html
[26] See examples: https://www.greenhealthymaine.com/blog/repair-cafes
[27] See case studies and report on economic savings: https://rethinkdisposablefoodwarecalculator.com/cases.html and https://upstreamsolutions.org/reuse-wins-report
[28] See Ithaca Reuse website for more information: https://ithacareuse.org/

money on disposal fees while reducing waste and creating jobs. In San Antonio, Texas, the municipality runs the Living Heritage Trades Academy,[29] training "homeowners, contractors, college students, and real estate professionals on the cultural economic, workforce and environmental benefits of retaining original buildings and materials," in addition to providing workforce development and career pathways. Reuse initiatives can even help communities and businesses reduce economic dependence on global supply chains, such as when reusable food service ware is washed and reused locally within a school district or community.

It is important to note that these reduce, reuse, and repair activities, which are all at the top of Maine's solid waste management hierarchy, are not regulated waste management activities. This means that there is little data available to estimate how much waste is prevented through such measures. A good metric to measure progress in activities at the top of Maine's hierarchies is simply looking at the total amount of MSW and CDD generated; reductions in overall generation equate to reduced material consumption and disposal.

Recycling, composting, and anaerobic digestion are also crucial for keeping valuable material out of landfills and incinerators, and they require infrastructure to collect, haul, and process materials. Recycling preserves material value, but it is an industrial process that requires energy and additional virgin material inputs to produce new goods. Prioritizing systems for salvaging, reusing, and repairing materials on a local and regional level, in addition to building robust and equitable recycling and composting infrastructure can help strengthen communities while reducing waste generation.

2. Maine Per Capita Disposal vs. the National Average

The US EPA has tracked per capita waste generation, diversion, and disposal for years as part of their analysis of how much waste is generated and how materials are managed.

Overall, Maine's per capita MSW generation, including what was managed for diversion, was 5.5 pounds per day in 2023, increasing to 5.6 pounds per day in 2024. The most recent US EPA data available from 2018 show that the U.S. average per capita MSW generation including tons recycled and composted as well as disposed, was 4.9 pounds per person per day.[30] Maine's current per person daily MSW generation has exceeded the 2018 national average, although it is likely that updated data on the national average would reveal a similar upward trend in recent years.[31] Considering the most recent statutory focus on consuming fewer resources and using existing resources more efficiently, it makes sense to consider the positive impacts of reducing total MSW and CDD generation, in addition to expanding Maine's capacity for recycling and composting/digesting more materials.

[29] See LHTA website for more information: https://www.sanantonio.gov/historic/LivingHeritage/Education

[30] See https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials

[31] Increased raw material use is closely tied to increased material disposal. As of 2020, U.S. raw material consumption exceeded 3 Gt, roughly twice the world's total materials production on a per capita basis. For more information, see: https://css.umich.edu/publications/factsheets/material-resources/us-material-use-factsheet

3. Economic Considerations

Recycling, while crucial for efficient use of material resources and an important practice for environmental reasons, is a commodity-based market. Materials can only be recycled when collected at a scale that provides consistent, quality materials that processors who accept recycled scrap can use as inputs for manufacturing processes. This in turn requires infrastructure, which requires investment, in addition to the added costs of transporting materials from a community to an end market, often with additional stops at Materials Recovery Facilities ("MRFs") to sort and bale like materials for export. Recyclables must be consolidated by material type before they can be shipped to individual recyclers who use specific post-consumer materials, such as glass cullet, cardboard, or polyethylene plastic containers, in their manufacturing process. In recent decades, impacts to global recycling markets have negatively impacted the economics of recycling, and in many cases, municipalities pay more to recycle materials than to dispose of them.[32]

However, financial relief for recycling is on the way for Maine communities due to recent policy changes that incentivize not only recycling, but reuse of materials. Through Maine's EPR for Packaging Program, Maine municipalities who opt to participate will soon be able to recycle at significantly reduced costs with reimbursements becoming available. This has the potential to help Maine make meaningful progress on achieving its statutory recycling goal. In addition, funding from both the new EPR for Packaging Program and Maine's Beverage Container Redemption Program (Bottle Bill) will be allocated to developing local and regional infrastructure to support reusable and refillable packaging, such as refillable beverage containers that can be used and reused locally.

4. Licensing Considerations

As Maine considers how to best manage MSW into the next decade and beyond, a mix of waste management methodologies will be necessary. While waste diversion is Maine's top priority, other forms of waste management are still needed to effectively manage Maine's waste streams including waste processing facilities, incinerators, and landfills. As several previous reports to the Legislature have indicated, Maine is generating more MSW each year outpacing population growth. Because more and more waste is generated each year, additional solutions must be made available to municipalities to manage MSW within Maine, and those solutions must take into account Maine's challenging geography (moving waste from the point of generation to point of management), and prevent waste from having to be shipped out of state at a high cost to Maine residents.

To achieve additional options for managing waste in Maine, the 2024 Maine Materials Management Plan expounded on the importance of new and expanded waste processing (including recycling) and waste disposal facilities, in addition to investing in infrastructure, programs, and workforce development to prevent waste through reuse and repair initiatives. As waste management facilities evaluate future opportunities in Maine, licensing and ongoing compliance are a significant consideration for applicants and for the Department. Licensing

[32] See the Global Circularity Impact Report for details on global recycling markets: https://www.circularity-gap.world/updates-collection/global-circularity-rate-fell-to-6-9---despite-growing-recycling.

new or expanded facilities and checking on ongoing compliance is not a simple process and in the case of waste disposal facilities, the licensing of expansions or amendments may take many years from start to finish, and assuring compliance may take several months.

As the Department embarks on launching the new MELS system in 2026, it is anticipated that the process for applying for and obtaining solid waste licenses will be more streamlined and straightforward to the benefit of applicants, Department staff, and the people of Maine. This will also be true for tracking licensing and compliance at existing licensed facilities. MELS will identify specific information that must be submitted by applicants as part of the licensing process and will allow applicants, the public, and the Department to more easily track applications through the review process and to access records for a facility (e.g., annual reports).

One particular area of solid waste licensing and compliance that MELS will not be able to streamline pertains to requirements for financial assurance (38 M.R.S. § 1310-Y). The basic concept of financial assurance is to ensure that a licensee can bear the full cost of managing a solid waste facility safely (including proper closure and post-closure care), so that burden does not fall on taxpayers if a licensee abandons the site or declares bankruptcy. 38 M.R.S. § 1310-Y is not aligned with US EPA requirements for financial assurance, and the Department does not currently have the resources or expertise necessary to adequately assess other forms of financial assurance packages allowed under 38 M.R.S. § 1310-Y without significant delays. The Department plans to issue a Request for Proposals to establish a pre-qualified list of third-party vendors to review financial assurance proposals, and to charge a special fee under 38 M.R.S. § 352(3) for applications where third-party review is needed.

In order to simplify requirements for financial assurance and expedite license application reviews, the Department recommends amending 38 M.R.S. § 1310-Y to align with US EPA regulations at 40 C.F.R. § 258.74, as provided in Appendix B. Many other states have adopted the Federal requirements for financial assurance, and guidance is available from the US EPA on how to implement this section of federal regulation. This would help alleviate licensing and compliance delays and confusion and allow the Department to more effectively use its existing resources.

IV. Conclusions

A more comprehensive discussion regarding Maine's actions relating to waste management is outlined in Maine's Materials Management Plan, which was last updated in 2024 and will next be updated in 2029. To summarize, given the decreasing disposal capacity in Maine, additional resources should be focused on reducing waste and supporting systemic changes that not only increase Maine's recycling and composting rate but prevent waste by using material resources more efficiently. Waste reduction programs combined with improved infrastructure for recycling and composting will help prolong Maine's limited waste disposal capacity as the volume of waste needing disposal will decrease. As mentioned earlier in this report, the amount of MSW and CDD generated is an equally important metric to the amount disposed for understanding how developing and expanding solutions such as regional materials exchanges, building deconstruction programs, reusable food service ware and refillable beverage containers, community tool libraries and libraries of things, and repair cafés and access to repair kits and guidance can meaningfully reduce the

amount of material consumed as well as the amount that needs to be managed and disposed. In addition to reducing waste disposal costs and preserving capacity, reuse, repair, remanufacturing and sharing models offer significant economic opportunity and an innovative pathway for creating new green jobs where materials are kept in circulation locally.

One key finding of the WC study is that a significant percentage of the material being disposed of in the MSW and CDD waste streams could be recovered and kept out of the waste stream, adding value to the economy while reducing emissions and other negative impacts of waste management. Valuable materials that can easily be recovered were found in the waste stream, such as the 9,947 tons of metal and 35,315 tons of clean wood identified in the CDD waste audit, or the 54,334 tons of cardboard and 76,558 tons of unpackaged food waste found in the MSW waste audit. As noted previously, significant cost savings will soon be available to municipalities with recycling reimbursements through Maine's EPR for Packaging Program. When the costs for recycling are lower than disposal, Maine communities that opt to participate in the EPR for Packaging Program will have the opportunity to make meaningful progress towards the statutory recycling goal.

Lastly, the cost of transportation has repeatedly arisen as a major factor in materials management around the state for both waste disposal and diversion programs such as recycling and organics management. More regionalization is needed for waste management in Maine, and the Department is committed to working with its partners at the Federal level, with the Legislature, and with private industry to foster regional partnerships that will encourage waste diversion into the future.

Appendix A – Definitions

The following definitions are provided to assist the reader in reviewing this document. Definitions are mainly derived from Maine's statutes and solid waste rules; any sources cited outside of these sources are provided for reference.

Beneficial Use – *to use or reuse a solid waste or waste derived product as a raw material substitute in manufacturing, as construction material or construction fill, as fuel, or in agronomic utilization.*

Construction/Demolition Debris (CDD) – *solid waste resulting from construction, remodeling, repair, and demolition of structures. It includes but is not limited to: building materials, discarded furniture, asphalt, wall board, pipes, and metal conduits. It excludes: partially filled containers of glues, tars, solvents, resins, paints, or caulking compounds; friable asbestos; and other special wastes.*

Deconstruction – *the careful and systematic dismantling of a building or structure, either as a whole or in part, to maximize the recovery of valuable materials and architectural components for reuse, resale, and recycling.*[33]

Disposal – *the discharge, deposit, dumping, spilling, leaking, placing or incineration of any solid waste into or on any land, air or water so that the solid waste or any constituent thereof may enter the environment or be emitted into the air, or discharged into any waters, including ground waters. This term does not include beneficial use activities approved or exempted under the* Solid Waste Management Rules.

Handle – *to store, transfer, collect, separate, salvage, process, recycle, reduce, recover, incinerate, dispose of, treat, or beneficially use.*

Land clearing debris – *solid wastes resulting from the clearing of land and consisting solely of brush, stumps, soil material, and rocks.*

Municipal Solid Waste ("MSW") – *solid waste emanating from household and normal commercial sources. Municipal solid waste includes front end process residue from the processing of municipal solid waste.*

Recycling – *the collection, separation, recovery and sale or reuse of materials that would otherwise be disposed of or processed as waste, and the creation and recovery of reusable materials to create new products; the incineration or use of recovered materials as a fuel for the generation of electricity is not recycling.*

Solid waste – *useless, unwanted or discarded solid material with insufficient liquid content to be free flowing, including but not limited to rubbish, garbage, refuse-derived fuel, scrap materials, junk, refuse, inert fill material, and landscape refuse, but does not include hazardous waste, biomedical waste, septic tank sludge, or agricultural wastes.*

Special Waste – *wastes that are generated by other than domestic and typical commercial establishments that exist in such an unusual quantity or in such a chemical or physical state that require special handling, transportation and disposal procedures.*

[33] The definition for deconstruction is derived from the United Nations Sustainable Development Toolkit. https://sustainableconsumption.usdn.org/initiatives-list/encouraging-and-mandating-building-deconstruction.

Appendix B – Proposed Amendments to 38 M.R.S. § 1310-Y

§1310-Y. Financial assurance

An owner or operator of a solid waste processing facility that processes plastic waste through chemical plastic processing that is licensed under section 1310-N or of a solid waste disposal facility that is licensed under section 1310-N shall provide the department assurance of its financial ability to satisfy the estimated cost of corrective action for known releases from the facility and its financial capacity to satisfy the estimated cost of closure and postclosure care and maintenance at the facility for a period of at least 30 years after closure. The board may adopt rules that increase or decrease that postclosure care period, as long as those rules are consistent with applicable federal rules. The department may consider the use of more than one acceptable form of financial assurance per facility to satisfy the financial assurance requirement of this section. This section applies to all privately owned solid waste disposal facilities licensed by the department, including facilities licensed by the department before June 16, 1993, and to all solid waste processing facilities that process plastic waste through chemical plastic processing. This section does not apply to a municipally owned or operated solid waste disposal facility that accepts exclusively special waste, construction and demolition debris, land-clearing debris or any combination of those types of waste or to a municipally owned or operated solid waste disposal facility licensed before June 16, 1993.

1. Acceptable forms of financial assurance. Acceptable forms of financial assurance ~~are~~ must meet the requirements of 40 C.F.R. 258 Subpart G (in effect as of April, 10 1998) and must include at least one of the following:

A. A letter of credit that meets the requirements of 40 C.F.R. 258.74 (c);

B. A surety bond that meets the requirements of 40 C.F.R. 258.74 (b);

~~C. An escrow account;~~

~~D. A reserve account calculated in a manner consistent with the United States Internal Revenue Code;~~

~~E. An irrevocable trust account; or~~

~~F. In the case of a municipal solid waste disposal facility, any of the allowable financial assurance mechanisms set forth in applicable federal rules.~~

G. A trust fund that meets the requirements of 40 C.F.R. 258.74 (a);

H. An insurance policy that meets the requirements of 40 C.F.R. 258.74 (d);

I. A corporate financial test that meets the requirements of 40 C.F.R. 258.74 (e);

J. A local government financial test that meets the requirements of 40 C.F.R. 258.74 (f);

K. A corporate guarantee that meets the requirements of 40 C.F.R. 258.74 (g); or

L. A local government guarantee that meets the requirements of 40 C.F.R. 258.74 (h).

~~**1-A. Substitute requirements.** The department may substitute part of the acceptable forms of financial assurance under subsection 1 with one or more of the following requirements:~~

~~A. A current rating for its senior unsubordinated debt of AAA, AA, A or BBB as issued by Standard and Poor's Corporation or Aaa, Aa, A or Baa as issued by Moody's Investors Services, Inc.;~~

~~B. A ratio of less than 1.5 comparing total liabilities to net worth; or~~

~~C. A ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus $10,000,000, to total liabilities.~~

2. Report. An owner or operator of a solid waste processing facility that processes plastic waste through chemical plastic processing or of a solid waste disposal facility shall annually prepare a report containing a sworn statement providing the year-end balance or value of any ~~escrow, trust or reserve account~~ form of financial assurance established under this section. That report must be submitted to the commissioner by March 31st of each year or such other date as the commissioner may designate.