

2021 - 2022 Biennial Solid Waste Report

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I. Introduction

Pursuant to NH RSA 149-M:29, II, the New Hampshire Department of Environmental Services (NHDES) has prepared this document to report on New Hampshire's progress toward reaching the solid waste disposal reduction goal established in RSA 149-M:2 and provide additional information required by the statute, including a summary of recent activities undertaken by NHDES' Solid Waste Management Bureau.

This report covers data and information from the previous two calendar years, namely 2021-2022. Readers of prior Biennial Solid Waste Reports may note that this reporting period overlaps by one year with the last Biennial Report, which also included information for 2021. Going forward, these reports will follow a consistent two-year lookback to avoid further discrepancies in reporting periods.

II. Generation of Solid Waste in New Hampshire

NHDES does not specifically track solid waste from the point of generation. Instead, NHDES regulates the management of solid waste at permitted solid waste facilities within the state. This only provides NHDES with data on wastes managed at these facilities and does not capture all solid waste actually generated within the state. For example, some industrial, commercial or institutional generators may use waste hauling services that directly transport refuse and recycling to destinations outside of New Hampshire. Further, there is an indeterminable quantity of waste that is generated but never reaches a permitted solid waste facility because it is managed at the site of generation, such as through home composting, or is diverted directly to reuse (for instance, donation).

According to 2018 estimates from the United States Environmental Protection Agency (EPA), U.S. consumers generate an average 4.9 pounds of municipal solid waste (MSW) per person per day.¹ It should be noted that because this figure only considers generation of MSW, it does not account for generation of other types of solid waste such as construction and demolition debris (C&D), industrial wastes and contaminated soils.

NHDES estimates that in 2022, approximately 2.1 million tons of solid waste were generated in New Hampshire, equating to a generation rate of 8.3 pounds per person per day (1.5 tons per person per year). In contrast to the EPA estimate cited above, this figure is intended to provide a more comprehensive estimate of solid wastes generated in the state. It is based on data for New Hampshire-generated waste disposed in landfills and incinerators or used as "alternate daily cover,"² estimates of wastes exported out-of-state for disposal, as well as best-available data for wastes diverted from disposal via recycling, or other methods (including composting, C&D processing and treatment of contaminated soils).

¹ United States Environmental Protection Agency. [National Overview: Facts and Figures on Materials, Wastes and Recycling](#).

² Alternate daily cover describes certain waste-derived substances that landfills may use instead of virgin soils to cover exposed solid waste at the end of each working day. For the purposes of estimating New Hampshire's total waste generation, NHDES included materials used as alternate daily cover because in practical terms such materials are wastes that would need to be managed through the solid waste management system whether or not they were used as cover material.

III. Disposal of Solid Waste in New Hampshire

The term “disposal,” defined in RSA 149-M:4, VI, generally refers to the act of depositing waste in or on land or water. The term is most commonly used to refer to “final” management methods, including deposition in a landfill or combustion in an incinerator. Disposal methods such as incineration and landfilling are least-preferred on New Hampshire’s waste management hierarchy established by RSA 149-M:3, while source reduction (reducing the quantity of waste generated at the source) and diversion (such as recycling and composting) are at the top of the hierarchy. However, since the hierarchy was established, New Hampshire’s waste management infrastructure has not significantly shifted from a reliance on disposal. With three commercial landfills, three limited-service public landfills and one commercial waste-to-energy facility operating in New Hampshire, the state is somewhat unique among its neighboring states in terms of available disposal capacity.

Summary of Disposal Data

Table 1 below illustrates total quantities of solid waste disposed from 2020 to 2022, based on data reported by New Hampshire’s landfills and waste-to-energy facility.³ The data are broken down by waste received from in-state sources, as well as out-of-state sources. The vast majority of out-of-state waste disposed in New Hampshire is received by the three commercial landfills. Table 1 shows that total disposal has fluctuated slightly over the last couple years, with total tonnage disposed increasing about 2 percent from 2020 to 2021 and subsequently decreasing just under 4 percent from 2021 to 2022. Meanwhile, the percentage of waste disposed from in-state sources has increased slightly over the same time period, from 53 percent in 2020 to 57 percent in 2022.

Table 1. Solid Waste Disposed in New Hampshire 2020 – 2022

Year	Total Tons Disposed	Tons from In-State Sources	Tons from Out-of-State Sources	Percentage In-State Sources
2020	1,956,789	1,042,957	913,833	53%
2021	1,999,123	1,121,263	877,861	56%
2022	1,923,204	1,102,364	820,841	57%

Table 2. Disposal of NH-generated Waste, Normalized Per-Capita

Year	NH Population ⁴	Total Tons Disposed from In-State Sources ⁵	Tons Disposed per Capita
2020	1,377,529	1,042,957	0.76
2021	1,388,992	1,121,263	0.81
2022	1,395,231	1,102,364	0.79

Table 2 shows disposal of waste generated in New Hampshire relative to the state’s population. In 2020, the per capita rate of disposal was about 0.76 tons disposed per person (equating roughly 4.2 pounds disposed per person per day). For the years 2021 and 2022, this rate increased to about 0.8 tons per

³ Disposal figures presented in Table 1 do not include materials used for alternate daily cover.

⁴ 2020 population estimate from [2020 US Census data for New Hampshire](#). 2021 and 2022 estimates from [New Hampshire Office of Planning and Development](#).

⁵ Total tons of New Hampshire-generated solid waste disposed in New Hampshire landfills and incinerators. Does not include New Hampshire-generated solid waste exported to out-of-state disposal facilities.

person (roughly 4.4 pounds per person per day), which is in line with per capita disposal rates in 2018 and 2019, prior to the COVID-19 pandemic.⁶

Table 3. Breakdown of Total Tons Disposed by Waste Type

Year	MSW	C&D	Asbestos	Sludge	Contaminated Soil	Other ⁷
2020	1,181,749	264,777	102,050	65,917	216,480	125,815
2021	1,241,114	253,073	182,560	54,386	149,813	118,176
2022	1,128,570	266,333	128,641	53,564	246,300	99,796

Table 3 illustrates the major types of solid waste received by New Hampshire’s disposal facilities from both in-state and out-of-state sources.⁸ MSW and C&D together comprise the majority of all solid waste disposed in New Hampshire facilities. For the years shown, MSW made up about 60% of total waste disposed, and C&D about 13%. The remaining roughly 27% is comprised of asbestos-containing waste, sludge from wastewater treatment facilities, non-hazardous contaminated soils (primarily from construction and remediation projects) and other specialized wastes, including wastes from industrial processes.

Disposal of MSW and C&D Compared to Disposal Reduction Goal

RSA 149-M:2 sets a goal to reduce disposal of MSW and C&D 25% by 2030 and by 45% by 2050 compared to the quantity of such wastes disposed in 2018. This goal applies to MSW and C&D on a combined basis (rather than separately to each waste category). In 2018, a total of 1,500,668 tons of MSW and C&D were disposed in New Hampshire (this figure includes MSW and C&D generated out-of-state and disposed in New Hampshire). The table below illustrates recent MSW and C&D disposal data compared to the 2018 baseline.

Table 4. Disposal of MSW and C&D Compared to 2018

Year	Total Tons MSW and C&D Disposed	% Change vs. 2018
2020	1,446,526	-3.6%
2021	1,494,187	-0.4%
2022	1,394,903	-7.0%

⁶ See 2018/2019 per capita disposal rates published in the [2020-2021 Biennial Report](#). Note that per capita disposal rates presented do not account for waste exported for disposal outside of New Hampshire.

⁷ The “Other” category in Table 3 includes ash, treated infectious waste and other special wastes/industrial process wastes, including air pollution control waste, manufacturing process scraps, blasting sand, etc.

⁸ Note that solid waste incinerators/waste-to-energy facilities are commonly only authorized to receive MSW; Landfills, however, may be permitted to accept the other waste types listed in Table 3.

IV. Diversion of Solid Waste in New Hampshire

Unlike disposal, which is a metric that NHDES can definitively track, recycling and other forms of diversion have been harder to measure due to gaps and limitations in existing data. For the purposes of estimating a statewide recycling rate, NHDES used recycling data reported by municipal transfer stations as a general indicator of statewide recycling activities. NHDES estimated the average statewide municipal recycling rate at 25% in 2021 and 27% in 2022.⁹ These estimates are roughly in line with rates estimated between 2018 to 2020.¹⁰

NHDES acknowledges that recycling data reported by municipal facilities only represents a subset of all recycling activities across the state. However, in the absence of more refined data, NHDES presumed the municipal data to be a suitable proxy for statewide recycling because municipal facilities tend to manage a representative cross-section of the waste stream. Moreover, limiting the dataset to only consider municipal facilities enabled NHDES to avoid challenges related to “double-counting,” which can commonly occur when dealing with system-wide recycling data. This is because recyclables can be transferred between multiple facilities before arriving at a “final” destination, resulting in overlapping data being reported to NHDES by several facilities. NHDES hopes to be able to collect better data in the future to produce more comprehensive estimates for recycling and other diversion activities.

V. Projected Solid Waste Disposal Need and Disposal Capacity

Table 5 on the following page illustrates NHDES’ projections for the quantity of solid waste generated in New Hampshire needing disposal compared to available permitted disposal capacity at New Hampshire’s landfills and incinerators. It is important to note that the disposal capacity projections shown in the table assume that statewide disposal capacity will be depleted as quickly as feasible, and that landfills will cease operations after depleting their current permitted capacity. It is likely that many of these facilities will seek additional expansions, but NHDES does not rely on hypothetical future capacity when making projections. The information displayed in Table 5 essentially depicts how long New Hampshire’s existing disposal capacity might be expected to serve the state’s disposal needs without the addition of any new capacity. Further explanation of the table and how NHDES derived these projections is provided below.

⁹ This percentage represents an “MSW” recycling rate and does not include C&D tonnage. The statewide municipal recycling rate presented here is an average of the facility recycling rates calculated for municipal transfer stations in the state. Facility recycling rates are based on available data from annual facility reports submitted to NHDES and are calculated by dividing waste recycled by the sum of waste disposed plus waste recycled.

¹⁰ As published in the [2020-2021 Biennial Report](#).

Table 5. Projected Waste Disposal Need & Capacity for New Hampshire (2023 - 2043)

Projections Based on 2022 per capita disposal data and approved permitted landfill capacity as of December 2022

Year	Projected Disposal Need (tons per year) <i>Assuming No Change in Current Practices</i>	Disposal Need Per Disposal Goal (tons per year) <i>RSA 149-M:2</i>	Projected Disposal Capacity (tons per year) <i>Assuming No New Capacity Added</i>
2023	1,351,000	990,000	1,876,000
2025	1,364,000	949,000	1,876,000
2030	1,394,000	847,000	1,762,000
2035	1,425,000	802,000	454,000
2040	1,456,000	757,000	447,000
2045	1,487,000	712,000	226,000

Table 5 Notes:

(1) All projected waste quantities, including landfill capacities, should be considered approximate.

(2) Projected Solid Waste Disposal Need (about 5.3 lbs/person/day) is estimated using 2022 solid waste disposal data, 2022 population data (1,395,231 people), and the assumption that population will increase 9.2% over the next 20 years (doubling New Hampshire's historical 10-year growth rate of 4.6% as reported in 2020 US Census).

(3) Projected disposal capacity for each landfill is based on approved design capacity for each permitted disposal facility, and calculated using the assumptions that landfill operators accept the maximum amount of waste allowed by permit, and close on the date of minimum life expectancy or when capacity runs out, whichever is latest. The projections do not include limited private landfills or unlined landfills.

(4) Representation of Disposal Need per Disposal Goal (RSA 149-M:2) is based on reducing the 2018 quantity of MSW and C&D debris disposed by 25% by 2030 and 45% by 2050, and holding the per capita generation of all other waste type quantities the same.

Projected Waste Disposal Need

For this report, NHDES projected New Hampshire's solid waste disposal need in accordance with RSA 149-M:11, V, which requires that the department consider disposal need over a 20-year planning period. NHDES based its projections on the following:

- The statutory requirement in RSA 149-M:11, V(a) that disposal projections account for all waste generated in New Hampshire, including waste exported to out-of-state disposal facilities.
- Disposal tonnage data reported by New Hampshire's operating landfills and incinerators in their 2022 annual facility reports (AFRs).
- Export disposal data reported to NHDES from 2000 through 2022 plus one standard deviation to account for annual variability and unreported exports.
- Population data provided in the 2020 U.S. Census, which estimated that New Hampshire's population grew 4.6% between 2010 and 2020.¹¹ For the purposes of this analysis, NHDES assumes this same growth rate will continue, equating to a roughly 9.2% growth in population over the 20-year planning period.
- The assumption that New Hampshire's per capita rate of disposal will remain constant over the 20-year planning period.
- The assumption that diversion rates will remain constant over the 20-year planning period.

¹¹ 2020 [US Census data for New Hampshire](#)

NHDES estimates that in 2022 New Hampshire generators disposed of about 5.3 pounds per person per day (including exports). The “Projected Waste Disposal Need” column depicted in Table 5 represents this per person disposal rate multiplied by projected population at five-year increments over the course of the planning period. As previously indicated, the estimates of waste disposal need in this report assume no changes in current waste disposal and diversion practices. However, as a point of reference, Table 5 also includes a “Disposal Need per Disposal Goal” column estimating what New Hampshire’s disposal need would be if the disposal reduction goal in RSA 149-M:2 were achieved, that is, a 25% reduction in disposal of MSW and C&D by 2030, and a 45% reduction by 2050.¹² The depiction of this goal in the table illustrates that, if the goal is to be achieved, waste reduction and diversion efforts must be increased.

Projected Waste Disposal Capacity

Projected waste disposal capacity is based on a combination of factors, including specific requirements relative to operational lifespan contained in each disposal facility’s permit. NHDES estimated the statewide “Projected Waste Disposal Capacity” line shown in Figure 2 based on the following:

- Estimates of total permitted capacity for solid waste disposal facilities in New Hampshire, excluding:
 - Unlined landfills pursuant to RSA 149-M:11, V(a).
 - Limited private facilities, which are “closed-circuit” facilities that only serve the capacity needs of the generator who owns the facility and therefore do not provide disposal capacity for the general public.
- Estimates of permitted landfill capacity converted from volumetric capacities (measured in cubic yards) to weight-based capacities (measured in tons). Because landfill permits express capacity in terms of volume, conversion to tons is necessary to align capacity values with disposal need projections, which are estimated in tons. This conversion process may introduce minor discrepancies.
- The assumption that the Wheelabrator Concord Company waste-to-energy facility will provide steady-state capacity throughout the 20-year planning period.
- The assumption that landfill operators will fill at the maximum rate allowed by the facility’s permit, regardless of operational limitations.
- The assumption that a facility will close on the minimum operational date required by its permit, which NHDES considers the earliest anticipated closure date of a disposal facility. This assumption ignores whether a facility may actually be able to continue operations beyond its minimum required date, and also disregards the facility’s potential for future capacity expansions.

These assumptions result in a conservative projected lifespan of existing disposal capacity in New Hampshire. Table 6 below shows the earliest anticipated closure date of all eight operating disposal facilities in New Hampshire, excluding unlined landfills and limited private facilities.

¹² The disposal reduction goal in RSA 149-M:2 applies only to disposal of MSW and C&D, therefore the “Disposal Goal” column shown in Table 5 assumes that the disposal of other waste categories (for example – asbestos waste, contaminated soils, sludge) will increase in proportion with population growth over the course of the planning period.

Table 6. Active New Hampshire Disposal Facilities, Listed by Earliest Anticipated Closure Date

Facility Type	Facility Name	Location	Service Type / Service Area	Earliest Anticipated Closure Date
Waste-to-Energy Incinerator	Wheelabrator Concord Company L.P.	Concord, NH	Commercial / Unlimited	None
Incinerator (no resource recovery)	Hebron-Bridgewater Refuse District	Bridgewater, NH	Limited Public / Limited	None
Landfill	North Country Environmental Services, Inc.	Bethlehem, NH	Commercial / Unlimited	December 31, 2026 ¹³
	Lebanon Regional Solid Waste Facility	Lebanon, NH	Limited Public / Limited	est. 2030 ¹⁴
	TLR-III Refuse Disposal Facility	Rochester, NH	Commercial / Unlimited	June 30, 2034 ¹⁵
	Lower Mount Washington Valley Secure Solid Waste Landfill	Conway, NH	Limited Public / Limited	est. 2038 ¹⁶
	Mount Carberry Secure Landfill	Success, NH	Commercial / Unlimited	December 31, 2041 ¹⁷
	Four Hills Secure Landfill Expansion	Nashua, NH	Limited Public / Limited	December 31, 2060 ¹⁸

Assessment of Waste Disposal Need Relative to Waste Disposal Capacity

NHDES estimates that New Hampshire's disposal capacity may fall short of projected disposal need starting in 2034, assuming that the TLR-III (Turnkey) facility reaches the end of its currently permitted capacity and that no additional disposal capacity is permitted by that time. Under this scenario, New Hampshire would experience a capacity shortfall of roughly 267,000 tons in 2034, increasing to about 970,000 tons in 2035 (first full year without TLR-III). By 2041, the shortfall is expected to be about one million (1,044,000) tons. Depending on the date Mt. Carberry depletes its existing permitted capacity, the disposal capacity shortfall is expected to increase to roughly 1.2 million tons in 2042 or 2043. It is important to note that this is a theoretical analysis based solely on existing permitted capacity and is not intended to be a predictive forecast of future conditions. As indicated at the beginning of this section,

¹³ North Country Environmental Services, Inc.: Condition (27)(b) of the permit modification issued October 9, 2020 stipulates that the permittee shall operate the facility through at least December 31, 2026.

¹⁴ Lebanon Regional Solid Waste Facility: There is no minimum operating life expectancy in the facility permit. The anticipated closure date is estimated based on projected remaining capacity and life expectancy reported in the facility's 2022 Annual Facility Report.

¹⁵ TLR-III Refuse Disposal Facility (aka Turnkey Landfill): Condition (21)(b) of the permit modification effective June 11, 2018 stipulates that the permittee shall operate the facility through at least June 30, 2034.

¹⁶ Lower Mount Washington Valley Secure Solid Waste Landfill: There is no minimum operating life expectancy in the facility permit. The anticipated closure date is estimated based on projected remaining capacity reported in the facility's 2021 Annual Facility Report.

¹⁷ Mount Carberry Secure Landfill: Condition (24)(b) of the permit modification issued April 22, 2022, stipulates that the permittee shall operate the facility through at least December 31, 2041. NHDES notes that at the maximum permitted fill rate, the facility may have capacity into 2043.

¹⁸ Four Hills Secure Landfill Expansion: Condition (25)(b) of the permit modification issued December 23, 2022 stipulates that the permittee shall operate the facility through at least December 31, 2060.

the assumption that all of New Hampshire's commercial landfills will close after reaching their currently permitted capacity is unlikely. Even if these facilities have long-term plans to expand, such plans cannot be included in capacity projections until they are officially permitted by NHDES. Additionally, if New Hampshire achieves the disposal reduction goal in RSA 149-M:2 by reducing overall generation of solid waste and/or increasing diversion rates, it will reduce the state's overall disposal need and thereby decrease demand for disposal capacity. With such factors in mind, it is important to acknowledge that projections of disposal need and capacity are likely to change based on evolving circumstances and available data.

VI. State and Regional Trends in Solid Waste Management

Trends in New Hampshire

Landfill Expansions – Applications for landfill expansions constitute the vast majority of requests for new permitted solid waste management capacity received by NHDES. At the same time, there continues to be significant public opposition to expanding existing facilities or siting new disposal facilities.

Waste Imports – Out-of-state waste comprises roughly 45% of total waste disposed in New Hampshire facilities. Most of the out-of-state waste disposed in New Hampshire is received by the three commercial landfills (see Table 6 above). Commercial disposal facilities in New Hampshire are permitted to receive waste from both in-state and out-of-state sources. The Commerce Clause of the U.S. Constitution has commonly been interpreted to preempt a state from explicitly prohibiting or adopting policies that would restrict a commercial solid waste facility from accepting and disposing of out-of-state waste.¹⁹

Organic Waste Diversion – There has been sustained attention among legislators, municipalities, regional organizations, commercial/institutional entities and members of the public on the topic of composting and organic waste diversion. Diverting organics recovers resources, reduces disposal need, has the potential to reduce waste management costs and is consistent with the hierarchy.

Legislative Attention to Waste Issues – There has been continued interest in solid waste-related issues, with several bills introduced during the 2021 & 2022 legislative sessions:

2021 Legislative Session

- SB 146 – This omnibus bill encompassed several initiatives, including a proposal to establish a statewide disposal reduction goal (reviving 2020's SB 591). The section of the bill containing the disposal reduction goal was eventually removed from SB 146 and incorporated into HB 413.
- HB 177 – A successor to HB 1319 from the 2020 session, this bill sought to restrict NHDES from issuing permits to landfills located within 2 miles of a state park. The bill passed the House but was ultimately voted down by the Senate.
- HB 413 – Proposing to establish a solid waste working group and impose a deadline for adoption of new composting rules, this bill revived HB 1701 and HB 1704 from the 2020 session. The bill was subsequently amended to include a solid waste disposal reduction goal, which was formerly a provision of SB 146, and also incorporated an October 1, 2022 deadline for NHDES to publish an updated Solid Waste Management Plan. The amended bill passed the House and Senate and was signed into law by Governor Sununu.

¹⁹ The 1978 Supreme Court Case, Philadelphia v. New Jersey, struck down a New Jersey law that prohibited the importation of waste into the state.

- HB 500 – A successor to HB 1512 from the 2020 session, this bill sought to address child hunger and reduce food waste by authorizing schools to convert edible, unserved cafeteria leftovers into frozen to-go meals that could be provided to children who participate in the free or reduced-price meals program. The bill passed the House and Senate and was signed into law by Governor Sununu.
- HB 618 – Very similar to HB 1564 from the 2020 session, this bill sought to prohibit food service establishments from distributing single-use food or beverage containers made from polystyrene foam. The bill did not advance out of the House.

2022 Legislative Session

- SB 367 – Sought to remove “advanced recycling” facilities from NHDES’ solid waste regulatory purview when such facilities are processing source-separated plastic waste using chemical processes such as depolymerization, pyrolysis or solvolysis. The amended bill passed the Senate and House and was signed into law by Governor Sununu.
- SB 379 – Proposed the establishment of a Solid Waste Management Fund to provide matching grants to municipalities, private entities and businesses for projects that contribute to waste reduction and diversion in New Hampshire. The amended bill passed the Senate and the House and was signed into law by Governor Sununu.
- SB 380 – Originally introduced with several objectives, including creation of a legislative committee to study the formation of a site evaluation committee for landfills and another committee to study the establishment of a prohibition on disposal of solid waste in New Hampshire landfills by any municipality that does not have a solid waste plan. The bill was subsequently amended to task the Solid Waste Working Group to study these topics. The amended version was passed by the Senate and the House and signed into law by Governor Sununu.
- SB 396 – Sought to enable NHDES to retain the services of an independent professional engineer or hydrogeologist to assist the department with technical review of an application for a solid waste landfill permit. The bill passed the Senate and House, and was signed into law by Governor Sununu.
- HB 1049 – Proposed establishing a committee to study landfill siting criteria and evaluate solid waste policies implemented in other states and provinces as models for reducing the need for solid waste disposal in New Hampshire. The bill passed the House but was voted down in the Senate.
- HB 1111 – Proposed establishing a committee to study extended producer responsibility as a method to reduce the cost burden on New Hampshire municipalities for disposal of solid waste. The House Environment and Agriculture Committee referred the bill to interim study, where it was subsequently recommended for future legislation (to be reintroduced in the 2023 session).
- HB 1119 – Relative to the regulation of single-use bans. This bill sought to enable municipalities to regulate the distribution of single-use plastic and paper bags at the point of sale. The bill did not advance out of the House.
- HB 1121 – Sought to require applicants for a landfill permit to provide proof of insurance and obtain a surety bond against any damages caused to the surrounding community resulting from operation of the landfill. The House Environment and Agriculture Committee referred the bill to interim study. Following interim study, the bill was not recommended for future legislation.
- HB 1122 – Authorizing municipalities to collect and resell construction and demolition debris. The bill passed the House but was voted down in the Senate.

- HB 1172 – Requiring municipalities to provide composting and recycling services to residents of public housing. The House Municipal and County Government Committee referred the bill to interim study. The interim study report did not recommend the bill for future legislation.
- HB 1274 – Proposed establishing a committee to study the recycling and solid waste management practices of state agencies. The bill was voted down in the House.
- HB 1300 – Sought to make an appropriation of state funds to support the financial assurance obligations of a closed ash landfill owned by the Newport Economic Development Corporation. The bill was referred for interim study, but ultimately was not recommended for future legislation.
- HB 1406 – Sought to authorize municipalities to collect compostable materials at municipally-owned transfer stations or contract with owners of another facility that collects compostable materials. The bill passed the House but was voted down in the Senate.
- HB 1420 – Proposed a prohibition on the issuance of new landfill permits until the state’s solid waste plan is updated by the October 1, 2022 deadline (as established by HB 413 in 2021). The amended bill passed the House and Senate and was signed by Governor Sununu.
- HB 1454 – Sought to establish a setback distance between landfills and water bodies determined by the rate at which groundwater travels from the landfill property to surrounding water bodies. The bill proposed a formula that would require landfills to be located a sufficient distance so that groundwater from the landfill would not reach nearby water bodies within 5 years. The bill passed the House and Senate, but was vetoed by Governor Sununu.
- HB 1459 – Relative to the recycling of solar panels. This bill proposed an extended producer responsibility program for takeback and recycling of solar photovoltaic modules. The bill passed the House but was voted down by the Senate.
- HB 1544 – This bill sought to prohibit the landfilling of construction and demolition debris in New Hampshire. The bill was voted down in the House.
- HB 1652 – Relative to the recycling of beverage containers. This bill proposed a deposit return system to encourage the recycling of beverage containers sold in the state (a “bottle bill”). The House Environment and Agriculture Committee referred the bill to interim study and ultimately did not recommend it for future legislation.

Formation of the NH Solid Waste Working Group (SWWG) – The SWWG, established by HB 413 during the 2021 legislative session, is comprised of members representing various public and private entities involved with solid waste management. The group has a 5-year lifespan (until November 1, 2026) and is tasked with assisting NHDES with planning and policy initiatives related to solid waste management. The SWWG held its first organizational meeting on October 29, 2021, and focused early efforts in assisting NHDES with development of the updated Solid Waste Management Plan. More information on the membership and activities of the SWWG can be found on the group’s webpage.²⁰

Establishment of the Solid Waste Management Fund – The Solid Waste Management Fund was established in 2022 under a new statute, RSA 149-R. The purpose of the fund is to provide matching grants to New Hampshire municipalities, organizations and businesses for projects that improve diversion of solid waste from disposal. Unfortunately, no monies were appropriated to the fund during the timeframe covered by this report, and NHDES was unable to implement a grant program. However, the fund establishes a place where future monies may be deposited as they become available through appropriations by the Legislature, federal grants or other sources.

²⁰ [New Hampshire Solid Waste Working Group webpage](#)

Regional Trends

Waste-to-Energy Challenges – Across the region, waste-to-energy facilities continue to face challenges related to aging infrastructure and economic pressures as they compete in a marketplace with electricity producers using relatively inexpensive fuels, such as natural gas. In July 2022, the Materials Innovation and Recycling Authority (MIRA) waste-to-energy facility in Hartford, Connecticut ceased operations due in large part to facility age, declining revenues from power generation and inability to secure agreements for facility upgrades. The facility had accepted more than 500,000 tons of waste per year from dozens of Connecticut municipalities, and its closure represented a major disruption in Connecticut’s overall disposal capacity.

Waste Disposal Bans/Mandatory Recycling Laws – Over time, several Northeast states have phased in waste bans to eliminate the landfilling and incineration of easy-to-recycle and toxic materials. The waste bans encourage the development of new systems and infrastructure to collect banned items and other discarded materials, and to divert them from disposal to reuse and recycling. Based on the Northeast Recycling Council’s report about *Disposal Bans & Mandatory Recycling in the United States*,²¹ many states have enacted mandatory recycling laws in conjunction with disposal bans. Glass, metal, paper, cardboard, large appliances, cathode ray tubes, vehicle batteries and certain construction and demolition debris are some of the materials subject to active waste bans and mandatory recycling laws in various Northeast states. While RSA 149-M does not establish recycling as mandatory in New Hampshire, there are disposal bans in place for wet-cell batteries, leaf and yard waste, electronic video display devices, computers and electronic media recorders/players (RSA 149-M:27, II-IV). Examples of more recent waste bans enacted by other states include:

- Effective November 1, 2022, mattresses and textiles were added to the current list of materials banned from disposal in Massachusetts.
- Massachusetts has set Minimum Performance Standards (MPS) for C&D Handling Facilities to facilitate diversion of C&D and ensure compliance with state waste disposal bans. The MPS establish criteria for the separation of banned and recoverable materials, requiring C&D Handling Facilities to achieve a Process Separation Rate (PSR) of at least 15% and demonstrate that all waste ban materials are being separated to the greatest extent possible.

Organic Waste Disposal Bans – As of July 1, 2020, the food waste disposal ban enacted as part of Vermont’s Universal Recycling Law (Act 148)²², applies to all generators, including households, regardless of quantity of food scraps generated or distance to available diversion facilities. This ban was initially put in place in 2014, applying to entities generating at least 2 tons of food scraps per week that were located within 20 miles to an authorized organics management facility. In subsequent years, the ban has been progressively phased-in by decreasing the generator threshold. Vermont’s approach has gained attention as the most aggressive statewide organics diversion policy. Connecticut, Massachusetts, Rhode Island and New York have taken a different approach by enacting food waste disposal bans that solely target large-scale generators. In most cases, these bans apply to commercial or institutional generators that produce 1 ton or more of food waste per week. Some states make exceptions for specific types of generators (hospitals, nursing homes, elementary schools) and/or generators that fall outside a certain distance to an authorized composting facility. States across the Northeast have adopted these statutory requirements to reduce disposal need and spur development of food recovery efforts, as well infrastructure for composting and anaerobic digestion. In 2022, the following changes took effect:

²¹ Northeast Recycling Council. [Disposal Bans & Mandatory Recycling in the United States \(Revised Oct. 2020\)](#).

²² [Vermont Universal Recycling Law \(Act 148\)](#)

- Connecticut and Massachusetts initiated the next phase of their food waste bans, by reducing their compliance threshold. Now businesses and institutions generating at least ½ ton of food waste per week are required to divert that material to an authorized organics management facility (for example, a composting or anaerobic digestion facility). In Connecticut, exceptions apply if the generator is located more than 20 miles from an authorized facility.
- New York requires all businesses and institutions that generate an annual average of 2 tons of food waste per week to donate surplus edible food for human consumption to the extent possible.

Extended Producer Responsibility (EPR) – EPR is a type of Product Stewardship policy used to encourage resource recovery and minimize the impacts to public health, safety and the environment from the use and disposal of consumer products. Many Northeastern states have adopted EPR laws that require manufacturers to share responsibility for end-of-life management of the product(s) they produce. A long-standing example of one such policy in New Hampshire is the mercury thermostat take-back program established in 2008 (RSA 149-M:58-a). More recent examples of EPR programs in other states include:

- Paint take-back programs in Connecticut, Maine, Rhode Island and Vermont.
- Electronic waste recycling programs in Connecticut, Maine, New York, Rhode Island and Vermont.
- A battery recycling program in Vermont that targets single-use and rechargeable batteries.
- Mattress recycling programs in Connecticut and Rhode Island require manufacturers to establish a program to manage discarded mattresses generated in each state. The stewardship law establishes a fee at the point of sale to finance the program, which pays for transportation and recycling of unwanted mattresses.
- Maine passed a law establishing an EPR program for packaging. Producers pay into a fund based on the amount and the recyclability of packaging associated with their products. The funds will be used to reimburse municipalities to cover eligible waste management costs, infrastructure investments and public education activities.

VII. Congressional Actions and Court Rulings

Congressional Actions

In 2021, the United States Congress passed the Infrastructure Investment and Jobs Act (also known as the Bipartisan Infrastructure Law). The law allocates federal funding for a variety of infrastructure improvement initiatives, including \$350 million to support waste management infrastructure and recycling programs. This unprecedented federal investment in solid waste management is intended to improve people's health and safety and help establish and increase recycling programs nationwide. The funding will be administered by the US EPA to develop best practices for collection and labeling of used batteries and to establish grant programs to support development of recycling infrastructure as well as recycling education and outreach. Additional information, including an overview of these grant programs, is available on the EPA's website.²³

²³ More information about recycling funding available through the Bipartisan Infrastructure Law can be found on the [US EPA website](#)

Court Rulings

In *Appeal of Conservation Law Foundation, Inc.* (2021), the New Hampshire Supreme Court upheld a decision of the Waste Management Council, which affirmed the Department's issuance of a solid waste facility expansion permit. At issue was a condition included within the permit that required the facility to annually demonstrate a 30% diversion rate among its customers, to prepare a diversion report if 30% was not achieved, and to assist generators to increase their diversion rates. The Supreme Court found support for the Department's determination that this condition would assist the goals of RSA 149-M:2 and RSA 149-M:3 because of the information that would be generated through the condition, which would allow the Department to learn more about the composition of the waste stream and diversion rates and would inform development and implementation of future diversion strategies. The Court's decision affirms that conditions such as the one at issue are a means available to the Department to gather much needed diversion data and one of the ways a facility's permit may assist a facility in complying with the RSA 149-M:11 public benefit criteria.

VIII. NHDES' Solid Waste Programs and Ongoing Efforts

RSA 149-M, the Solid Waste Management Act, grants NHDES authority to administer and enforce the provisions of the Act, and its implementing administrative rules, Env-Sw 100, et seq. This work is carried out by the Solid Waste Management Bureau (Bureau) within NHDES' Waste Management Division. The Bureau ensures that management of solid waste in New Hampshire is protective of human health and the environment by regulating the facilities and practices associated with the collection, processing, treatment, recycling, re-use and disposal of solid waste in New Hampshire. Examples of the types of facilities regulated by the Bureau include transfer stations, recycling centers, scrap metal yards, composting facilities, incinerators and landfills. The Bureau oversees and assures compliance for approximately 260 active permitted solid waste facilities, 120 motor vehicle salvage yards and 600+ closed, inactive solid waste disposal sites (consisting of inactive landfills and asbestos disposal sites).

NHDES' Solid Waste Programs

Below are brief descriptions of the Bureau's four essential program areas:

1. *Engineering and Permitting:*

In accordance with RSA 149-M:6, III, the Bureau regulates solid waste facilities through the administration of a permit system. The Bureau's Engineering & Permitting Section (EPS) is responsible for processing applications for solid waste facility permits, permit modifications and other requests requiring approval by NHDES. EPS also provides permitting technical assistance, inspects and monitors the construction, operation and closure of New Hampshire's active landfills and processing/treatment facilities and reviews environmental monitoring data and proposed plans for corrective actions when problems are identified.

2. *Compliance Assurance:*

The Bureau's Compliance Assurance Section (CAS) is responsible for assuring that solid waste facilities are operated and closed in compliance with permit requirements, the Solid Waste Rules (Env-Sw 100 et seq.) and RSA 149-M. CAS oversees five regulatory program areas: the Active Facility Inspection Program, Motor Vehicle Salvage Yard Program, Closed Unlined Landfill Program, Inactive Asbestos Disposal Site Program and Limited Reuse of Contaminated Soil Program, along with an enforcement arm that serves each regulatory program area. Each program area provides

compliance technical assistance, reviews reports, conducts inspections, investigates complaints and pursues enforcement when necessary.

3. *Materials Management, Education & Planning:*

In 2021, the Materials Management, Education & Planning Section (MMEPS) was established to provide a range of planning, education and technical assistance services. MMEPS staff are responsible for coordinating statewide solid waste management planning efforts and addressing technical assistance needs of communities, particularly with respect to promoting waste reduction and diversion. As required by RSA 149-M:6, XIII, MMEPS also administers a training and certification program for solid waste facility operators, known as the Solid Waste Operator Training (SWOT) Program. Each year the SWOT Program hosts multiple 'Basic Training' workshops for new operators and provides numerous continuing education opportunities administered by NHDES staff and/or third parties. The SWOT Program equips facility operators with an awareness of regulatory requirements, fosters a direct relationship between the Bureau and the regulated community, and promotes voluntary compliance. There are over 1,200 solid waste operators currently certified under this program.

4. *Reporting, Information & Financial Management:*

The Reporting, Information & Financial Management Section (RIFMS) is responsible for the Bureau's reporting, information and financial management functions and leads the Bureau's information technology and file management initiatives. RIFMS administers a financial assurance program to assure that facility owners maintain adequate funds to guarantee proper closure and post-closure care of facilities. RIFMS also distributes grant money to reimburse municipalities for eligible costs for closure of old landfills and incinerators as allowed by RSA 149-M:41.

Recent Accomplishments and Ongoing Program Efforts

In CY 2021 and 2022, the Bureau's work included the following:

- The Engineering & Permitting Section processed a total of 84 applications, including applications for solid waste facility permits (both new permits and modifications of existing permits for facility improvements, capacity expansions, etc.) as well as applications to certify waste-derived products. EPS has been working to streamline application processing procedures and complete application reviews within prescribed time limits to avoid automatic, default approvals (pursuant to RSA 541-A:29-a). Further, EPS is working to improve regulatory consistency in administration of rules and permit terms and conditions, specifically including those related to solid waste facility construction. EPS staff have also participated in hearings related to appeals of permitting decisions.
- The Compliance Assurance Section implemented a new structure in June of 2022 for inspecting collection, storage and transfer facilities and processing and treatment facilities every three years. Additionally, CAS began conducting unannounced daily cover inspections of active landfills and intends to do the focused inspections at least once a year. CAS is in the early stages of developing an inspection structure for conducting full compliance inspections of active landfills. CAS continues to assure compliance with filing incident reports and annual facility reports for both active and closed/inactive landfills. At the same time, CAS is working to ensure that closed/inactive landfills are monitored and maintained in accordance with the applicable requirements. Staff in CAS have been working to coordinate the readoption of the entire set of Solid Waste Management administrative rules that are due to expire on July 1, 2024.

- The Materials Management, Education and Planning Section focused efforts on updating the state's composting facility regulations, development of the solid waste management plan and interfacing with the newly-formed New Hampshire Solid Waste Working Group. Proposed revisions to the composting rules were released for public comment in December 2021 and a final version was adopted in March 2022. The revised rules were developed to provide greater clarity and to streamline permitting options for facilities that compost food waste. MMEPS also worked through most of 2022 to update the State's Solid Waste Management Plan, which was published on September 30, 2022. In developing the plan, NHDES staff relied on input from the Solid Waste Working Group, New Hampshire Waste Management Council and comments from the general public. In addition, the SWOT program certified 597 new solid waste operators, and provided 21 live continuing education workshops in addition to maintaining 22 recorded webinars for operators needing to renew their certification. The SWOT Program has continued to provide the majority of workshops with options for virtual attendance to increase accessibility for those that want to attend.
- The Reporting, Information & Financial Management Section continued to review financial assurance plans for solid waste facilities that are required to comply with financial assurance requirements. RIFMS also continued to enhance the functionality of the Bureau's database to improve data retrieval by making electronic copies of all solid waste facility permits available to the public. Working in coordination with CAS, RIFMS also began the process to readopt Chapter Env-Sw 1300 (Public Grants for Landfill and Incinerator Closure) and Chapter Env-Sw 1400 (Financial Assurance), both of which are due to expire July 1, 2024. RIFMS disbursed about \$376,000 to eight New Hampshire municipalities for unlined municipal landfill closure grants that were approved by the Governor and Executive Council in previous fiscal years. The Section also started to take steps to make available to the public all Annual Facility Reports that have been received by the Bureau (1992-present) for active permitted solid waste facilities.

Other Organizations Involved in Solid Waste Management

For a list of other organizations who provide technical assistance and/or useful resources related to solid waste management, see Appendix A. The list includes a brief description of each organization. Further details for each organization can be obtained by going to its website or contacting the organization directly.

IX. Solid Waste Management Plan

NHDES issued [New Hampshire's 2022 Solid Waste Management Plan](#) (SWMP) in 2022 in accordance with RSA 149-M:29, I. Solid Management Bureau staff reviewed plans from neighboring states to develop an initial framework and then gathered input from colleagues, legislators, stakeholders and members of the public. During the public comment period, NHDES received comments from 74 individuals. Bureau staff read all the submitted comments and made adjustments as appropriate.

The 2022 SWMP has 8 goals and 76 actions that are categorized into 5 strategies for accomplishing those actions. The strategies are:

- 1) Public Education and Outreach.
- 2) Incentives.
- 3) Data Collection and Research.
- 4) Regulations and Permitting.
- 5) Legislation.

While NHDES has a major role in implementing the SWMP, its success depends on efforts from everyone in the state. Residents, municipalities, businesses in the public and private sectors, non-profits, quasi-governmental organizations and other stakeholders all play a role in accomplishing the SWMP goals. To measure the success in reaching the SWMP's goals, NHDES must account for efforts happening outside of the agency. Staff will need to determine how to effectively track projects led by external partners.

The first implementation year started October 1, 2022 and ended September 30, 2023. Specific to the timeframe covered by this report, Bureau staff worked on the following SWMP actions during the last three months of 2022 (10/1/2022 – 12/31/2022):

- Action 1.5 – Drafted an initial directory of organizations that facilitate reuse of surplus items generated by businesses and institutions.
- Actions 2.11; 3.17 – Bureau staff provided appropriate legislative input on proposed bills related to solid waste management.
- Action 3.1 – Joined the Project Steering Committee for the Composting Association of Vermont's (CAV) On-Farm Composting project. The project aims to increase food waste diversion in New Hampshire.
- Action 3.4 – Presented at the 2022 New Hampshire Municipal Association conference, to municipal officials, facility operators and residents, about the benefits of using Full Cost Accounting to improve recycling programs.
- Actions 7.1; 7.2 – The [NHDES Civil Rights and Nondiscrimination Implementation Plan](#) was published on October 25, 2022. It is a resource for staff to use to align their program efforts with the state's environmental justice goals.
- Action 8.2 – NHDES wrote letters of support for municipalities and non-profits seeking funding opportunities that will help meet the SWMP goals.
- Action 8.4 – NHDES opted to participate in the non-competitive EPA Solid Waste Infrastructure for Recycling grant program for States/Territories, which is funded by the Bipartisan Infrastructure Law and intended to support state level research and planning for solid waste management.

X. Solid Waste Management Fund

As required by RSA 149-R:6, Biennial Solid Waste Reports shall include information relative to the activities and finances of the Solid Waste Management Fund. This fund was established in 2022 by the Legislature without an appropriation. As such, there is no information to provide for this reporting period.

XI. Conclusions and Recommendations

As stated in RSA 149-M:29, II, an overarching purpose of this report is to assess progress toward achieving New Hampshire's disposal reduction goal established in RSA 149-M:2. Data from 2020 to 2022 indicate that disposal of MSW and C&D fluctuated somewhat, but was overall lower than disposal of such wastes in 2018 by an average of 3.6% across the three year period.

Continuing progress toward the disposal reduction goal will require substantive shifts in current waste management practices toward more robust waste reduction and diversion efforts. Because the goal is not mandatory, voluntary waste reduction and diversion efforts by public and private solid waste management entities, haulers and waste generators across all sectors will be important to New

Hampshire's successful pursuit of the goal. Such efforts include financial investments to develop diversion infrastructure consistent with New Hampshire's Waste Management Hierarchy (RSA 149-M:3). NHDES' Solid Waste Management Plan incorporates goals, strategies and actions that will guide NHDES' efforts to encourage waste reduction and diversion in support the disposal reduction goal.

Appendix A: Organizations Involved with Solid Waste Management

State/Local Organizations

Auto and Truck Recyclers Association of NH (ATRA)

Address: PO Box 331 Weare, NH 03281

Telephone: (603) 529-7211

Website: <https://web.a-r-a.org/Other/Auto-Truck-Recyclers-of-New-Hampshire-2596>

Contact: David Wilusz, President, allied10@aol.com

The Auto and Truck Recyclers Association of New Hampshire (ATRA) promotes environmentally friendly business practices for facilities engaged in automobile and truck recycling, dismantling and salvage within the state of New Hampshire. ATRA encourages uniform commercial practices among its members and provides leadership in ensuring familiarity with local, state and federal laws and regulations governing the conduct of such businesses. It represents the interests of its members before governing bodies, seeking to ensure recognition of the contributions of the vehicle recycling industry. ATRA seeks to work closely with regulatory bodies such as the Department of Environmental Services, the Department of Safety and the Department of Transportation, as well as organizations with similar goals, such as the New Hampshire Municipal Association, New Hampshire Auto Dealers Association, the New Hampshire Towing Association and many others.

Collaborative Solid Waste Strategies (CSWS)

Address: PO Box 6163, Penacook, NH 03303

Telephone: (603) 568-3790

Website: <https://www.cswnh.org/>

Contact: Carol Foss, Executive Director, info@cswnh.org

Collaborative Solid Waste Strategies (CSWS) is a nonprofit 501(c)(3) organization committed to improving the way New Hampshire and other states manage solid waste. The Board of Directors includes individuals with long histories of involvement in the policy, science and management of solid waste. CSWS strives to be a catalyst for pragmatic and comprehensive approaches to sustainable solid waste management in New Hampshire by sharing information, evaluating proposed policies and legislation, engaging in the planning process for solid waste management, collaborating with other groups and advocating for feasible solid waste management practices.

Lakes Region Planning Commission (LRPC)

Address: Humiston Building, 103 Main Street, Suite 3, Meredith, NH 03253

Telephone: (603) 279-5341

Website: <https://www.lakesrpc.org/>

Contact: Dave Jeffers, Regional Planner, djeffers@lakesrpc.org

The Lakes Region Planning Commission (LRPC) is a unique association of local governments that provides comprehensive planning services to meet the diverse needs of New Hampshire's Lakes Region. Their mission is to provide effective planning, in order to achieve and sustain a quality environment, a dynamic economy and local cultural values by supporting community efforts through leadership, education, technical assistance, information, advocacy, coordination and responsive representation. During the tenure of this report, the LRPC has developed a series of Solid Waste Roundtable events where they invite attendees to learn about solid waste issues in the region and offer solutions. Topics range from closed landfill maintenance, to disposal and use of glass, to food waste composting. In addition, they coordinate the household hazardous waste collection events for the Lakes Region.

New Hampshire the Beautiful

Address: 2101 Dover Road, Epsom, NH 03234
Telephone: 1-888-784-4442 Toll-Free in NH, (603) 736-4401
Website: <http://www.nhthebeautiful.org/>
Email: nhtb@nrra.net

New Hampshire the Beautiful, Inc. (NHtB) is a private, non-profit Charitable Trust established in 1983 and voluntarily funded by the soft drink distributors and bottlers, retail grocers and the malt beverage industry. The Board of Directors of NHtB has awarded the Northeast Resource Recovery Association (NRRRA) a contract to administer the grants and solid waste facility sign programs in addition to overseeing the distribution of litter bags for roadside cleanups across New Hampshire.

New Hampshire Network – Plastics Working Group

Website: <http://www.newhampshirenetwork.org/working-groups/plastics-working-group>
<http://www.10towns.org/home> (Ten Towns – Ten Actions Toolkit)
Email: nhplasticwaste@gmail.com

The New Hampshire Network is an assortment of organizations working to facilitate communication among groups concerned about New Hampshire's environment, energy future and climate. Specifically, the **Plastics Working Group** is focused on addressing the intersectionality of climate change, human health, environmental justice, waste management and pollution aspects of plastics and the petrochemical industry. The Plastics Working Group supports local, state and federal initiatives to reduce the production of single-use plastics, develop partnerships with the business, education and municipal sectors, develop local policy actions to enhance recycling and safe disposal of plastics and engage in public education. The group published **The Ten Towns – Ten Actions Toolkit** for communities to use to develop a framework and identify potential partners for actions related to policy, engagement and infrastructure.

North Country Council (NCC)

Address: 161 Main Street, Littleton, NH 03561
Telephone: (603) 444-6303
Website: <http://www.nccouncil.org/>
Contact: James Steele, Finance Manager & Special Projects Planner, jsteele@nccouncil.org

The North Country Council (NCC) is one of nine regional planning commissions in New Hampshire, serving in an advisory role to local governments to promote coordinated planning, orderly growth, efficient land use, transportation access and environmental protection. The Commission's region consists of serving 50 communities and 25 unincorporated places in the northern third of New Hampshire. NCC provides solid waste technical assistance to communities in their service area by developing educational materials, workshops, panel discussions and webinars about the diversion and disposal of food scraps, paint, electronics, medical waste and Pay-As-You-Throw. They also coordinate several HHW collection events in their region.

Post-Landfill Action Network (PLAN)

Address: 1 Washington Street Mills – Suite 3123, Dover, NH 03820
Telephone: (601) 600-7526
Website: <https://www.postlandfill.org/>

Founded by a group of college students at the University of New Hampshire, the Post-Landfill Action Network (PLAN) equips students with the resources and tools necessary to holistically understand the waste crisis and lead solutions on their campuses. PLAN strives to create a future free from waste by supporting student leadership at universities and colleges.

UNH Cooperative Extension

Address: Taylor Hall, 59 College Road, Durham, NH 03823
Telephone: 1-800-735-2964 Toll-Free in NH, (603) 862-1520
Website: <https://extension.unh.edu/>

The Cooperative Extension Network provides information and outreach on a multitude of topics to the citizens of New Hampshire. For example, through their Master Gardeners Program, they provide information on backyard composting and community gardens. They also continue to provide information on the use of wood ash as an agricultural soil amendment and promote the reduction of marine debris through a project that recycles derelict fishing gear.

Upper Valley Lake Sunapee Regional Planning Commission (UVLSRPC)

Address: 10 Water Street, Suite 225, Lebanon, NH 03766
Telephone: (603) 448-1680
Website: <https://www.uvlsrpc.org/>
Contact: Vickie Davis, Senior Planner, vdavis@uvlsrpc.org

The Upper Valley Lakes Sunapee Regional Planning Commission (UVLSRPC) has been providing professional planning assistance to municipal boards since 1963. UVLSRPC coordinates all aspects of planning, act as a liaison between local and state/federal governments and provide advisory technical assistance to the 27 communities and committees in its region who affect the future land use of the region. UVLSRPC has provided training to solid waste operators on implementing organics recycling at rural transfer stations, reduction of HHW in the waste stream and improper disposal of medicines. The group also worked with business owners who are small quantity generators of hazardous waste for better solutions for managing their waste.

Regional and National Organizations

Association of State and Territorial Solid Waste Management Officials (ASTSWMO)

Address: 1015 18th Street NW, Suite 803, Washington, DC 20036
Telephone: (202) 640-1060
Website: <http://astswmo.org>
Contact: Gabrielle Frigon, ASTSWMO Board Member for Region 1, gabrielle.frigon@ct.gov

The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) supports the environmental agencies of the States and trust territories. ASTSWMO focusses on the needs of State hazardous waste programs; non-hazardous municipal solid waste and industrial waste programs; recycling, waste minimization and reduction programs; Superfund and State cleanup programs; waste management and cleanup activities at federal facilities, and underground storage tank and leaking underground storage tank programs. The association's mission is: "To Enhance and Promote Effective State and Territorial Waste Management Programs, and Affect National Waste Management Policies." The organization is structured to accomplish this two-part mission through both member committees and Association staff efforts.

Center for EcoTechnology (CET)

Address: 320 Riverside Drive, Florence, MA 01062
Telephone: (413) 586-7350
Website: <https://www.centerforecotechnology.org/>

The Center for EcoTechnology (CET) works with partners throughout the country to research, develop, demonstrate and promote the technologies which have the least disruptive impact on the natural ecology of the Earth. CET provides technical expertise to help local, state and federal policy makers, municipalities and businesses and institutions of all sizes develop and implement waste diversion solutions for many materials, including waste food, cardboard, paper, mercury, C&D, glass, metals, textiles and more. CET also helps to administer the *RecyclingWorks* program funded by MassDEP – which is a recycling assistance program designed to help businesses and institutions maximize recycling, reuse and composting opportunities.

Composting Association of Vermont (CAV)

Address: P.O Box 643 Hinesburg, VT 05461
Telephone: (802) 373-6499
Website: www.compostingvermont.org
Contact: Natasha Duarte, Director, natasha@compostingvermont.org

The Composting Association of Vermont (CAV) is a 501(c)(3) non-profit with a mission to advance the production and use of compost to support soil health through practices that contribute to water quality, plant vigor and environmental resilience. They demonstrate the value of compost through education, policy, outreach and partnerships to reduce waste, capture energy and create jobs. While CAV primarily works with Vermont stakeholders, they have leveraged state and federal grants to increase community- and on-farm composting efforts in New Hampshire. CAV is continuing to expand upon their grants to work with more farms as a way of building community networks to manage animal manure, divert food waste from landfills and reduce pollution impacts.

Institute for Local Self-Reliance (ILSR)

Address: 44 Exchange St., Suite 304, Portland, ME 04101 (*Portland, ME Office*)
Telephone: (207) 520-2960
Website: <https://ilsr.org/>
Contact: info@ilsr.org

The Institute for Local Self-Reliance is a national research and advocacy organization that partners with allies across the country to drive more sustainable systems that balance environmental, social and economic practices. ILSR focuses on supporting community composting, renewable energy, local businesses and moving toward a zero-waste economy.

Northeast Recycling Council (NERC)

Address: 139 Main Street, Suite 401, Brattleboro, VT 05301
Telephone: (802) 254-3636
Website: <https://nerc.org>
Contact: Megan Fontes, Executive Director, megan@nerc.org

The Northeast Recycling Council provides technical assistance, information access, research and networking opportunities on recycling market development for state and regional programs in the six New England states as well as New York, New Jersey, Pennsylvania and Delaware. In addition to providing a forum for the exchange of information between states and state agencies, NERC undertakes

research and education projects that address regional recycling, market development and waste management issues.

Northeast Resource Recovery Association (NRRA)

Address: 2101 Dover Road, Epsom, NH 03234
Telephone: (603) 736-4401 or (800) 223-0150
Website: <https://nrra.net>
Contact: Reagan Bissonnette, Executive Director, rbissonnette@nrra.net

Founded in 1981 as a private, non-profit organization, NRRA provides technical, educational and marketing support to New Hampshire municipal recycling programs. NRRA provides marketing and brokerage services for municipalities in New Hampshire, Massachusetts, Maine and Vermont. This cooperative approach combines materials from many communities to gain economies of scale in transportation and offers access to markets which would typically be denied to individual small communities. NRRA also provides extensive outreach and technical assistance to its member communities designed to strengthen and expand recycling and waste diversion activities.

Northeast Waste Management Officials' Association (NEWMOA)

Address: 89 South Street, Suite 600, Boston, MA 02111
Telephone: (617) 367-8558
Website: <http://www.newmoa.org/>
Contact: Jennifer Griffith, Project Manager, jgriffith@newmoa.org

The Northeast Waste Management Officials' Association (NEWMOA) is a non-profit, non-partisan, interstate association established in 1986 by the governors of the New England states as an official interstate regional organization. The membership is composed of state environmental agency directors of the hazardous waste, solid waste, waste site cleanup, pollution prevention and underground storage tank programs in Connecticut, Maine, Massachusetts, New Hampshire, New York, New Jersey, Rhode Island and Vermont. NEWMOA's mission is to help states articulate, promote and implement economically sound regional programs for the enhancement of environmental protection. The group fulfills this mission by providing a variety of support services that facilitate communication and cooperation among member states and between the states and EPA and promoting the efficient sharing of state and federal program resources.

ReFED, Inc.

Address: 4602 21st Street, #1531, Long Island City, NY 11101
Website: <https://refed.org/>
<https://insights.refed.org/> (Insights Engine)

ReFED is a national nonprofit dedicated to ending food loss and waste across the U.S food system by advancing data-driven solutions. New Hampshire municipalities can leverage ReFED's data to make informed decisions that improve economic, social and environmental systems. ReFED's insights can be used to highlight supply chain inefficiencies, identify grants and economic opportunities, spur innovation, scale high-impact initiatives and engage with multiple stakeholders to develop local programs.

Solid Waste Association of North America (SWANA)

Address: 1100 Wayne Avenue, Suite 650, Silver Spring, MD 20910
Telephone: 1-800-GO-SWANA (1-800-467-9262)
Website: <https://swana.org/>
Contact: Meri Beth Wojtaszek, Deputy Executive Director

The Solid Waste Association of North America (SWANA) is the largest member-based solid waste association in the world with 45 Chapters, in the U.S., Canada and the Caribbean and over 10,000 members. SWANA is the U.S. and Canadian National Member of the International Solid Waste Association (ISWA) and participates and supports ISWA events and programs. SWANA's conferences and training programs cover all aspects of integrated municipal solid waste management, and the Association is a policy and technical representative of solid waste management practitioners, executives, companies and government organizations.

The Composting Collaborative

Email: Info@compostingcollaborative.org

Website: www.compostingcollaborative.org

The Composting Collaborative is a project of the GreenBlue, BioCycle Magazine and the U.S. Composting Council. Their mission is to accelerate composting access and infrastructure to improve soil health and divert compostable materials from landfills. As a collaborative, they are able to provide educational support to groups looking to implement composting in their community or business. Since 2017 The Composting Collaborative has focused on projects to gather better data on organics processing capacity, provide information about pretreatment and preprocessing technologies, and establish optimized soil sampling methodologies. They are presenting at three national conferences in 2019 and 2020 and have provided numerous webinars for anyone looking for information regarding composting.

The Recycling Partnership

Address: 125 Rowell Court, Falls Church, VA 22046

Website: <https://recyclingpartnership.org/>

The Recycling Partnership is a national nonprofit organization that is transforming recycling in towns, cities and states all across America. Their mission is to encourage recycling by offering a different perspective on the role of recycling in our society. They have created tools to enhance recycling that can be customized to specific needs of a town, city, or organization or even a business. In the last five years, they have partnered with various stakeholders on recycling enhancement projects. The Recycling Partnership tracks each of these projects to create baseline data and case studies to train others on how to implement the tools they have created.

Toxics in Packaging Clearinghouse (TPCH)

Address: c/o NEWMOA, 89 South Street, Suite 600, Boston, MA 02111

Telephone: (617) 367-8558 ext. 309

Email: info@toxicsinpackaging.org

Website: <https://toxicsinpackaging.org/>

Contact: Melissa Lavoie, Project Manager, mlavoi@newmoa.org

In 1990, New Hampshire was the second state in the nation to adopt the toxics-in-packaging model legislation developed by the Coalition of Northeastern Governors (CONEG). Nineteen states have adopted a toxics-in-packaging law based on the CONEG model and the model has been used internationally. To ensure consistent and effective implementation of the laws, the Toxics in Packaging Clearinghouse (TPCH) was created in 1992 to simplify the law's administrative procedures, promote cooperation and information sharing between participating states, minimize procedural burdens on affected industries and promote understanding and greater awareness of the law's objectives. TPCH is assisted in its mission by technical advisers from representatives of industry and public interest organizations.

The US Composting Council (USCC)

Address: 1053 E Whitaker Mill Rd., Suite 115, Raleigh, NC 27604
Telephone: (301) 897-2715
Email: uscc@compostingcouncil.org
Website: <https://www.compostingcouncil.org>

The US Composting Council (USCC) was established in 1990 and is a national member-based organization dedicated to the development and promotion of the composting industry, including the manufacturing, marketing and utilization of compost. USCC members include compost manufacturers, compost marketers, equipment manufacturers, product suppliers, academic institutions, public agencies, nonprofit groups and consulting/engineering firms.

United States Department of Agriculture (USDA) – Rural Development

Grants Contact: Water & Environmental Programs National Office
Telephone: (202) 720-9583
Website: <https://www.rd.usda.gov/programs-services/solid-waste-management-grants>

NH Contact: Sarah Waring, State Director
Address: 87 State Street, Suite 324, PO Box 249, Montpelier, VT 05601
Telephone: (802) 828-6080
Website: <https://www.rd.usda.gov/nh>

The United States Department of Agriculture Rural Development provides annual solid waste management grants. The goal is to reduce or eliminate pollution of water resources by providing funding for organizations that provide technical assistance or training to improve the planning and management of solid waste sites. This grant program has helped organizations in New Hampshire provide technical assistance where NHDES has been unable to.

United States Environmental Protection Agency (U.S. EPA) – Sustainable Materials Management

Address: Office of Resource Conservation and Recovery, 1200 Pennsylvania Avenue, NW (5305P),
Washington, DC 20460
Website: <https://www.epa.gov/smm>

The United States Environmental Protection Agency – Sustainable Materials Management Program (SMM) provides information to the regulated community as well as the public on managing materials from cradle-to-grave. It is a systematic approach to using and reusing materials over the entire life cycle by highlighting changes in how society thinks about natural resources and environmental protection. EPA's SMM program provides webinars and training free of charge on all things solid waste including food waste reduction, electronics recycling, C&D recovery and partnership opportunities for communities. The SMM program has also gathered data from the states regarding solid waste management, created a Waste Reduction Model (WARM) and other sustainable materials management tools for users.