# Washington County
# Local Solid Waste Management Plan
LSWMP - 2020-2029

ADOPTED BY THE WASHINGTON COUNTY BOARD OF SUPERVISORS **(Date)**
RESOLUTION # **(XX-XXXX)**

DRAFT

Prepared on Behalf of Washington County By:
Pamela Landi, Washington County Planning Department

Reviewed and Approved by:
Deborah Donohue, Superintendent DPW
Laura Oswald Director of Economic Development
Chris DeBolt County Administrator

Draft Preview 8/20/2020

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## Disclaimer

"Recycling and solid waste management have traditionally been local responsibilities and will continue be so. This Plan itself does not establish new mandates for municipalities and does not dictate a specific or rigid approach to local planning and programs. Any new mandates would be imposed through legislation or regulation, and, therefore, be subject to a formal, public process. The recommendations in the Plan suggest a starting point for these processes. This Plan recognizes the diversity of the communities in the state, including variability in financial capacity, and presents options available to planning units and others engaged in waste reduction efforts. To be consistent with this Plan, local solid waste management plans should evaluate and then propose methods to reduce waste and increase reuse, recycling and composting within the planning unit. Planning units will be afforded flexibility in determining how to best implement their programs. They will not be ordered to establish specific facilities or programs or be held to firm or mandatory goals. Rather, they will be asked to work as aggressively as possible to reduce the amount of waste destined for disposal. The policies, procedures and goals set forth in this document are intended to serve as a resource for the state and all its residents, local jurisdictions and businesses. This Plan will guide the New York State Department of Environmental Conservation (department or DEC) personnel and local solid waste management planning units in their planning and decision-making. It is a planning tool, and the contents of this Plan are not intended to create any substantive or procedural rights, enforceable by any party in administrative and judicial litigation with the State of New York, including the permitting of solid waste management facilities. The Plan does not commit any agency, board, commission, municipality, planning unit, authority or private entity to a definite course for specific future decisions or solid waste management activities"

*"Beyond Waste"* Adopted by New York State 2010, p.2

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## Executive Summary

The Washington County New York Municipal Solid Waste Management Plan for the years 2020 - 2029 has been prepared in accordance with 6NYCRR Part 360-366. The Plan has been adopted by the Washington County Board of Supervisors Resolution (**xx-xxxx**) and approved by the New York State Department of Environmental Conservation (DEC) (**insert date**). This ten-year plan is anticipated to be updated every five years, to reflect the continuing changes that are occurring in the County as they relate to solid waste management.

This Washington County Solid Waste Management Plan (LSWMP) describes the current solid waste management system and the ways the system aligns with the State's solid waste management objectives. It suggests actions that could help our local communities move toward a better solid waste management system over the next ten years. The information contained within this report primarily serves as guidance document to help empower the leaders and citizens of local municipalities in Washington County toward bettering the solid waste management system by reducing the production of solid waste a s described in NYS Beyond Waste Document page 2:

> "The policies, procedures and goals set forth in this document are intended to serve as a resource for the state and all its residents, local jurisdictions and businesses. This Plan will guide the New York State Department of Environmental Conservation (department or DEC) personnel and local solid waste management planning units in their planning and decision-making"

Such a resource enables the State to be able to evaluate solid waste management. The initial year of this ten-year planning period will commence following approval of this Plan by the New York State Department of Environmental Conservation (DEC), which is expected to be 2020. The ten-year planning period will be 2020-2029.

The purpose of the Local Solid Waste Management Plan (LSWMP) is to

1) serve as an inventory that describes solid waste management in Washington County;
2) guide the solid waste goals and objectives of municipalities,
3) and in so doing support NYSDEC vision for solid waste planning

DEC recognizes Washington County as a solid waste planning unit for all municipalities within the county. This LSWMP recognizes, however, that local municipalities, the New York State Department of Environmental Conservation (NYSDEC), private waste haulers, neighboring solid waste planning units, private facility owners and individual citizens all play essential roles in current and future management of solid waste and recyclable materials in Washington County. The Solid Waste Management Act of 1988 established a State Solid Waste Management Policy. The policy defines the following solid waste management priorities in New York State:

1) to reduce the amount of solid waste generated;
2) to reuse material for the purpose for which it was originally intended
3) or to recycle material that cannot be reused;
4) to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled; and
5) to dispose of solid waste that is not being reused, recycled or from which energy is not being recovered, by land burial or other methods approved by the Department

Source:New York State Environmental Conservation Law (ECL) 27-0106.1)

Washington County is aligned with the State's policy to decrease and divert solid waste. However, the current reality is that Washington County does not have oversight management, the necessary resources in terms of staffing, and budget to implement and enforce solid waste management planning. As of 2018 the County's five municipal transfer stations were sold to a private entity, Earth Waste and Metal, now under the DBA ElNikki Aggregate, Inc that operates out of Rutland Vermont. Washington County's solid waste management is 100% privatized and with the sale of the assets the County dissolved the solid waste management budget.

Nonetheless, this guidance document is useful in terms of identifying current waste patterns and defining strategies that could help to build an economy of solid waste that would benefit the county over time. For this LSWMP, the County has identified strategies that are consistent with the State Solid Waste Management Policy with the goal to empower local communities and each citizen with knowledge and tools that could strengthen existing or future reuse, lifecycle, Pre-Cycle cradle-to-cradle and recycling programs.

## Washington County Resolution to Adopt MSWMP 2020-2029

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**Letter From New York State Department of Environmental Conservation Accepting Washington County Solid Waste Management Plan, 2020-2029.**

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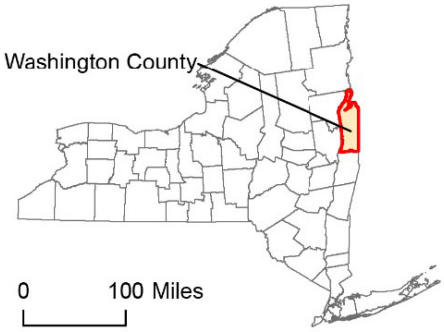
# 1.Planning Unit Description

## Location

Washington County is the northern most part of the Capital District region on the Vermont border southwest of Lake Champlain's South Bay and on the eastern shores of Lake George. The County borders Essex County to the north, Warren and Saratoga Counties to the west and Rensselaer County to the south. Addison, Rutland and Bennington Counties in Vermont border Washington County to the east.




## Municipalities

Seventeen towns with eight villages cover an area of approximately 835 square miles.

| | |
|---|---|
| Town of Argyle | Village of Argyle |
| Town of Cambridge | |
| Town of Dresden | |
| Town of Easton | |
| Town of Fort Ann | Village of Fort Ann |
| Town of Fort Edward | Village of Fort |
| Town of Granville | Village of Granville |
| Town of Greenwich | Village of Greenwich |
| Town of Hampton | |
| Town of Hartford | |
| Town of Hebron | |
| Town of Kingsbury | Village of Hudson |
| Town of Jackson | |
| Town of Putnam | |
| Town of Salem | |
| Town of White Creek | Village of Cambridge |
| Town of Whitehall | Village of Whitehall |

Source: Maps from Washington County Data Book 2017

Most of the area is sparsely populated with rolling hills and farmlands in the southern and eastern townships extending into more mountainous and forested areas to the north. Hamlets and villages, most with fewer than 1000 people, dot the rural landscape. There is some concentration of population near the "Hudson Bend" manufacturing hub (Glens Falls and Queensbury in Warren County and Hudson Falls in Kingsbury and, Fort Edward, in Washington County). However, low population density (74 persons per square mile) characterizes most of the county. This impacts the type, quantity and collection of solid waste.

## Changes in the Planning Unit

From 1992 through 2010 the Planning Unit included both Warren and Washington Counties. The Planning Unit described in this document covers the current planning unit only, which is Washington County. No data reporting except for 2009 extracted from the 2011 draft is available prior to this change. Further in 2018 Washington County, in response to severe fiscal stress all but eliminated the County Planning Department and staffing currently consists of one planner.

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## County & Sub-County Population Projections

Generally, population clusters occur in the villages and hamlets within the towns. The Villages of Hudson Falls and Fort Edward have historically been centers of industry and as such developed denser cores. This also is true for the Village of Granville, which has prospered from the slate industry active into the present day. Population countywide has hovered near 60,000 since 1990 and has been incrementally decreasing since the last decennial census in 2010, *Table 1*. The decline of population reflects the downshifts in most local upstate economies though influences such as high taxes, aging population, loss of industry and emigration of the younger generation. Percentile change looks at the population trend more broadly, Table 2. This accounting offers a broad relational view. Population gains in the first twenty-year period (1990-2010) then drops over a thirty-year period between 1990 and 2017. Washington County's population appears to follow a similar pattern as the region, the state and the nation, though each of their starting points are different.

**Table 1 General County and Sub-County Population 1960-2017**

| Pop/Municipality | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 | 2017 |
|---|---|---|---|---|---|---|---|
| **Washington County** | **48,476** | **52,725** | **54,795** | **59,330** | **61,042** | **63,088** | **62,183** |
| Argyle Town | 1,898 | 2,415 | 2,847 | 3,031 | 3,688 | 3,782 | 3,731 |
| Cambridge Town | 1,610 | 1,720 | 1,848 | 1,938 | 2,152 | 1,992 | 1,954 |
| Dresden Town | 426 | 480 | 559 | 561 | 670 | 821 | 567 |
| Easton Town | 1,681 | 1,956 | 2,020 | 2,203 | 2,259 | 2,636 | 2,491 |
| Fort Ann Town | 3,124 | 3,749 | 4,425 | 6,338 | 6,417 | 6,351 | 6,111 |
| Fort Edward Town | 6,523 | 6,719 | 6,479 | 6,330 | 5,892 | 6,301 | 6,213 |
| Granville Town | 5,015 | 5,412 | 5,566 | 5,935 | 6,456 | 6,649 | 6,537 |
| Greenwich Town | 3,969 | 4,177 | 4,276 | 4,557 | 4,896 | 4,941 | 4,863 |
| Hampton Town | 469 | 464 | 559 | 756 | 871 | 776 | 852 |
| Hartford Town | 1,058 | 1,398 | 1,742 | 1,989 | 2,279 | 2,274 | 2,092 |
| Hebron Town | 1,026 | 1,212 | 1,288 | 1,540 | 1,773 | 1,736 | 1,814 |
| Jackson Town | 795 | 941 | 1,228 | 1,581 | 1,718 | 1,734 | 1,809 |
| Kingsbury Town | 11,012 | 11,737 | 11,660 | 11,851 | 11,171 | 12,429 | 12,551 |
| Putnam Town | 490 | 579 | 506 | 477 | 652 | 535 | 639 |
| Salem Town | 2,258 | 2,346 | 2,377 | 2,608 | 2,702 | 2,717 | 2,661 |
| White Creek Town | 2,365 | 2,644 | 2,988 | 3,196 | 3,411 | 3,373 | 3,325 |
| Whitehall Town | 4,757 | 4,794 | 4,427 | 4,409 | 4,035 | 4,041 | 3,973 |

Source: American Community Survey Data

**Table 2 Area/County Population Trends 1990-2017**

| Year | 1900 | 2000 | 2010 | 2015 | 2017 | 1990-2000 | 1990-2010 | 1990-2017 |
|---|---|---|---|---|---|---|---|---|
| Area | | | | | | Percentile Change | | |
| **US** | 248,709,873 | 281,421,906 | 303,965,272 | 316,515,021 | 321,004,407 | 13.2% | 27.6% | 22.2% |
| **NYS** | 17,990,455 | 18,976,457 | 19,229,752 | 19,673,174 | 19,798,228 | 5.5% | 10.5% | 6. 9% |
| Counties | | | | | | | | |
| **Essex** | 37,152 | 38,851 | 39,416 | 38,912 | 38,233 | 4.6% | 6.1% | 6.1% |
| **Rensselaer** | 154,429 | 152,538 | 158,629 | 159,900 | 159,800 | -1.2% | 3.6% | 2.7% |
| **Saratoga** | 181,276 | 200,635 | 217,264 | 223,774 | 226,632 | 10.7% | 26.0% | 19.8% |
| **Warren** | 59,209 | 63,303 | 65,707 | 65,180 | 64,701 | 6.9% | 18.3% | 11.0% |
| **Washington** | 59,330 | 61,042 | 63,088 | 62,700 | 62,183 | 2.9% | 7.2% | 6.3% |

Source: American Community Survey Data

**Area Sub-County Population Projections 2010 – 2015 & 2017**

Cornell's Program of Applied Demographics (PAD) provides a reliable basis for the following population projections. PAD uses a compendium of data sets that include an integration of American Community Survey (ACS) data. As a result, the presented data may vary from the data extracted directly from ACS. Sources for information include 2012 Census of Population and Housing and ACS annual population estimates. For the purposes of this report, the variation in data presentation is not statistically significant and does present a reliable snapshot of the general trends within the county.

*Table 3* details sub-county population change between 2010 through 2017. The declining area population parallels that of the county. All towns in Washington County are experiencing incremental decline for the five-year period between 2010 and 2015. But when looked at between 2010 and 2017 the population decrease appears more pronounced in some areas more than others. The towns with the red starts highlight the top three locations in the county where there is greater population density. Three municipalities gained population between 2010 and 2017. Cornell projections predict that trending population loss will continue through 2040, *Graph 1*.

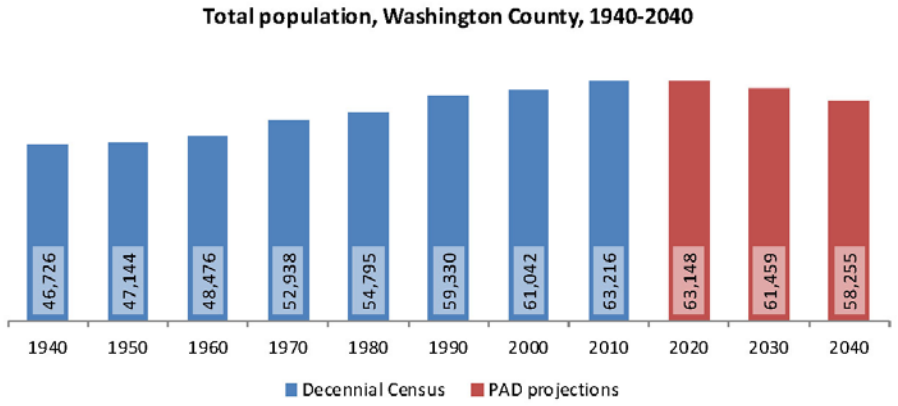
**Table 3 Cornell PAD 2015 Sub County Population Change (modified to include 2017 data)**

Washington County Profile

**3.5 Sub County population change 2010-2015**

| | Total Population | | Difference | | | Difference 2010-2017 | |
|---|---|---|---|---|---|---|---|
| | 2010 base | 2015 | Count | % | 2017 | Count | % |
| New York State | 19,378,087 | 19,795,791 | 417,704 | 2.2% | 19,796,228 | 17,398,465 | 2.2% |
| Washington County | 63,216 | 62,230 | -986 | -1.6% | 62,183 | -1,033 | -1.6% |
| **Towns** | | | | | | | |
| Argyle | 3,782 | 3,740 | -42 | -1.1% | 3,731 | -51 | -1.3% |
| Cambridge | 2,021 | 1,961 | -60 | -3.0% | 1,954 | -67 | -3.3% |
| Dresden | 652 | 644 | -8 | -1.2% | 567 | -85 | -13% |
| Easton | 2,336 | 2,282 | -54 | -2.3% | 2,491 | 155 | 6.6% |
| Fort Ann | 6,190 | 6,145 | -45 | -0.7% | 6,111 | -79 | -1.3% |
| ★Fort Edward | 6,350 | 6,164 | -186 | -2.9% | 6,213 | -137 | -2.2% |
| ★Granville | 6,669 | 6,514 | -155 | -2.3% | 6,537 | -132 | -2.0% |
| Greenwich | 4,944 | 4,883 | -61 | -1.2% | 4,863 | -81 | -1.6% |
| Hampton | 938 | 929 | -9 | -1.0% | 852 | -86 | -9.2% |
| Hartford | 2,267 | 2,240 | -27 | -1.2% | 2,092 | -175 | -7.7% |
| Hebron | 1,853 | 1,828 | -25 | -1.3% | 1,814 | -39 | -2.1% |
| Jackson | 1,800 | 1,778 | -22 | -1.2% | 1,809 | 9 | 0 .5% |
| ★Kingsbury | 12,692 | 12,561 | -131 | -1.0% | 12,551 | -141 | -11.1% |
| Putnam | 609 | 591 | -18 | -3.0% | 639 | 30 | 5.0% |
| Salem | 2,715 | 2,678 | -37 | -1.4% | 2,661 | -54 | -2.0% |
| White Creek | 3,356 | 3,308 | -48 | -1.4% | 3,325 | -31 | -0.9% |
| Whitehall | 4,042 | 3,984 | -58 | -1.4% | 3,973 | -69 | -1.7% |

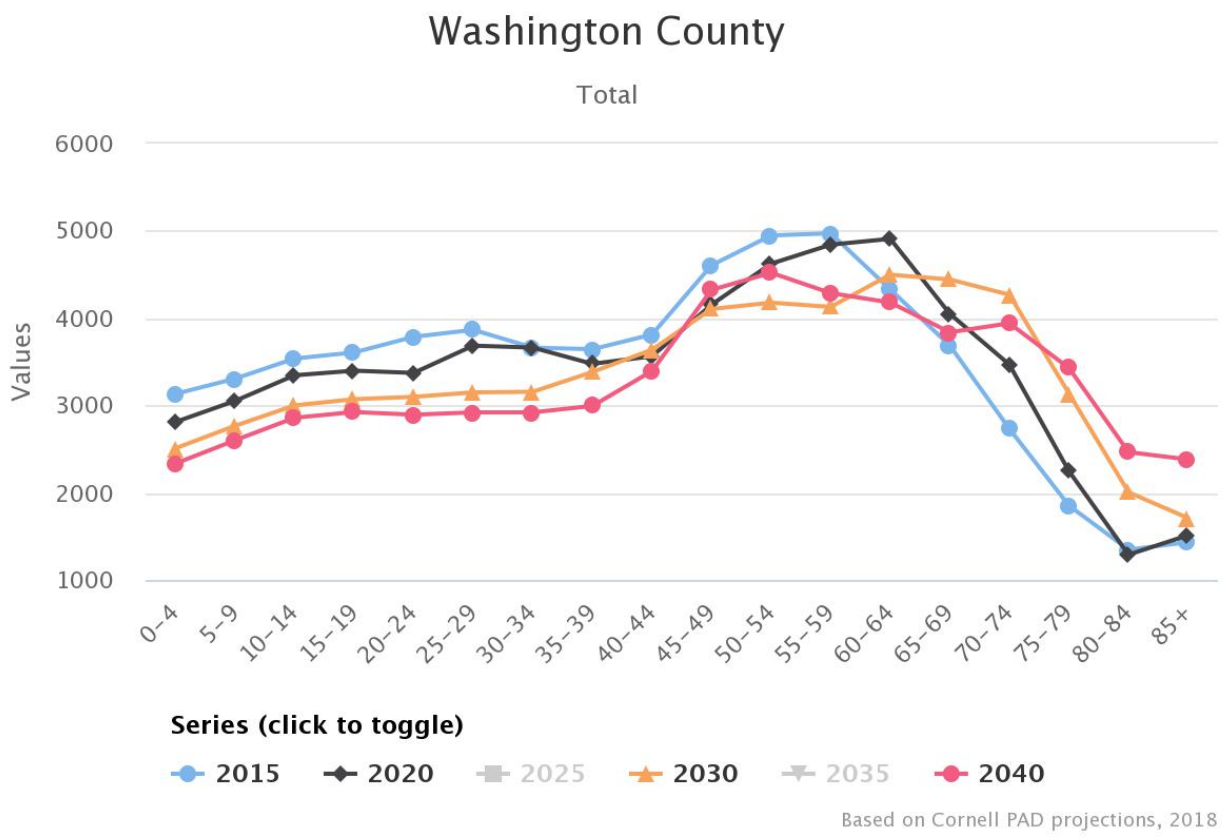
**Graph 1 Cornell PAD Projections 1940-2040**




*Source: 1940-2010 Decennial Census and projections by Cornell Program on Applied Demographics*

*Graph 2* illustrates age group cohort distribution and projected trends between 2015 through 2040. The number of newborn children through age 14 is expected to decline. Young adults follow an equivalent trend. The population median is between the ages of 40 and 65. The numbers in this cohort vary per decade but show an overall decline. The working age population between ages 35 and 45 appears more stable. Ages 65 and over is the only cohort where population is expected to increase.

**Graph 2 County Population Projections by Age Cohorts 2015-2040**




## Institutional Populations

Waste generated within institutions contribute to the waste stream and are opportune environments to significantly reduce generated waste. This section inventories known concentrations of population within Washington County. Among the group quarters with concentrations of population are correctional facilities, senior care homes, educational institutions, homes for disabled citizens, cultural and public institutions.

### Correctional Facilities

Resident institutional populations contribute to the waste stream. Great Meadow, Washington, and the Washington County Correctional Facilities have the combined capacity of just over 2,500 inmates. The county facility is typically filled half of its full capacity. The total number of incarcerated inmates is expected to drop with the instatement of the New York State Bail Reform Law going into effect in 2020.

### Seniors and Persons with Disabilities

Washington County has seven assisted living and advanced care homes for the elderly, The Cambridge (34 beds) and The Mansion at South Union (40 beds) in The Village of Cambridge, NY; Washington Center Nursing Home in Argyle (122 beds); Fort Hudson Health System in Fort Edward (196 beds), Granville Center Health Care Granville NY (120 beds); Slate Valley Center Granville (88 beds) and Holbrook Adult Home Granville (33 beds). The total elder resident capacity is 633 beds. A few social Adult Day Care Centers and Senior Centers operate in Washington County. These include the Senior Center of the Kingsbury Fort Edward Area, Washington Centers in Argyle, Fort Hudson Adult Day Care in Fort Edward and Holbrook Social Adult Day Care in Granville. These entities will need to serve the 23, 174 persons 55 and over projected by 2020, a 13% increase from 2015 (Cornell PAD). https://pad.human.cornell.edu/counties/projections.cfm

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### Career and Technical Education (BOCES)

The Board of Cooperative Educational Services located in Fort Edward is the headquarters for the fourth largest BOCES in the state and serves 31 school districts in Washington, Saratoga, Warren, Hamilton, and Essex Counties. In Washington County BOCES operates the Southern Adirondack Education Center and Exceptional Learners Division (SAEC) in Hudson Falls and the Washington Street Teaching & Learning Center and the Administrative and Management Services in Fort Edward.

### Public-Private Schools & Day Care Centers

Washington County has eleven Centralized School Districts (CSD), three private schools and eleven childcare centers (five public and six private). The number of students/children are listed for each public and private educational entity in *Table 4*. Cornell PAD in cooperation with New York Center for Rural Schools school district data reports that all **Washington County School Districts have shown declined enrollment over the past 3 years except for Salem and Hudson Falls, which increased one and two percent respectively.

**Table 4 School Enrollment**

| Public | # CSD/Grades | 2018-2019 Students | Private | 2018-2019 Students |
|---|---|---|---|---|
| **Argyle** | 1 (K-12) | 493 | Greater Glens Falls Christian Academy | 1 |
| **Cambridge** | 1 (K-12) | 869 | Kingsbury SDA School | 8 |
| **Fort Ann** | 1(PK –12) | 448 | Truthville Academy | 26 |
| **Fort Edward** | 1 (K-12) | 486 | **Childcare Centers** | |
| **Granville** | 1(K-2) | 1,023 | L.E.A.P. Head Start (5 Centers) Authorized to serve 420 children | 341 |
| | 1 ES (3-6) | | | |
| | 1 JSHS (7-12) | | | |
| **Greenwich** | 1 ES (K-6) | 983 | Regulated Center-Based Child Care Providers (6 Centers) | 361 |
| | 1 JSHS (7-12) | | | |
| **Hartford** | 1(K-12) | 414 | | |
| **Hudson Falls** | 1(K) | 2,249 | | |
| | 1 P (1-3) | | | |
| | 1 IS (4-5) | | | |
| | 1 MS (6-8) | | | |
| | 1 HS (9-12 | | | |
| **Putnam** | 1(PK-6) | 18 | **Total Students Public** | 8,576 |
| **Salem** | 1 (K-12) | 544 | **Total Students Private** | 396 |
| **Whitehall** | 1 (K-12) | 708 | **All** | 8,972 |

Source: NYSED data.nysed.gov/profile.php?county=64; https://ocfs.ny.gov/main/childcare/looking.asp
**No data available for Putnam. https://pad.human.cornell.edu/schools/trends1var.cfm?var=TotalEnrGr3&geo=640101

**WWAARC Services of Warren and Washington Counties**

Warren, Washington & Albany ARC operates 11 residential programs in, Washington Counties in New York State. Two WWARC day habilitation centers operate from Granville and Hudson Falls. L.E.A.P. 2018 Needs Assessment reports:

"of the non-institutionalized populations living in Washington County, 8,211 individuals are classified as disabled (13.8 %). Disabled numbers do not include individuals/children with chronic medical conditions such as Diabetes or food allergies. Of the disabled populations, 574 are under the age of 18. Washington County Public Health has 99 children enrolled in Early Intervention Services (0 3 years old) and has 163 children with CSPE plan (3-5 years old)."

**Other Institutions & Venues**

Public & Non-Profit

- Washington County Municipal Center
- Town and Village Halls
- Churches
- Libraries (9)

Cultural, Recreational, Entertainment and Event Venues

- Skenesborough Museum and Visitor's Center Village of Whitehall
- Skene Manor Village of Whitehall
- Slate Valley Museum Village of Granville
- The Georgi on the Battenkill Town of Salem
- Pember Library and Natural History Museum Village of Granville
- Fort House Museum Village of Fort Edward
- Strand Theater Village of Hudson Falls
- Hubbard Hall Campus Village of Cambridge
- Salem Art Works Town of Salem
- Christ the King Center Town of Greenwich
- New Skete Monastery Town of White Creek
- Washington County Fairgrounds Town of Greenwich
- Hulett's Landing – County Park
- Lake Lauderdale – County Park
- Sandy Hill Arts Center Village of Hudson Falls
- The Silos of the Feeder Canal Hudson Falls

Hotels

There are currently no hotels in Washington County.

## Seasonal and Rotating Population

Seasonal homeowners and rotating populations also must be considered in estimates of waste. Based on American Community Survey U.S. Census vacancy data (ACS 2017), Washington County has an estimated 2,500 seasonal residents. This number represent properties owned for seasonal, recreational, or occasional use and may only represent a fraction of seasonal residents, as there are any number of accommodations of varying capacities that offered through unregulated online hosts such as Air B&B, Couch Surfing, Glamping and VRBO to name a few. Primary waterbodies where you can find a concentration of seasonal residences and rentals fall within the Adirondack Park on the eastern shore of Lake George, Lake Champlain South Bay. Other lakeside areas in Washington County outside of the Adirondack Park boundary that have a concentration of seasonal residences are Cossayuna Lake and Lake Lauderdale.

Washington County is home to six youth camps. All host overnight programs. YMCA Camp Chingachgook, Camp Little Notch, Boy scout Camp Wakpominee, Golden Goals Soccer Camp in Fort Ann and Beaver Cross in the Town of Greenwich and Adirondack Camp in Putnam Station.

There are six private campgrounds with a combined capacity of 442 sites (tenting and RV's combined), and 24 overnight establishments. Only eight (8) are multi-room inns/and motels. The remaining are smaller bed and breakfast operations. Washington County has no large-scale commercial hotel, and conference centers.

Source: U.S. Census Bureau intercensal population estimates 2000-2010 & Cornell County Profiles 2017 Washington County Planning Tourism Business Spreadsheet 2019 * Original counts revised through Count Question Resolution Program (CQR**).**

## Employment

Sixteen top-sector employers create approximately 3,000 jobs, which is equal to 20% of all private sector jobs in Washington County. The 2017 Agricultural Census reports 915 farms, which as a group constitute major employment in Washington County. Businesses that support agriculture such as feed and fertilizer suppliers, equipment sales and repairs, fuel and veterinary services are also major providers of county employment. Public sector jobs as a group constitute another major source of employment in the county. *Graph 3* shows a downward trend to the labor force over the course of two decades. Cornell PAD data extracted from the Bureau of Labor Statistics shows that the percent difference in labor force decreased 5% between 2000 and 2017.

**Major Washington County Employers**

Public Sector

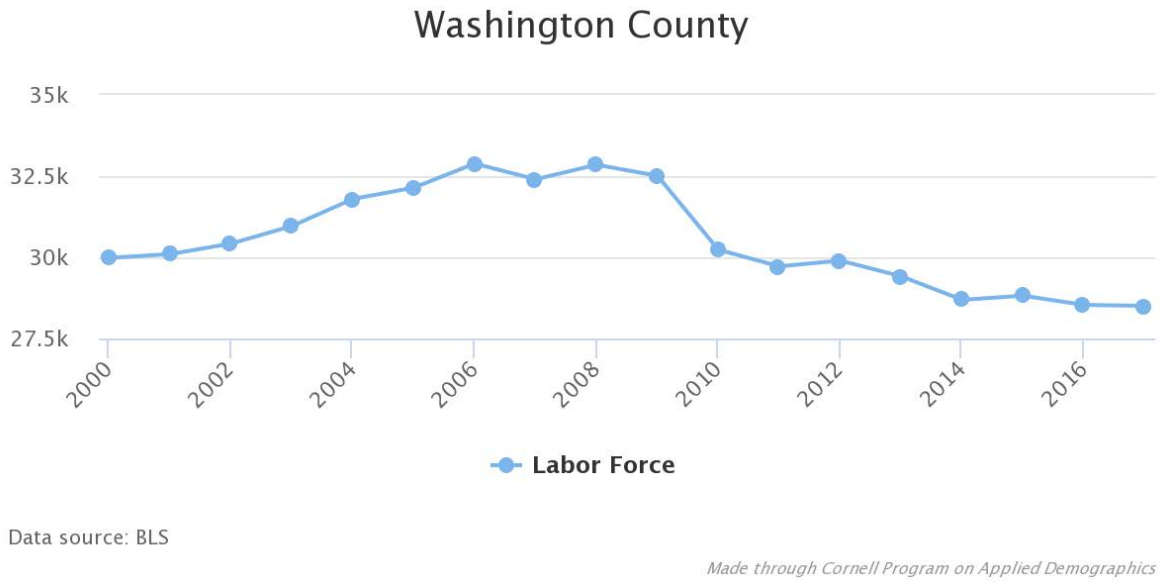
- Washington County Government: *Fort Edward*
- Local Government: *All towns and villages*
- School Districts: *Throughout the county*
- New York State Correction Facilities: *Comstock/Fort Ann*

Private Sector

- The Fort Miller Group, Inc: *Easton*, concrete and metal products
- Irving Tissue: *Fort Edward*, paper products
- Centers Health Care: *Throughout the county*
- Telescope Casual Furniture: *Granville*, furniture
- Fort Hudson Health System: *Fort Edward*, health care
- Hollingsworth & Vose: *Greenwich and Easton*, specialty filtration materials
- Adirondack Scenic, Inc:. *Argyle*, specialty
- Rozell Industries: *Kingsbury*, industrial millwrights
- Saint-Gobain Performance Plastics: *Granville*, industrial sealants and foams
- Hannaford Brothers Co., LLC: *Kingsbury and Greenwich*, grocery
- Golub Corporation/Price Chopper: *Granville*, grocery
- Morcon: *White Creek*. Commercial tissue
- Essity Tissue, *Fort Edward & Greenwich*, tissue
- Commonwealth Plywood: *Whitehall*, plywood
- Cambridge Valley Machining: *Cambridge*, designing and manufacturing

Source: Washington County Planning Website, 2019

**Graph 3 Labor Force Trends**

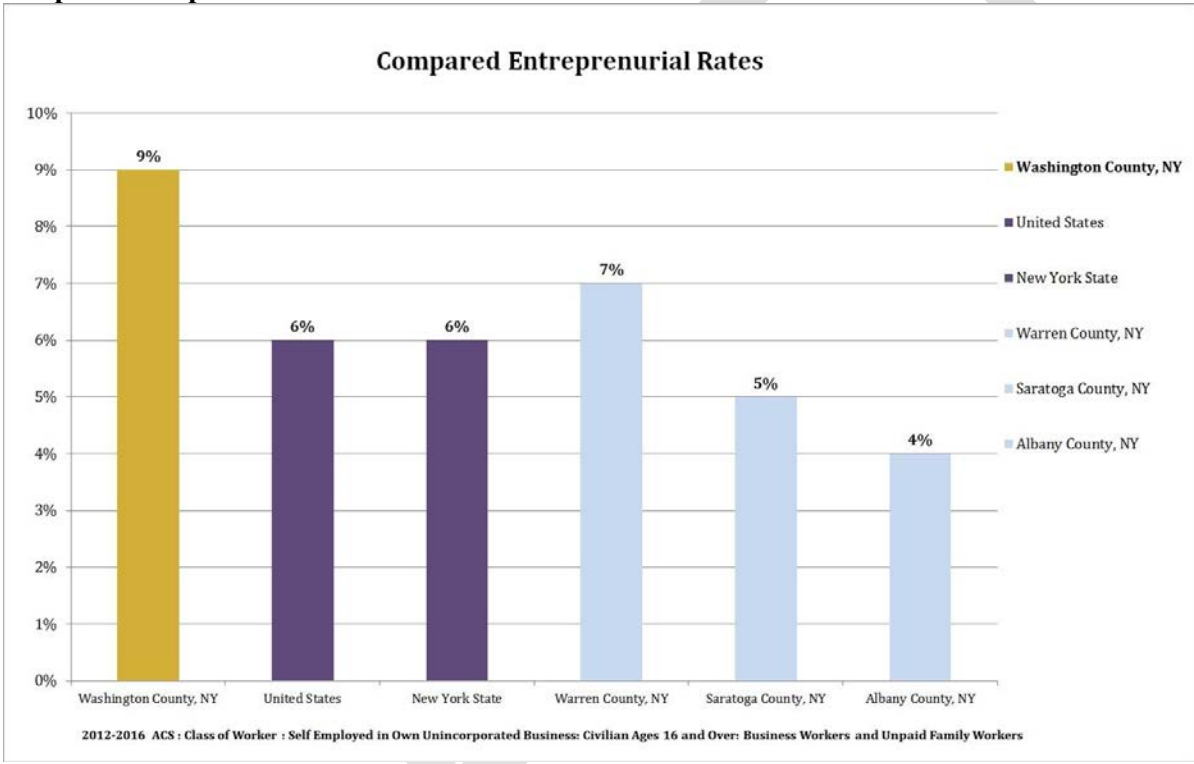


**Retailers**

Washington County does not have the infrastructure to support large scale commercial and residential development. A few mid-sized retail establishments are found in the Town of Greenwich, Town of Granville, Town of Kingsbury (Hudson Falls). These include Market 32 in Fort Edward, Price Chopper in Granville, Big Lots in Granville (with one planned to open in Greenwich), Hannaford in Kingsbury and Greenwich, and Tractor Supply in both Greenwich and Granville. Discount retail is prevalent in many of the communities. These include commonly known retailers Dollar General and Family Dollar. Some chain pharmacies and corporate fast food establishments are found in the retail cluster areas noted above, with a few scattered in or near village centers. Cumberland Farms and Stewart's convenience chain stores are prevalent throughout the County.

Washington County has a relatively high entrepreneurial rate when compared with the region, *Graph 4*. The agricultural economy contributes to this, but in addition many small independently owned retail businesses operate throughout the county. More often these businesses are in the downtown business district of the villages. These retail operations include convenience stores, hardware stores, antiques/consignment, pharmacies, restaurants, galleries and specialty shops, among others. There are hundreds of small establishments and places combined that serve both the local and tourism economy in Washington County.

**Graph 4 Entrepreneurial Rates**



## Natural Resource Areas

Nestled in the foothills of the Adirondacks rural Washington County is known for its astounding beauty and abundant natural resources sprinkled with historic villages and captivating Main Streets. Thriving arts and cultural resources, safe and secure communities, a wealth of outdoor recreation opportunities as well as significant historic legacy contribute to our lifestyle.

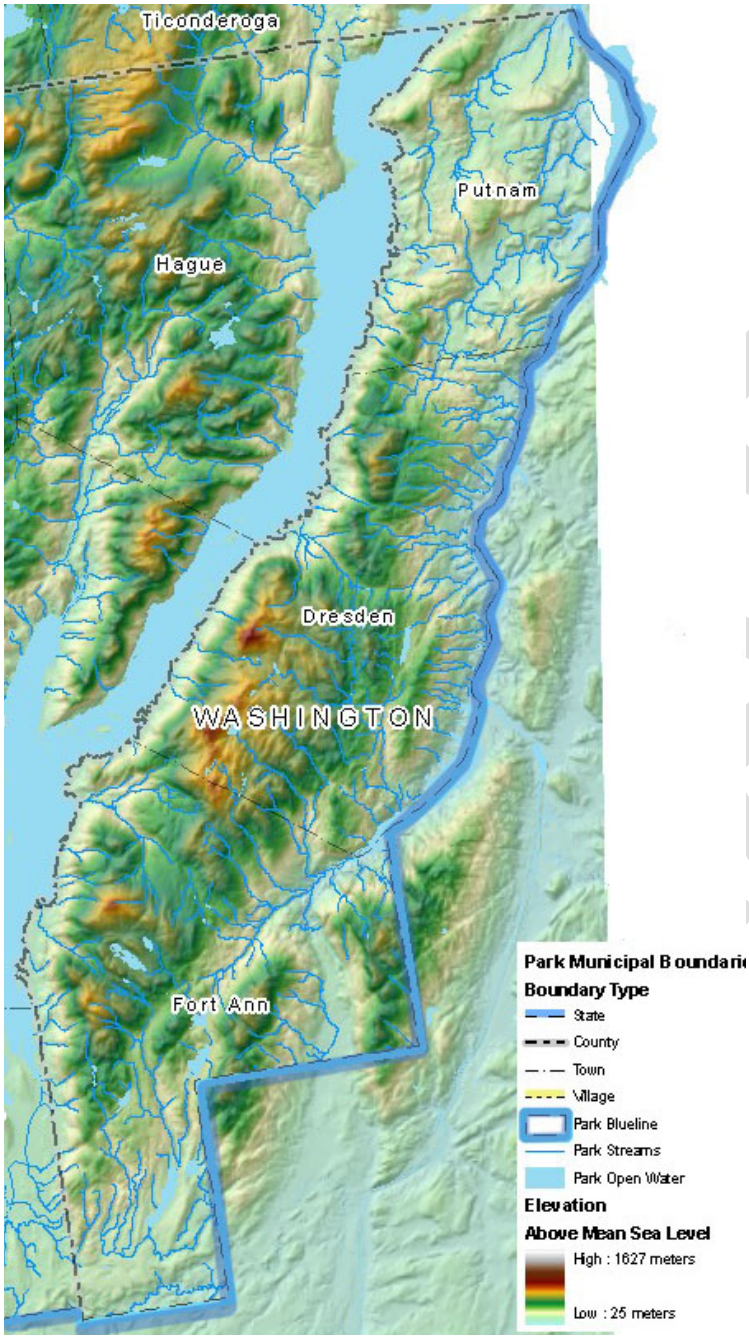
**Looking West Over East Bay Wildlife Management Area, Whitehall**

**West Road in Fort Ann with Fort Ann Foothills Leading Up to South Bay Lake Champlain**

**Sunset along County Route 17 in Fort Ann in February**

**Adirondack Park**

The towns of Putnam and Dresden, and parts of Fort Ann in the northern part of the county fall within the Adirondack State Park, the largest state park in the lower 48 states. These areas offer residents and visitors countless recreational opportunities. The image below illustrates the APA boundary line in bright blue. The central waterbody is Lake George. The South Bay of Lake Champlain is the narrow waterbody to the right of Lake George.




**Other Parks, Recreational Trails, and Wildlife Management Areas**

The County operates two parks, one at Hulett's Landing on Lake George in the Town of Dresden and the other on Lake Lauderdale in the Town of Jackson. Both have sandy beaches, a pavilion that accommodates 200 people, restroom and picnic facilities.

Publicly accessible natural areas in Washington County include:

East Bay Wildlife Management Area, *Whitehall (NYSDEC)*
Gull Bay Preserve, *Putnam (NYSDEC)*
Pilot Knob Ridge Preserve, *Fort Ann (NYSDEC)*
Battenkill State Forest, Jackson and Salem (NYSDEC)
Carter Pond Wildlife Management Area, *Greenwich (NYSDEC)*
Dionondehowa Wildlife Sanctuary & School, *Salem (Easement)*
Feeder Canal Parks and Trail, Fort Edward and Hudson Falls (Feeder Canal Alliance)
Pember Nature Preserve, *Granville (Non-Profit)*
Willard Mountain, *Easton (Private)*
Champlain Canal and Empire State Trails *(NYS Power Authority, Canal Corporation*
Mildred Denton Wildlife Sanctuary *Greenwich (Audubon)*
Grassland Viewing Areas Fort Edward *(NYS DEC and Grasslands Bird Trust)*
Town and Village Parks *Countywide*
The Saddles Whitehall (NYS DEC)

Source: http://www.inandaroundtheadirondackpark.com/Adirondack_Directory_Counties.htm (Photoshop edited, P. Landi)

The Champlain Canal and Hudson River waterways are active with both commercial and recreational boat traffic. Many of the secondary waterways such as the Battenkill and Mettowee Rivers are popular with fishermen, boaters and swimmers.

Publicly accessible waterways in Washington County include:

- Champlain Canal (NYS Power Authority, Canal Corporation
- Hudson River (New York State)
- Battenkill River (New York State and Vermont Watersheds)
- Mettowee River (New York State and Vermont Watersheds)
- Poultney River (New York State and Vermont Watersheds)

Lakes popular for fishing, boating and swimming include:

- Lake George'
- Lake Champlain
- Lake Lauderdale
- Cossayuna Lake
- Summit Lake
- Sandy Lake
- Hedges Lake
- Hadlock Pond
- Carters Pond
- Dead Lake

Trails are an important recreational resource for the County**.** The Champlain Canal Trail and the Empire State Trail run along the western length of the County. Visitor projections are estimated at 430,000 annually upon full trail buildout.

**Visitor Projections**

According to figures estimated by research and surveys conducted by the Empire State Trail, the Champlain Canalway Trail can expect an estimated 430,000 annual trail visitors upon full build-out. Approximately 65% (280,000) will be pedestrians and 35% will be 150,000 bicyclists. The highest number of visitors are projected for the segments between the Town of Waterford and Village of Fort Ann. Significantly lower numbers are projected in the 11 miles between the Village of Fort Ann and the Village of Whitehall (3,500) due to much of the route being located in the road shoulder along US Route 4.

Source: Empire State Trail – Trail User Projects July 20, 2018
*ny.gov/sites/ny.gov/files/atoms/files/EST_TrailUserProjections_20180720.pdf*
Champlain Canalway Trail Action Plan: Waterford to Whitehall Update 2019

**Town Annual Trail User Projections**

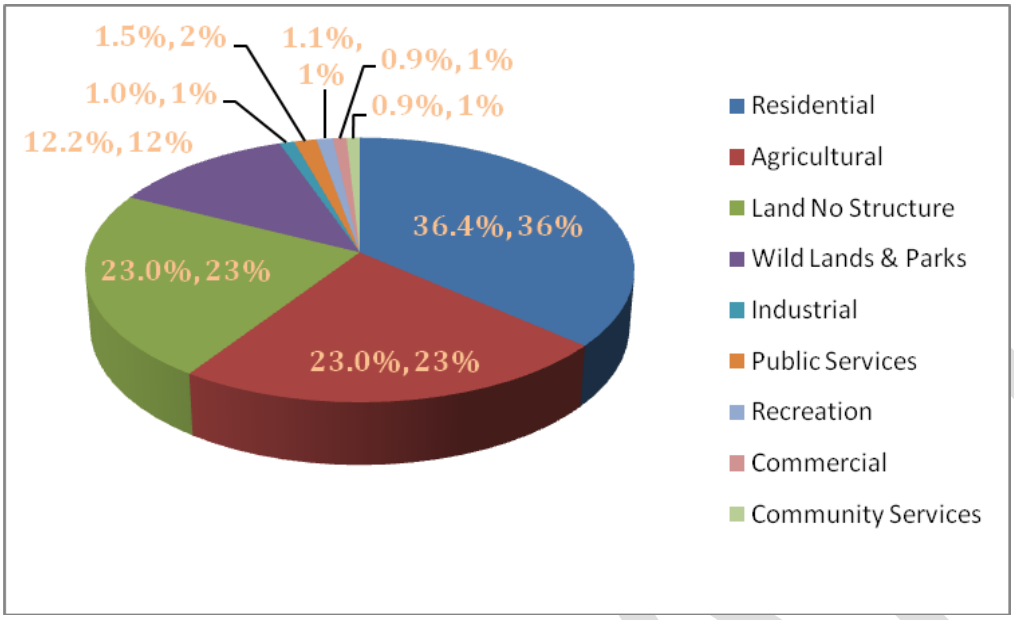
(T) Waterford - (V) Stillwater ,79,340
(V) Stillwater - (V) Schuylerville, 69,171
(V) Schuylerville - (T) Greenwich, 69,825
(T) Greenwich - (V)Fort Edward, 73,099
(V) Fort Edward - (T) Kingsbury, 70,074
(T) Kingsbury - (V) Fort Ann, 68,072
(V) Fort Ann - (V) Whitehall, 3,546*
*Low numbers due to on-road only along US Route 4

Source: Champlain Canalway Action Plan Waterford to Whitehall Update 2019)

## Land Use

In 2002 Washington County was ranked 9th of 62 counties in the state in terms of acreage in farming and 11th based on the total number of farms. The 2017 Census of Agriculture listed 915 farms on an estimated 185,291 acres. Land use categories below were taken from the Real Property System (RPS) and acreage percentages for Washington County in 2019. (Due to rounding, percentages may not equal 100%.)

**Graph 5 Percent Land Use**

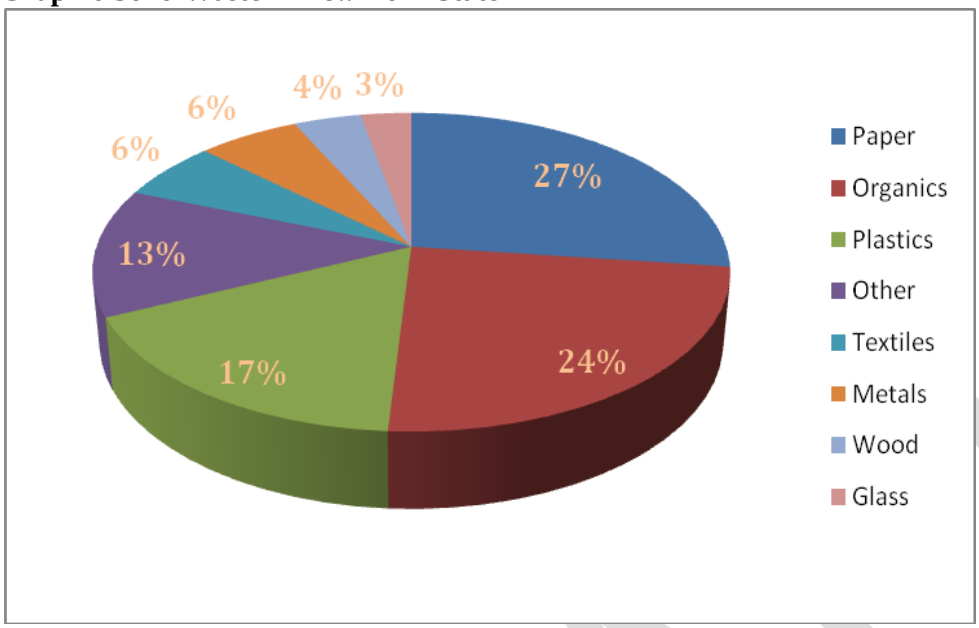



- Residential 36.4%
  Property used for human habitation. Living accommodations such as hotels, motels, and apartments fall in the Commercial category.
- Agricultural 23.1%
  Property used to produce crops or livestock.
- Land without a structure 22.8%
  Property that is not in use, is in temporary use, or has no permanent improvements. Land without a structure is frequently used for agricultural purposes.
- Wild, Forested, Conservation Lands & Public Parks 12.2%
  Reforested lands, preserves, and private hunting and fishing clubs.
- Industrial 1.0%
  Property used for the production and fabrication of durable and non-durable man-made goods.
- Public Services 1.5%
  Property used to provide services to the general public.
- Recreation & Entertainment 1.10%
  Property used by groups for recreation, amusement or entertainment.
- Commercial .92%
  Property used for the sale of goods and services.
- Community Services .88%
  Property used for the well-being of the community.

## 2. Solid Waste Facilities, Quantities and Types

According to the State Solid Waste Management Plan "Beyond Waste," the following percentages of material make up disposed municipal solid waste (MSW) in New York State, *Graph 6*.

**Graph 6 Solid Waste in New York State**




Source: NYS Beyond Waste Plan 2009 p. 96

To analyze the amount of MSW generated within the county and the number of recyclables captured, and to compare that to the NY State representation of MSW composition it is necessary to capture accurate data. Since 2018 Washington County neither has the oversight through ownership of transfer stations nor the resources to monitor solid waste generation within the County. And there is insufficient data from the private sector. This impedes the ability to accurately present a picture of solid waste handled on an annual basis. Nonetheless, historic data between 2009 and 2019 is available as presented in the details to follow.

### Solid Waste Management Facilities

Several waste facilities operate in Washington County, *Table 5*. These range from transfer/recycling stations, plastic, wood, and scrap metal recycling companies, construction and debris (C&D) processing and land clearing companies, composting and soil treatment and recycling. Two primary waste management companies are Earth Waste and Metal, and Wheelabrator.

ElNikki owned Earth, Waste and Metal (EWM), with headquarters in Rutland Vermont, manages the five transfer stations that were Washington County owned until 2018. EWM maintains several professional and commercial licenses. The most inclusive are listed on the company website:

- Addison County Solid Waste
- Central Vermont Solid Waste
- Chittenden County Solid Waste District
- Clinton County, NY Solid Waste District
- Rutland County Solid Waste District
- Vermont Waste Transporter Permit
- Various Municipal Fleet Permits
- Vermont blanket permits & overweight permits
- New York State Department of Environmental Conservation – Division of Solid Waste
- New York HUT Permits
- MOSA (Montgomery-Otsego-Scholarie) Solid Waste Management
- U.S. DOT
- ICCMC
- IFTA
- U.S. Customs & Border Protection Permits
- PAPS – Pre-Arrival Processing System/U.S. Customs
- PARS – Pre-Arrival Review System/Canadian Customs
- Quebec NIR Permits

**Table 5 Solid Waste Facilities in Washington County**

| Company | Owner | Location | Facility Type |
|---|---|---|---|
| **Earth Waste & Metal** | Private | | |
| | | Cambridge | Transfer/Recycling |
| | | Granville | Transfer Station/Recycling |
| | | Greenwich | Transfer Station Recycling |
| | | Hudson Falls | Transfer Station/Recycling/Metals |
| | | Whitehall | Transfer/Recycling |
| **Wheelabrator** | Private | Hudson Falls | Waste-To Energy Burn Plant MSW, |
| **Adirondack Plastics & Recycling** | Private | Argyle | Plastics |
| **Fort Edward MRF/Waste Management** | Private | Fort Edward | Recycling RHRF Permit |
| **Fort Ann Transfer Station** | Private | Fort Ann | C&D Processor |
| **Peckham Materials Corp** | Private | Hudson Falls | C&D Processor |
| **Pallets, Inc** | Private | Fort Edward | C&D Processor -Wood |
| **East Side Metals & Recycling Corp-** | Private | Fort Ann | Scrap Metal |
| **Booths Blend Compost** | Private | Greenwich | Compost |
| **CTI AGRI-Cycle, LLC** | Private | Cambridge | Compost |
| **CTI AGRI-Cycle, LLC** | Private | Buskirk | Compost |
| **Washington County Sewer District #2** | Public | Kingsbury | Compost |
| **Natures Brew** | Private | Argyle | Compost |
| **Pleasant Valley Compost** | Private | Argyle | Compost |
| **Real Bark Mulch** | Private | Fort Edward | Compost |
| **Slack Hollow Farm** | Private | Fort Edward | Compost |
| **Tamarack** | Private | Argyle | Compost - Animal |
| **Washington County Correctional Facility** | Public | Comstock | Compost |
| **Keith L Harris LCD Landfill** | Private | Fort Ann | Land Clearing Debris |
| **Moy Enterprises LCD Landfill** | Private | Greenwich | Land Clearing Debris |
| **Affordable LCD Dumpsite** | Private | Fort Ann | Land Clearing Debris |
| **Easton Sand & Gravel** | Private | Greenwich | Land Clearing Debris |
| **Williams Farm LCD Landfill** | Private | Schaghticoke | Land Clearing Debris |
| **Clean Earth** | Private | Fort Edward | Soil Treatment & Recycling |
| **Moy Enterprises LCD Landfill** | Private | Greenwich | Land Clearing Debris |
| **Millbrook Dairy Farm** | Private | Cambridge | Sludge (Papermill) |
| ***Hiram Hollow Transfer Station** | Municipal | Wilton | Transfer Station |

*Hiram Hollow Transfer Station in Gansevoort, across the Hudson from Fort Miller, has an increasing role in the collection and disposal of Washington County MSW and recycling materials.

Source: NYS Recycling Markets Database and NYSDEC registered Recycling Handling and Receiving Facilities, Retrieved September 2019

The Village of Hudson Falls, Town of Kingsbury transfer station owned by EWM processes and merchants many types of ferrous and non-ferrous metals and offers metal recycling services. All five transfer stations accept both recyclables and household waste for a fee. EWM provides an information brochure on their website that details accepted items and associated fees, see *Appendix 1*. No hazardous waste is accepted at any of the EWM transfer stations.

All recyclables collected at the Earth, Waste and Metal transfer/recycling stations are currently sorted into homogeneous categories by the generator. The facility sells white office paper, colored office paper, newspapers, inserts, and magazines in separate bales. Aluminum is divided between foil, cans, and scrap metal. The materials are baled and crushed prior to their sale. Books are processed by removing the paper from the bindings.

Wheelabrator is a waste to energy burn facility located on the Hudson River in the Village of Hudson Falls, Town of Kingsbury. Operations began in 1991. The facility has an energy generation capacity of 14MW, which is sold to local

utility. The energy produced powers its own operation and the equivalent of 14,540 New York homes. (Wheelabrator website). The plant recovers ferrous metals. The tonnage of ferrous metals for the past three years is recorded at the bottom of *Table 10*.

## Solid Waste Management Quantity and Type Data

During the years between 2011 and 2016 the Department of Public Works oversaw the five transfer stations in the county. The County had to register with DEC under the registration requirement, 366-2.3. During this time period and as part of the registration requirement the County kept data that included solid waste tonnage details. Compilation of county data collection and permitting of haulers ceased with the sale of all five transfer stations to Earth, Waste and Metal. Private owners are responsible for completing the appropriate authorization with the Department of Environmental Conservation. Private transfer stations do not qualify for registration under 366-2.3 and must apply to obtain a DEC permit.

Negotiations for the sale of the transfer stations occurred between 2016 and 2018, with a final resolution transferring title of the transfer stations from the County to Earth, Waste and Metal in 2018, *Appendix 2*. The initial draft of this Solid Waste Management Report included recoverables data from 2001 to 2009. The data came from Washington County DPW Annual Reports for each year respectively, *Table 6*. The 2011 MSWMP draft also includes solid waste data from 2009, which was pulled from Washington County DPW Annual Report from that year, *Table 7*. No data is available for 2010. Washington County DPW recorded solid waste quantity and type data internally from 2011 through 2016, *Table 9*. EWM reported solid waste tonnage to DEC starting in 2017 and continuing through 2019, *Table 10*. Nine-year averages derived from the data recorded in *Tables 9 and 10* provided the basis for the calculated MSW results generated using the DEC calculator summarized in *Table 8*. The information that is provided offers both insight into solid waste trends in Washington County and a platform to predict probable waste generation moving forward.

**Table 6 County DPW Reporting of Recoverables (in tons) 5-County transfer/recycling stations**

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|---|
| **Aluminum** | 33.55 | 33.56 | 28.53 | 24.14 | 28.33 | 31.84 | 18.17 | 15.4 | 12.76 |
| **Boxboard** | 82.09 | 87.47 | 100.16 | 86.48 | 77.54 | 76.62 | 78.72 | 55.85 | 86.36 |
| **Corrugated** | 538.85 | 559.36 | 510.4 | 439.43 | 392.59 | 384.41 | 380.33 | 367.54 | 384.74 |
| **Deposits** | 10.35 | 12.5 | 12.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Ferrous Metals** | 960.91 | 1,008.67 | 1,058.55 | 1,063.73 | 996.22 | 909.24 | 658.29 | 516.26 | 561.08 |
| **Glass** | 327.29 | 298.05 | 285.58 | 319.55 | 230.62 | 349.52 | 239.28 | 243 | 249.5 |
| **Inserts** | 338.7 | 349.46 | 378.66 | 305.36 | 343.06 | 304.56 | 274.51 | 261.79 | 189.86 |
| **Magazines** | 385.08 | 402.75 | 386.1 | 399.99 | 377.21 | 380.68 | 363.3 | 323.6 | 277.89 |
| **Newsprint** | 460.96 | 499.37 | 481.31 | 455.26 | 423.24 | 358.8 | 334.25 | 281.24 | 254.12 |
| **Non-Ferrous** | 6.59 | 52.23 | 59.52 | 65.55 | 41.28 | 36.73 | 16.21 | 15.2 | 16.93 |
| **Office paper** | 51.58 | 39.15 | 38.4 | 17.29 | 46.81 | 43.54 | 70.95 | 49.44 | 43.16 |
| **#1 PETE** | 0.00 | 32.79 | 37.61 | 36.35 | 43.86 | 34.48 | 36.81 | 56.35 | 38.48 |
| **#2 HDPE C** | 0.00 | 36.56 | 47.68 | 32.17 | 46.32 | 48.45 | 33.77 | 44.16 | 31.82 |
| **#2 HDPE N** | 0.00 | 45.65 | 43.03 | 30.32 | 36.7 | 38.84 | 29.58 | 41.1 | 34.52 |
| **Tin** | 164.99 | 137.67 | 141.75 | 108.7 | 93.31 | 98.85 | 102.5 | 79.06 | 78.67 |
| **Batteries** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.05 | 9.38 |
| **Lead** | 0.00 | 0.00 | 0.00 | 0.00 | 0.000 | 0.000 | 0.00 | 0.000 | 0.00 |
| **Electronics** | 0.00 | 0.00 | 0.00 | 0.00A | 0.00 | 0.00 | 0.00 | 54.97 | 20.81 |
| **Phone Books** | 0.00 | 2.79 | 2.45 | 0.00 | 6.38 | 12.84 | 1950 | 22.04 | 23.02 |
| **Wire** | 0.00 | 2.94 | 3.52 | 1.02 | 0.25 | 1.71 | 0.49 | 0.00 | 0.73 |
| **Totals** | **3,360.94** | **3,600.97** | **3,615.86** | **3,385.34** | **3,183.72** | **3,111.11** | **4,587.16** | **2,433.05** | **2,313.83** |

Source: Washington County DPW Annual Reports, 2001 to 2009

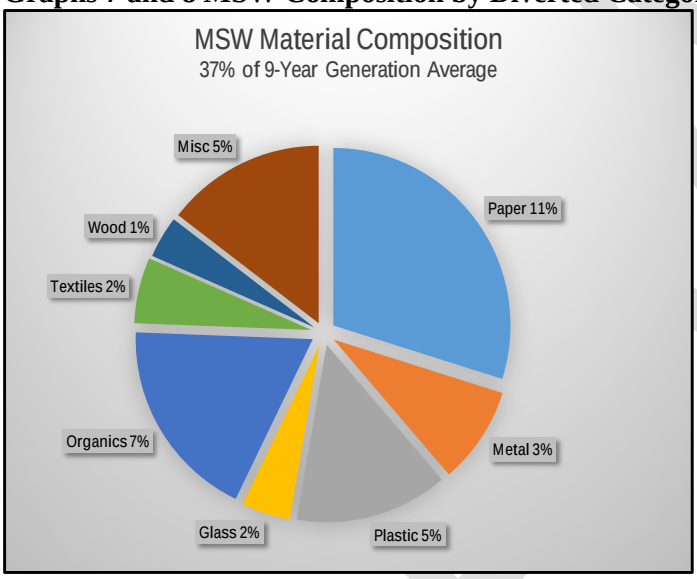
**Table 7 Planning Unit Disposal Reporting 2009 (in tons)-5-County Transfer/recycling Stations**

| Materials Type | Amount Generated (tons) | Amount Recovered (tons) | Additional Recovery Potential (tons) |
|---|---|---|---|
| **MSW** | N/A | 6,081 | N/A |
| **Recyclables** | N/A | 2,308 | N/A |
| **Paper** | 2,768 (estimate) | 1,259 | 1,509 |
| **Metal** | 419 (estimate) | 670 | Unknown, recovered above state average |
| **Glass** | 336 (estimate) | 250 | 86 |
| **Plastic** | 1,091 (estimate) | 105 | 986 |

Source: 2019 DPW Annual Report

Washington County DPW records show that total tonnage of municipal solid waste (MSW) decreased from 2011 through 2016, *Table 9*. This trend continued through 2018. It can be inferred that the fluctuations and overall trend toward reduction may in large part have to do with the diversion of categories of materials recovered. The number and size of construction projects may partially explain variations in annual construction and debris (C&D) tonnage. Construction projects have been down since the end of the Great Recession, June 2009. Tonnage of diverted recoverable by type varied greatly. Explaining the relationship over time between diverted MSW and the tonnage of generated MSW is not apparent from the available data alone. The fluctuation in tonnage of recoverables might reflect market availability as well as inconsistencies in the collection, processing and reporting of diverted materials. *Graph 7* shows the averaged diverted MSW reported for the five transfer stations by category between 2011 through 2019. *Graph 8* illustrates the relationship of the averaged MSW generated as reported for the five transfer stations with the averaged MSW diverted during this nine-year period.

**Graphs 7 and 8 MSW Composition by Diverted Category 2011-2019 : MSW Generated vs. Diverted**



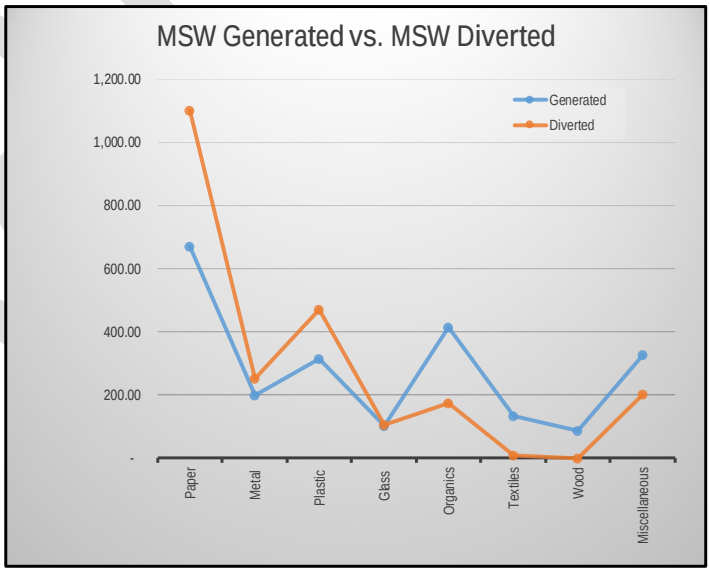




**Table 8 Washington County MSW Transfer Station Data 9-yrs Averaged**

| Current Data | | |
|---|---|---|
| 2010 | Population Census (Rounded) | 63,000 |
| 2019 | Cornell PAD | 61,600 |
| 9 Yr Avg | MSW Generated (Tons/yr) | 6,000 |
| 9 Yr Avg | MSW generation rate (Lb/person/day) | 0.53 |
| 9 Yr Avg | MSW Disposed (Tons/yr) | 4,000 |
| 9 Yr Avg | MSW Diverted (Tons/yr) | 2,000 |

Source: (graphs and table) DEC MSW calculator.

**Table 9 Planning Unit Disposal Reporting 2011 - 2016 (in tons)**
**5-Transfer Stations in County Ownership**

| Waste Stream - | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 6 Yr. Totals |
|---|---|---|---|---|---|---|---|
| **Waste Disposed** | | | | | | | |
| MSW | 5,565.92 | 4,874.03 | 1,331.95 | 1,168.41 | 2,611.99 | 2,768.54 | 18,320.84 |
| C&D | 1,897.91 | 1,597.87 | 328.72 | 3,089.04 | 1,474.47 | 1,011.10 | 9,399.11 |
| **Total Disposed All** | **7,463.83** | **6,471.90** | **1,660.67** | **4,257.45** | **4,086.46** | **3,779.64** | **27,719.95** |
| **Recyclables Recovered** | | | | | | | |
| Comingled Paper | 0.00 | 0.00 | 0.00 | 111.26 | 0.00 | 0.00 | 111.26 |
| Newspaper | 171.28 | 174.86 | 34.77 | 368.64 | 203.46 | 69.00 | 1,022.01 |
| Corrugated Cardboard | 280.86 | 326.25 | 63.52 | 805.70 | 472.21 | 441.11 | 2,389.65 |
| Paperboard/Boxboard | 66.14 | 72.58 | 16.61 | 172.17 | 172.17 | 27.54 | 527.21 |
| Office Paper | 23.74 | 20.49 | 2.05 | 18.25 | 18.25 | 0.00 | 82.78 |
| Magazines | 413.18 | 328.34 | 59.22 | 0.00 | 175.47 | 213.95 | 1,190.16 |
| Books | 18.72 | 28.96 | 6.83 | 1.94 | 0.00 | 58.42 | 114.87 |
| **Total Papers** | **973.92** | **951.48** | **183.00** | **1,477.96** | **1,041.56** | **810.02** | **5,437.94** |
| Tin/Aluminum | 55.12 | 72.58 | 17.74 | 0.00 | 0.00 | 21.08 | 166.52 |
| Aluminum Foil/Trays | 10.75 | 9.34 | 2.19 | 0.00 | 0.00 | 0.00 | 22.28 |
| White Goods | 181.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 181.00 |
| Bulk Residential Metal | 0.00 | 136.63 | 38.15 | 0.00 | 0.00 | 0.00 | 174.78 |
| Industrial Scrap Metal | 0.00 | 0.00 | 0.00 | 296.66 | 129.93 | 93.69 | 520.28 |
| **Total Metals** | **246.87** | **218.55** | **58.08** | **296.66** | **129.93** | **114.77** | **1,064.86** |
| Glass Containers | 242.06 | 204.00 | 57.38 | 333.28 | 103.17 | 0.00 | 939.89 |
| **Total Glass** | **242.06** | **204.00** | **57.38** | **333.28** | **103.17** | **0.00** | **939.89** |
| Comingled Plastics | 0.00 | 0.00 | 0.00 | 25.75 | 0.00 | 0.00 | 25.75 |
| PET #1 | 3,483.00 | 34.71 | 9.29 | 17.99 | 18.63 | 25.52 | 3,589.14 |
| HDPE #2 | 52.42 | 54.56 | 13.77 | 58.70 | 49.22 | 74.58 | 303.25 |
| #3-7 | 0.00 | 0.00 | 0.00 | 0.00 | 32.14 | 20.38 | 52.52 |
| **Total Plastics** | **3,535.42** | **89.27** | **23.06** | **102.44** | **99.99** | **120.48** | **3,970.66** |
| Leaves and Grass | 312.38 | 238.45 | 6.88 | 0.00 | 0.00 | 0.00 | 557.71 |
| Brush/Branches/Trees | 311.09 | 282.44 | 51.25 | 53.91 | 21.90 | 47.83 | 768.42 |
| ****Total Organics** | **623.47** | **520.89** | **58.13** | **53.91** | **21.90** | **47.83** | **1,326.13** |
| Textiles | 0.00 | 0.00 | 0.00 | 0.00 | 13.00 | 12.26 | 25.26 |
| Electronics | 1,101.00 | 13.82 | 3.59 | 89.25 | 63.54 | 0.00 | 1,271.20 |
| Batteries | 6.11 | 1.32 | 0.00 | 0.00 | 0.00 | 0.00 | 7.43 |
| Asphalt/Pavement | 544.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 544.00 |
| **Total Other** | **1,651.11** | **15.14** | **3.59** | **89.25** | **76.54** | **12.26** | **1,847.89** |
| **Total Recovered All** | **7,272.85** | **1,999.33** | **383.24** | **2,353.50** | **1,473.09** | **1,105.36** | **14,587.37** |

**Cubic Yards

Source: Washington County DPW Records 2011-2016

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**Table 10 Planning Unit Disposal DEC Reporting 2017 – 2019 (in tons)**
**5-Transfer Stations in Elniki Ownership (Earth Waste & Metal - Rutland VT)**

| Waste Stream | 2017 | 2018 | 2019 | 2017-2019 3 Year Totals | 2011-2016 6-year Totals | 2011-2019 9-Year Totals |
|---|---|---|---|---|---|---|
| **Waste Disposed** | | | | | | |
| MSW | 2,749.90 | 2,400.26 | 2,145.58 | 7,295.74 | 18,320.84 | |
| C&D | 1,374.70 | 1,253.97 | 1,155.26 | 3,783.93 | 9,399.11 | |
| **Total Disposed** | **4,124.60** | **3,654.23** | **3,300.84** | **11,079.67** | **27,719.95** | **38,799.62** |
| **Recyclables Recovered** | | | | | | |
| Comingled Paper | 0.00 | 48.04 | 566.89 | 614.93 | 111.26 | |
| Newspaper | 219.67 | 282.73 | 0.00 | 502.40 | 1,022.01 | |
| Corrugated Cardboard | 353.28 | 362.04 | 466.60 | 1,181.92 | 2,389.65 | |
| Paperboard/Boxboard | 80.08 | 24.45 | 24.87 | 129.40 | 527.21 | |
| Office Paper | 0.00 | 0.00 | 18.99 | 18.99 | 82.78 | |
| Magazines | 168.14 | 37.89 | 0.00 | 206.03 | 1,190.16 | |
| Books | 26.40 | 34.22 | 41.24 | 101.86 | 114.87 | |
| **Total Papers** | **847.57** | **789.37** | **1,118.59** | **2,755.53** | **5,437.94** | **8,193.47** |
| Tin/Aluminum | 22.04 | 0.00 | 55.28 | 77.32 | 166.52 | |
| Aluminum Foil/Trays | 0.00 | 0.00 | 6.20 | 6.20 | 22.28 | |
| White Goods | 0.00 | 0.00 | 0.00 | 0.00 | 181.00 | |
| Bulk Residential Metal | 80.98 | 16.68 | 582.17 | 679.83 | 174.78 | |
| Industrial Scrap Metal | 116.39 | 330.28 | 0.00 | 446.67 | 520.28 | |
| ***Total Metals** | **219.41** | **346.96** | **643.65** | **1,210.02** | **1,064.86** | **2,274.88** |
| Glass Containers | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| **Total Glass** | **0.00** | **0.00** | **0.00** | **0.00** | **939.89** | **939.89** |
| Comingled Plastics | 38.71 | 32.80 | 0.00 | 71.51 | 25.75 | |
| PET #1 | 20.11 | 9.81 | 58.08 | 88.00 | 3,589.14 | |
| HDPE #2 | 0.00 | 8.34 | 59.19 | 67.53 | 303.25 | |
| #3-7 | 22.81 | 0.00 | 0.00 | 22.81 | 52.52 | |
| **Total Plastics** | **81.63** | **50.95** | **117.27** | **249.85** | **3,970.66** | **4,220.51** |
| Leaves and Grass | 0.00 | 0.00 | 0.00 | 0.00 | 557.71 | |
| Brush/Branches/Trees | 14.73 | 5.54 | 224.53 | 244.80 | 768.42 | |
| ****Total Organics** | **14.73** | **5.54** | **224.53** | **244.80** | **1,326.13** | **1,570.93** |
| Textiles | 11.78 | 10.58 | 20.04 | 42.40 | 25.26 | |
| Electronics | 0.00 | 0.00 | 4.16 | 0.00 | 1,271.20 | |
| Batteries | 0.00 | 0.00 | 0.00 | 0.00 | 7.43 | |
| Asphalt/Pavement | 0.00 | 0.00 | 0.00 | 0.00 | 544.00 | |
| **Total Other** | **11.78** | **10.58** | **24.20** | **46.56** | **1,847.89** | **1,894.45** |
| **Total Recovered All** | **1,175.12** | **1,203.40** | **2,128.24** | **4,506.76** | **14,587.37** | **19,094.13** |

*Wheelabrator Ferrous Metal Recovered 2017 **690.43**

*Wheelabrator Ferrous Metal Recovered 2018 **2,409.00**

*Wheelabrator Ferrous Metal Recovered 2019 **578.21**

** Cubic Yards

Source NYS DEC Reporting 2017-2019

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Wheelabrator processes industrial, commercial, municipal solid and sludge waste from both local and regional sources; and though lesser in amount, internationally from Canada. Wheelabrator's annual reports for 2017-2019 give a snapshot as to what categories of waste the plant processes, the annual tonnage and a daily average, *Table 11*. Quantifying the amount of solid waste tonnage from the five transfer stations brought to Wheelabrator for processing is not evident from these data sets.

**Table 11 Wheelabrator Annual Reports to DEC January 1, 2017 to December 31, 2019 (3 Yr.)**

| Type of Solid Waste (in tons/year) | 2017 | Daily Average |
|---|---|---|
| **Industrial Waste (including Industrial Process Sludges)** | 5,345.45 | 14.65 |
| **Mixed Municipal Solid Waste (Residential, Institutional & Commercial)** | 145,529.81 | 393.23 |
| **Sewage Treatment Plant Sludge** | 7,277.88 | 19.95 |
| **International** | 2.58 | 0.01 |
| **Tires** | 253.48 | 0.69 |
| **Pharmaceuticals** | 739.57 | 2.03 |
| **Annual Total** | **159,148.77** | |
| Type of Solid Waste (in tons/year) | 2018 | Daily Average |
| **Industrial Waste (including Industrial Process Sludges)** | 4,913.01 | 13.46 |
| **Mixed Municipal Solid Waste (Residential, Institutional & Commercial)** | 145,236.67 | 397.91 |
| **Sewage Treatment Plant Sludge** | 7,118.74 | 19.50 |
| **International** | 3.16 | 0.01 |
| **Tires** | 793.39 | 2.17 |
| **Pharmaceuticals** | 642.81 | 1.76 |
| **Annual Total** | **158,707.78** | |
| Type of Solid Waste (in tons/year) | 2019 | Daily Average |
| **Industrial Waste (including Industrial Process Sludges)** | 5,246.54 | 14.37 |
| **Mixed Municipal Solid Waste (Residential, Institutional & Commercial)** | 140,942.66 | 386.14 |
| **Sewage Treatment Plant Sludge** | 6,965.94 | 19.8 |
| **International** | 1.43 | .004 |
| **Tires** | 744.44 | 2.04 |
| **Pharmaceuticals** | 794.80 | 2.18 |
| **Annual Total** | **154,695.81** | |
| **Total All Years /All Types** | **472,552.36** | |

As noted above the available data offers a "snapshot" of the generation and diversion of municipal solid waste in Washington County. Having eighteen years of solid waste data is invaluable and begins to build the story of MSW in Washington County. Of notable value are the nine years of MSW records from the transfer stations, which show a few observable trends. Despite the variations by year, the generated waste tonnage seems consistent. There has been a general decline in generated tonnage, which may in part relate to the decline in population, but also may reflect the effects of community recycling since the Source Separation Law of 1992, *Appendix 4*. Perhaps one of the more valuable observations derived from the transfer station data is the ratio between generated and recycled, *Graph 8*. Here one sees that the three primary categories of recycling- paper, metal and plastic - averaged over the nine-year period, exceeds that of the MSW generated. This is a good sign.

With this said it is important to see the transfer station data as an incomplete description of Municipal Solid Waste Data in Washington County. Multiple variables apply when evaluating generation and diversion. The Wheelabrator reports illustrate the complexity of the movement of waste through the County. Haulers bring statewide, regional, national and international waste into Washington County, *Appendix 3*. The annual Wheelabrator reports do detail some of the tonnage coming from the Earth, Waste and Metal transfer stations, but often waste is reported as "direct haul', meaning not transferred but brought directly to the plant. (Landfills also receive "direct haul" loads.) Additionally, these reports detail haulers that are simultaneously serving multiple counties. The reporting gives an interesting insight into the movement of waste, but not a precise understanding of the tonnage by source. As such the Wheelabrator mixed municipal waste data reported in *Table 11* was not integrated with the transfer station data as it would result in another rough estimate, one that would further skew the ratio between generated and diverted. The Wheelabrator data not only has its value revealing the movement of waste materials but also shows a closeup look at other waste streams; specifically, industrial, sewage, international, tires and pharmaceuticals.

To further add to the complexity of the equation consider the various recycling programs that are run at the grassroots or organizational level: some identified in this plan, some unknown, some ongoing, others planned and yet others operating

for a finite period. Solid Waste Facilities and Local Markets identified in *Tables 5 and 16 A-J* respectively create yet another dynamic that influences amount of recovered material and the ratio of that material originating within Washington County versus material imported from other places. And not least to consider is the number of known independent haulers that operate within Washington County detailed in *Appendix 3*. These independent haulers haul to landfills, (e.g. Hiram Hollow in Gansevoort) either directly or via transfer stations. Each of these variables are not clearly documented, and what is documented is lumped together such that extrapolation would create further inaccuracy. One thing is for certain, this assessment points to gaps in the reporting process. This could be of value to the State when evaluating the system for its effectiveness in rendering a complete and accurate picture of solid waste. The problem with this, however, is that if local haulers must figure origination the cost to them is likely to increase. This cost increase could pass to their respective customer base. If waste reduction costs increase, the incentive to recycle may decrease.

Considering the observation that the transfer station offers at best an initial, baseline understanding of solid waste management in Washington County, and while revealing useful information results in an incomplete picture, the DEC calculator was run a second time. This time the state estimation was the basis for the calculation of solid waste generation and diversion. The results in *Table 12* show DEC Estimates for Washington County as a high-end scenario. This is placed next to the actual nine-year averaged transfer station data, representing the low-end. The difference is quite significant. Now knowing with some clarity where the gaps in the data are, the data collected in this initial SWMP provides a reasonable platform on which to build a more realistic quantification going forward.

**Table 12 Compare Washington County MSW DEC Estimations & Transfer Station Data 9-yr Avg.**

| Current Data | | | |
|---|---|---|---|
| | | High End | Low End |
| Yr | Subject | DEC Estimates | Transfer Station Data |
| 2010 | Population Census (Rounded) | 63,000 | 63,000 |
| 2019 | Cornell PAD | 61,600 | 61,600 |
| | MSW Generated (Tons/yr) | 61,368 | 6,000 |
| | MSW generation rate (Lb/person/day) | 5.45 | 0.53 |
| | MSW Disposed (Tons/yr) | 4,000 | 4,000 |
| | MSW Diverted (Tons/yr) | 57,368 | 2,000 |

Source: (graphs and table) DEC MSW calculator.

There is one further observation to make regarding *Table 12*. Based on *Beyond Waste 2009* New Yorkers dispose 4 Lbs./person/day. On the high-end Washington County generates (and potentially disposes) one pound more per person per day than the state's estimate. Based on the nine-year averages (the low-end) the County generates 3.57Lbs/person/day. The state goal is to achieve .6 Lbs./person/day by 2030. The County's low-end number exceeds this goal. This is encouraging as it suggests that attaining significant waste reduction county-wide is an achievable goal. Equating the high-end state averages as representative of the County must consider the possibility that there may be an urban area bias in the calculation metric. Washington County is namely composed of rural, agricultural communities that by nature may produce less solid waste or different solid waste than that of an urban community, (Land Use *Graph 5, Section 1.)*

## Haulers

Washington County permitting documentation between 2011 and 2018 documents haulers that either collect MSW and recoverable waste in Washington County or haul MSW from outside the county, *Table 13*. The County permitting data compiled with data available from the Wheelabrator Annual Report (January 2018 through December 2019) results in a list that shows that nearly 150 haulers bring MSW to or collect in Washington County. This number may not reflect all direct haulers. The list of haulers can be found as *Appendix 3***.**

**Table 13 Washington County MSW Hauler Permitting**

| Year | #Permits | Total Revenue | Year | #Permits | Total Revenue |
|---|---|---|---|---|---|
| **2011** | 82 | $6,720 | **2015** | 50 | $4,090 |
| **2012** | 67 | $5,320 | **2016** | 47 | $3,630 |
| **2013** | 62 | $7,390 | **2017** | 49 | $2,970 |
| **2014** | 45 | $2,280 | **2018** | 29 | $2,180 |
| **8 Year Totals** | **431** | **$34,580** | | | |

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Source: Washington County DPW

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# 3. Solid Waste Stream Materials Recovery

## Residential source separation and collection

Washington County residents have a choice for MSW disposal. They may choose to take their solid waste and recyclables to one of the five transfer/recycling stations in the County or pay for curbside collection by a private waste hauler. Both these options place the responsibility of the cost on the public. In addition, the Village of Greenwich, the Village of Fort Edward and the Town of Putnam provides curbside collection of municipal solid waste. Early in 2018 the Town of Fort Edward discontinued curbside recycling pick-up because it had become too cost prohibitive. Since then, the Town has worked with DEC to set up a single stream dumpster that is available to residents. This recycling station is located behind the town hall and is managed by Waste Management. The Town pays Waste Management to collect the residential recycling for processing. The recyclables are hauled to Hiram Hollow Transfer Station in Wilton.

In recent years private MSW haulers, particularly the larger regional firms, have increased their market share to service an estimated two-thirds of Washington County households, picking garbage up curbside and carting the waste to transfer stations or the local burn facility. Direct haul versus haul-to-transfer varies depending on the service provider. Some of these garbage pick-up companies advertise recycling services. Not all MSW haulers offer recycling services. Households interested in recycling are forced to take a hands-on approach and look for creative solutions to this deficit in waste management. This requires a degree of dedication. While waste haulers servicing residential accounts may provide recycling services, the services are fee based. Such conditions do not offer incentives for households to recycle and it is suspected that residential recycling rates are low.

While several private haulers now provide a second receptacle intended for recycling, there is little information available on how much homeowners use these for recycling. Additionally, enforced regulation of the haulers to ensure that waste disposal is occurring as advertised is not evident. Another factor that impacts recycling rates in Washington County relates to education and changes to patterns of human behavior. To what extent individual householders dispose of their household recycling the prescribed manner that results in successful processing out of the general waste stream is unknown.

At present there are few local municipal programs that provide education, technical assistance or incentives to encourage residents to effectively source separate of recyclables or organics in Washington County. In January 2019 DEC rolled out a public educational resource called Recycle Right. The Recycle Right NY campaign focuses on one item per month that should either be "in" a recycling bin due to its value in recovery or "out" because it is either a contaminant to the recycling stream or appropriately recycled elsewhere. This program welcomes participation at the municipal level.

As of spring 2019 a regional grassroots environmental activist group has organized with special interest in solid waste management in Saratoga, Warren and Washington Counties. Clean Air Action Network has since hosted educational events regarding ‘Zero Waste’. In May of 2019 the Washington County Soil & Water Conservation District organized a Tire Recycling Program open to all Washington County residents. Washington County DPW hosted a hazardous waste collection day in November 2017 and another waste collection event for batteries and oil cans in September 2018. Private opportunities to recycle and reuse goods are available to residents at will. Clothing recycling boxes provided to area non-profits are placed at various commercial sites in the county. Quality consignment businesses reselling used clothing, furniture and household good also operate throughout the county.

## Commercial source separation and collection

In Washington County it is left to the discretion of each business to determine if and to what extent it will collect and separate recyclables and organic waste from solid waste. Some commercial establishments contract to have certain recyclables such as corrugated cardboard collected by a private hauler for recycling. Scrap metal is often collected and sold. Factories and other production facilities may source separate specific types of waste materials for reprocessing or send off site for recycling. Some businesses take solid waste and recyclables to one of the five county transfer/recycling stations. Several of the local grocery markets offer financial incentive by maintaining bottle collection centers and encourage customers to bring reusable bags to checkout their goods. Other bottle and can collection centers associated with local businesses operate in Washington County, such as Jan’s Cans in Fort Edward. Other centers of bottle collection have recently been proposed. With the recently enacted statewide ban on single use plastic bags signed into law in April 2019 to go into effect in the spring of 2020. County businesses will need to seek alternate packaging options.

At present there are no local municipal programs that provide education, technical assistance or incentives for businesses to introduce source separation of recyclables or organics in Washington County. DEC provides resources to businesses on

their website dedicated to Recycling and Composting to help them develop their own programs, but whether information about these resources is reaching the business community is not known. There are also no known state programs of this kind in the region.

### Institutional source separation and recovery

Institutions in Washington County include eleven public school districts, the Washington County Jail, the Washington County Municipal Center, Washington Correctional Facility and Great Meadow Correctional Facility. Schools in Washington County manage their own solid waste and recycling programs. Teachers, teacher aides and other school employees have initiated recycling programs in several Washington County school districts, including Argyle, Greenwich, Cambridge, and Hudson Falls. Often members of a student club manage school recycling on a day-to- day basis, with a teacher or other staff volunteer advising and giving continuity to the program. Impediments to expanding or strengthening recycling programs cited by staff involved with recycling include lack of cooperation or coordination within a school, additional work burden to custodians and storage space considerations for source separated or stockpiled materials. Recycling is currently perceived as a voluntary activity by school administrators. Some schools are reaping financial rewards for their recycling efforts.

School recycling programs vary by district. Those schools that recycle usually have a program to recycle mixed paper and deposit beverage containers. Green Fiber, a nation-wide cellulose manufacturer, has entered contracts with five county school districts to collect mixed paper. The County in the past has facilitated recycling at the Greenwich and Salem districts by providing on site containers partitioned for different types of recyclables. Greenwich recycles tin, glass, plastics, and, occasionally, books and electronics through the county. Greenwich CSD estimates that this saved the school $7,500 in their waste disposal costs the first year the program was put in place. Salem Central School recycles all types of paper, cardboard, boxboard, plastics, metals and even batteries from their graphing calculators.

Since 2010, the Washington County Youth Bureau/Alternative Sentencing Agency has been fortunate to work with a group of students in the Hudson Falls School District who are members of the Roots and Shoots Club. The goal of this club is “to promote environmental and civic awareness in our district and community so that students can make an informed and conscientious decisions as adults.” As a result of this partnership the club was able to make paper recycling the normal practice within the Hudson Falls High School. Due to the sale of the County Transfer Stations, the club now contracts with Green Fiber directly to recycle their paper products. In 2010 the county partnered with a Hudson Falls High School club to transport recyclables it collects to the Kingsbury transfer/recycling station. In the last three months of the school year, the group collected and recycled 3,495 pounds of white ledger paper. The club returns beverage containers and retains the deposit. This could serve as a model for districts throughout the county. DEC has a program called Green Schools Recycling and More, which provides valuable resource to public schools who are interested in educational recycling programs.

Great Meadow and Washington Correctional Facility both use a private hauler for the collection of their solid waste and recyclables. Due to the proximity of the two correctional facilities, the solid waste and recyclables that are collected at each facility are delivered to a shared compactor, and then picked up by the same private hauler. Washington County Correctional operates a composting facility. Materials are composted in turned windrows/piles and the department uses the product onsite. The compost is composed primarily of food scraps (pre- and post-plate). Other organics composted include logs and stumps. (Cornell Waste Management Institute Data Viewer)

County owned properties such as the municipal center and county jail in Fort Edward recycle paper, cardboard, tin, batteries and other items, which are then sent to the transfer/recycling stations. Because the imposed rates to recycle recoverable materials have changed last May to be commensurate with commercial rates, the price of recycling management has presently exceeded the county’s managing department budget. Additionally, major state mandated changes to the county jail system is underway. This has added a fiscal burden to the County’s already strained budget. While recycling has continued through 2019, due to these prohibitive costs the longevity of the County recycling programs is uncertain.

## Composting and Organics

Wood chips and yard waste collected from the county transfer/recycling stations are chipped and blended into mulch at the Earth Waste and Metal transfer/recycling location in Kingsbury. The wood chip mulch is sold to individuals and businesses namely within the county. Sewage sludge from Washington County Sewer District II is sent to the Kingsbury Earth, Waste and Metal location and composted.

Booth's Blend, an on-farm composting operation in Easton, is the only private composting facility in the county that markets finished compost. There are other farms that actively compost their own manure and other organic wastes for their own use. Booth's Blend composts dairy and horse manure as well as bedding and other farm wastes from area farms. Booth's Blend also composts all the animal bedding and manure from the Washington County Fair. As a pilot project in 2009 and 2010 they composted biodegradable tableware and food waste from the 4H food booth during fair week. The material successfully decomposed, and no further initiative has followed.

CTI-Agricycle out of Cambridge NY composts paper sludge from several paper mills in the region and yard waste from larger Capital District municipalities. In 2009 it started accepting for composting the food waste from the Empire State Plaza cafeteria under an agreement with the NYS Office of General Services.

Several villages in Washington County including Fort Edward, Granville. Greenwich, Cambridge, and Hudson Falls offer curbside pick-up of leaves and brush, but to date no village or town in the county composts its leaves or yard waste. These materials are composted or burned elsewhere. EWM transfer stations accept leaves and brush for a fee. Some municipalities maintain a community brush pile for branches, brush and twigs. The Town of Greenwich is exploring the feasibility of an organic composting facility. The Village of Hudson Falls requires yard waste to be contained in biodegradable bags only, no plastic.

Some individuals in Washington County have built their own outdoor compost. Cornell Cooperative Extension manages an educational web site with links to information to assist the backyard composter.
http://washington.cce.cornell.edu/horticulture-gardening/compost-resources

Five licensed LCD Land Clearing Debris business operate in Washington County, Table 5. These businesses are part of the economy of businesses that profit from solid waste.

## Biosolids

Solid wastes generated during the provision of municipal services may include residues from water and wastewater treatment plants, street sweeping operations, etc. Sludge is the solid residue left after the treatment of sewage and other wastewater usually at a publicly owned treatment works (POTW). *Tables 14 and 15* list organic waste facilities in Washington County and their average annual sludge or sludge-ash production.

**Table 14 POTW Facilities**

| Municipality | Service Area | Contact |
|---|---|---|
| **Washington County (I)** | Airport Industrial Park | (518) 747-6967 |
| **Washington County (II)** | Villages of Hudson Falls, Fort Edward<br>Towns of Kingsbury, Fort Edward | (518) 747-6967 |
| **Town of Dresden** | Hulett's Landing | (518) 499-2597 |
| **Village of Fort Ann** | Village | (518) 744-1232 |
| **Village of Granville** | Village | (518) 642-1815 |
| **Village of Greenwich** | Village | (518) 692-7743 |
| **Village of Whitehall** | Village | (518) 499-2681 |

Source: Washington County Data Book, 2008

**Table 15 POTW Facility Data**

| Municipality | Sludge Residue | Disposal Location |
|---|---|---|
| **Washington County (I)** | 12-13 tons/year (as estimate only) * See Note | Glens Falls Wastewater Treatment Plant |
| **Washington County (II)** | 356 dry metric tons (2019) ** See Note | Washington County Sewer District II |
| **Town of Dresden** | 88 tons | Fairhaven, VT |
| **Village of Fort Ann** | Reported as still in holding tanks | Washington County Sewer District II |
| **Village of Granville** | 245.84 wet tons (2018) | Kingsbury transfer station and Franklin County Landfill |
| **Village of Greenwich** | 7 tons (2018) | Washington County Sewer District II |
| **Village of Whitehall** | 186 tons | Out of county landfill |

* Washington County Sewer District I (WCSD 1) flow is combined with South Queensbury District flow.
The Flow from WCSD 1 makes up for the bulk of that flow. The annual estimation of 12-13 metric tons was calculated using the known WCSD 1 flow in combination with the typical water concentrations as provided by the Glens Falls Wastewater Treatment Plant.
** Includes sludge from Lake George Treatment Plant

Source DEC 2018 Biosolid Report,, Updated Table November 2019

## Pharmaceuticals

In 2016 Washington County Sheriff's Office and Drug Enforcement Agency organized a drug take back event on the Washington County Municipal Campus Law Enforcement Center. The event was free and confidential to encourage the public to dispose of expired and unused drugs in a safe and secure manner. To date RX Drug Drop Boxes are available 24-hours a day at the following locations year-round:

- Washington County Law Enforcement Center 399 Broadway, *Fort Edward* 747-4623
- Whitehall Police Department 57 Skenesborough Dr. *Whitehall* 499-1316
- Cambridge Police Department 56 North Park St, *Cambridge* 677-0344
- Greenwich Police Department 6 Academy St, *Greenwich* 692-9332
- Fort Edward Police Department 118 Broadway, *Ford Edward* 747-6365
- Hudson Falls Police Department 218 Main Street, *Hudson Falls* 747-4011
- Granville Police Department 51 Quaker Street, *Granville* 642-1414

# 4. Source Separation Management

## Public Education

Earth Waste and Metal publishes an informational brochure posted to their website which describes the different types of recyclables accepted at the county transfer/recycling stations as well as disposal charges for both recyclable and non-recyclable items. This handbook is available online at the company website, under the Transfer Stations tab for each of the five Washington County New York locations, *Appendix 1*

The Clean Air Action Network, formerly the Greenwich Citizens Committee, Inc., is a citizen directed non-profit initiative that is working on a 'Zero Waste' initiative. This initiative aims to raise awareness of both individual citizens and municipalities through educational programming. The focus of this programming is on sustainable options to waste management ranging from composting to reducing tonnage of solid waste and lessening air emissions in Saratoga, Warren and Washington counties. As the Greenwich Citizens Committee, Inc., the organization designed a promotional piece to inform and remind residents about the recycling services at the county's transfer/recycling stations. The organization printed and distributed about 30,000 copies of the two-sided information sheet as a free newspaper insert, through county, town and village offices and in other public locations.

DEC features several links on the web to educate the residents, facilities, retailers and municipalities about waste management and reduction such as where and how to recycle,
https://www.dec.ny.gov/chemical/292.html (waste management)
https://www.dec.ny.gov/chemical/294.html (recycling)

Since 2010, the Youth Bureau/Alternative Sentencing Agency have been fortunate to work with a group of students in the Hudson Falls School District who are members of the Roots and Shoots Club.
https://washingtoncountyny.gov/578/Roots-Shoots

Club Accomplishments

- Made bottle recycling available throughout the school
- Made paper recycling the “normal” practice
- Created opportunities for youth to make a difference
- Started seedlings for the Washington County Community Garden

## Enforcement

New York State requires municipalities to have a local law in place to meet the requirements of GML 120-aa. This gives the local municipality with the local law in the place the authority to enforce their local law, as well as the state to ensure compliance. This applies to both public and privately owned facilities.

Washington County Board of Supervisors passed a source separation law in 1992, *Appendix 4*. It requires waste left for collection by haulers or waste delivered to a facility by the waste generator be segregated into recyclables, reusable or other components for which markets exist, including solid waste. To date, there has been limited enforcement of the 1992 source separation law.

In 2009 the County passed Local Law 3 , waste hauler licensing, vehicle identification and hauler reporting law, *Appendix 4*. The law updated licensing requirements and required haulers to file quarterly reports to the county detailing the quantities and destination of waste and recyclables collected. This law went into effect in January 2010. With the changes in oversight of solid waste management there are no longer any county resources to enforce the law. (Refer to Resolution No. 328 December 21, 2018 to Close Solid Waste Fund, *Appendix 2*.) In passing Resolution No. 226 in November 2019, the County Board of Supervisors was named Lead Agency in the project to rescinded Local Law 3 2009. A negative declaration was issued in Resolution No. 254 December 2019 followed by Resolution No. 255 to introduce Local Law “E” of 2019 rescinding Local Law 3 2009. All cited resolutions are in *Appendix 2*.

## Other Efforts

The Washington County Recycling Advisory Board was established in 2009 to study recycling and solid waste management in the county and make recommendations to the Board of Supervisors to address challenges faced by the county. Since that time all five transfer station facilities were sold to Earth, Waste and Metal as recorded in Resolution No. 129 April 20, 2018; *Appendix 2*. Washington County no longer has oversight over what is now privatized solid waste management and all resources related to management of waste have been redirected. Solid waste management funds were

transferred to the General Fund, and related committees have since been disbanded.

Beginning in 2009 Cornell Cooperative Extension, Washington County Youth Bureau/Alternative Sentencing Agency, Washington County DPW, and the Greenwich Citizen's Committee collaborated with the Washington County Fair to increase recycling and composting efforts at the event and to provide reuse, recycling, and composting education to the public. Prior to 2009 the fair did not provide recycling for PET bottles, had just begun recycling cardboard and cooking oil (for biodiesel) and were not willing to consider making recycling mandatory for vendors. Through the efforts of the above-named organizations, agencies, and departments, in 2009 they were able to remove 320 lbs. of plastic and 500 lbs. of compostable material from the waste stream. In 2010, a total of 20,000 PET bottles were recovered from the waste stream, bottle recycling information was available at each gate, the fair was willing to include information to vendors on compostable containers and 500 lbs. of compostables were pulled from 4H and several other vendors.

In the spring of 2010, Washington County started a pilot reuse center at the Jackson transfer/recycling station. Goods that are headed for disposal or recycling are diverted for reuse if their condition warrants it. All items at the reuse center are free for the taking. The pilot program diverted 1,774 lbs. (.89 tons) of items from the waste stream, with 1,358 lbs. (.68 tons) being taken and reused by residents. Earth Waste and Metal have continued to operate the reuse centers.

There is an active initiative to encourage residents to turn in unused or expired prescription medications to police departments located throughout the county, as well as the Sheriff's Department. This serves two purposes. The first is the removal of these prescription drugs from unsecured locations to reduce the likelihood of abuse. The second is to reduce the likelihood that these prescription drugs are improperly disposed of, such as flushing them into municipal or private sewer systems that may not be able to remove the potentially dangerous chemicals.

A county sponsored Hazardous Waste Collection Day occurred in 2017. This free event was held at the County Municipal Center in Ft. Edward offering residential households the opportunity to safely dispose of oil paint, solvents, pool chemicals, acids, old gas and oil mix, herbicides, pesticides, fertilizer, insecticides.

At the municipal level both the Village of Greenwich and the Village of Fort Edward support single stream recycling at no charge to residents. The Village of Greenwich offers curbside pick-up. Households can put accepted recyclables out in a separate container on garbage day, with the caveat that only approved recyclables will be picked up. The Village of Fort Edward is working with Waste Management who has set up a large recycling collection bin for single stream drop off. This area is monitored by remote camera. Only clean, approved recyclables are allowed, and trash is not permitted anywhere outside of the bin.

The Greenwich Comfort Food community works with Greenwich agricultural students who participated in a STOP challenge. The students collected bottles and cans to raise money for Comfort Food Community. Other student and youth led bottle and can drives, such as through the scout programs or local schools are held within the County on an intermittent basis.

One of Comfort Food Communities initiatives is food rescue, also known as gleaning. Farmers may deliberately overplant to compensate for crop loss from weather or disease. Some years, however, produce bumper crops that are beyond what the farmer needs to market. Comfort Food Community in partnership with Agricultural Stewardship Association, created a Glean Team in 2014. These volunteers harvest surplus food from partner farms that is made available to Emergency Feeding Programs. In 2019 alone, the organization collected and distributed more than 40,000 pounds of farm fresh produce. In recent years Comfort Food Community has partnered with Capital Roots and their Squash Hunger program. Volunteers from both organizations collect food from the fields which are distributed to low-income families in Washington County and, through the Squash Hunger network, the entire Capital District.

## 5. Markets for Recovered Recyclables

Current markets that rely on recycled materials usually have a preferred method of product delivery, quality and quantity they will accept. The constraints and costs guiding material processing have hindered the recyclable economy for some years now. Waste management companies once relied on the Chinese market, which placed value on American "dirty" single-stream recyclables. This reliable export dropped off considerably when the Chinese stopped purchasing this material grade, resulting in a major upheaval of the recycling industry. But within this transitional economy manufacturers can find new opportunity to increase their bottom line through developing a business model reliant on cradle-to-cradle use of materials or specializing in clean processing of recycled materials that would be attractive to contemporary national and international markets. Mobilizing this type of program will invariably involve start-up costs. Established local businesses or start-ups may not know where to find the guidance they need to help them develop innovative business plans based on this specialized industrial model. Nonetheless small-scale industry specializing in processing of recovered, recyclable materials offers potential as a new, viable business opportunity. As *Table 16* shows the region has established re-use industries, but this is only the start of what could be a more vital local industrial base. However, attracting such industry may have limits in terms of availability of sites that could serve as production houses for these types of businesses. Capacity, availability and infrastructure may hinder local municipalities' ability to provide what these businesses may need in both the short and long term.

**Table 16 A-J Local and Regional Markets by Type**

**A.Paper: Newsprint, Magazines, Corrugated, Inserts, Office paper**

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Adirondack Plastics & Recycling, Inc.** | Argyle, NY | 518-638-8960 | Baled, Gaylords, loose, palletized, materials separated, roll off, other |
| **Ash Trading Company** | Menands, NY | 518-463-6666 | Baled, Gaylords |
| **Finch Paper** | Glens Falls, NY | 518-793-2541 | |
| **Perkins Recycling Corporation** | Glens Falls, NY | 518-798-4041 | Mixed Office, OCC, ONP, Residential Mix, Sorted Office |
| **Kruger Recycling, Inc.** | Albany, NY | 514-595-7447 | Baled, Gaylords, Loose, Palletized, Containers Provided |
| **County Waste & Recycling Services** | Halfmoon, NY | 518-877-7007 | Loose, roll-off, palletized, other |
| **EssityTissue -- North America** | South Glens Falls, NY | 518-793-5684 | Baled, Materials Separated |

**B.Metal: Scrap, Ferrous, Nonferrous, Tin, Aluminum, Batteries**

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Eastside Metals and Recycling Corp.** | Fort Ann, NY | 518-747-3677 | Loose, roll-off, containers provided, other |
| **R. Cohen & Son** | Glens Falls, NY | 518-792-2010 | Gaylords, palletized, loose, roll-off, other |
| **County Waste &Recycling Services** | Halfmoon, NY | 518-877-7007 | Loose, roll-off, palletized, other |
| **ERSI: Electronics Recycling** | Schenectady, NY | 518-649-9500 | Baled, bubble wrap/other protection, |
| **Grimmel Industries** | Rensselaer, NY | 518-449-7430 | Loose, Roll-Off, Containers Provided |
| **Scrapping Inc.** | | | Gaylords, palletized, labeling, tractor trailer loads, other |

### C. Glass: Clear, Brown, Green, Tramp

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Sierra Fibers** | Schenectady, NY | 518-356-0330 | Gaylords, palletized, loose, materials separated, roll-off, baled, other |
| **WM Biers, Inc.** | Port of Albany | 518-434-2747 | Other |
| **Andela Products, Ltd.** | Richfield Springs, NY | 315-858-0055 x230 | Gaylords, loose, roll-off, tractor trailer loads |

### D. Plastic: #1 PET, #2 HDPE N, #2 HDPE C

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Adirondack Plastics & Recycling, Inc.** | Argyle, NY | 518-638-8960 | Baled, gaylords, loose, palletized, materials separated, roll off, other |
| **Perkins Recycling Corporation** | Glens Falls, NY | 518-798-4041 | Gaylords, palletized |
| **County Waste & Recycling** | Halfmoon, NY | 518-877-7007 | Loose, roll-off, palletized, other |
| **ERSI: Electronics Recycling and Scrapping Inc.** | Schenectady, NY | 518-649-9500 | Baled, bubble wrap/ other protection, gaylords, palletized, labeling, tractor trailer loads, other |
| **Sierra Fibers** | Schenectady, NY | 518-356-0330 | Gaylords, palletized, loose, materials separated, roll-off, baled, other |
| **UltrePET, LLC** | Albany, NY | 518-459-1080 | Baled, gaylords, loose, tractor trailer loads |
| **Retail Locations** | Washington County NY | | Plastic Film, Plastic Shopping Bags |

### E. Yard Waste, Organics

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Booth's Blend Compost, Inc.** | Greenwich, NY | 518-695-6784 | Loose, roll-off, other |
| **AquaTerraSys** | Bolton Landing, NY | 978-430-4877 | Gaylords, loose, roll-off, other |
| **Evocative** | Green Island, NY | 518-273-3753 | Other |
| **Misty Hills Farm, LLC** | Troy, NY | 518-279-3886 | Loose, other |
| **Tamarack** | Argyle, NY | 518-812-1940 | Other |

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### F. C&D Materials

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **County Waste & Recycling Services** | Halfmoon, NY | 518-877-7007 | Loose, roll-off, palletized, other |
| **Cristo Demolition, Inc.** | Albany, NY | 518-463-6985 | Loose, roll-off |
| **Fort Edward MRF Waste Management** | Fort Edward, NY | 518-747-4496 | |
| **Fort Ann Transfer Station (private)** | Fort Ann, NY | 518-877-7007 | |
| **Pallets Inc.** | Fort Edward NY | 518-747-4177 | Wood pallets |
| **WM Biers, Inc.** | Albany, NY | 518-434-2747 | Roll-off, other |

### G. Electronics

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **ERSI: Electronics Recycling and Scrapping Inc.** | Rensselaer, NY | 518-649-9500 | Baled, bubble wrap/ other protection, gaylords, palletized, labeling, tractor trailer loads, other |
| **Good Point Recycling** | Middlebury, VT | 802-382-8500 | Gaylords, loose, palletized, other |
| **APT Environmental, Inc.** | Milton, VT | 802-893-8281 | Gaylords, materials separated, other |
| **Mercury Refining** | Albany, NY | 518-459-0846 | Gaylords, palletized, labeling, others |
| **Northeast Electronics Recycler** | Glens Falls, NY | 518-860-5389 | Bubble wrap other protection, gaylords, loose materials separated, palletized, containers provided |

### H. Reusable Salvageable

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **American Clothing Recycling Company, Inc.** | Glens Falls, NY | 518-793-7785 | Baled, loose, palletized |
| **Davies Office Refurbishing, Inc.** | Albany, NY | 518-449-2040 | Bubble wrap, other protection, gaylords, loose, palletized, tractor trailer loads |
| **Dress for Success Albany** | Albany, NY | 212-532-1922 | Loose |
| **GCR Truck Tire Center** | Albany, NY | 518-462-6507 | Other |
| **Various Consignment Retail** | Washington County NY | | Clothing, books, home goods, furniture |
| **Donation Bins** | Washington County NY | | Clothing, children's goods |

### I. Bottle Redemption

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Jan's Cans** | Fort Edward NY | 518-791-8031 | Cans plastic bottles |
| **Market 32** | Fort Edward, NY | 518-832-6236 | Cans plastic bottles |
| **Price Chopper** | Granville, NY | 518-642-9755 | Cans plastic bottles |
| **Hannaford Markets** | Various | - | Cans plastic bottles |

J.

**J.Pharmaceutical Recovery**

| Business | Location | Contact | Processing Needed |
|---|---|---|---|
| **Washington County Law Enforcement Center** | Fort Edward | 518-747-4623 | Specialized |
| **Cambridge Police Department** | Cambridge | 518-677-0344 | Specialized |
| **Greenwich Police Department** | Greenwich | 518-692-9332 | Specialized |
| **Fort Edward Police Department** | Fort Edward | 518-747-6365 | Specialized |
| **Hudson Falls Police Department** | Hudson Falls | 518-747-4011 | Specialized |
| **Granville Police Department** | Granville | 518-642-1414 | Specialized |
| **Whitehall Police Department** | Whitehall | 518-499-1316 | Specialized |

Source: All data is sourced from the New York State Recycling Market Database and current as of September 2019. (https://appcenter1.esd.ny.gov/IESDRecyclingMarkets/frmLogin.aspx )

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# 6. Evaluation

## Projections of changes to the waste stream

As past solid waste figures show, *Tables 6 through 10*, the total MSW solid waste generated within the county has held steady at approximately 3,000 tons per year for a decade. DEC offers a calculator to determine projections based on population data and historic MSW amounts. Using a ten-year average (2011-2019) results in 4,000 tons per year disposed and 2,000 tons per year diverted. This reduces to .53 Lb./person/day. Should the diversion rate increase incrementally at 1% per year the projection data shows a reduction by 2029 to .48 Lb./person/day. Based on the Cornell PAD projection data the population in Washington Cunty is expected to decrease at an estimated rate of -0.24% annually. With population decreasing it is probable that the projected tons of MSW may also decrease. This suggests that total MSW tons per year is likely to decrease with anticipated population loss, but ultimately other variables are at play that could influence this to ether increase or decrease at a rate greater than the model shows. Detailed results from the DEC calculator (both transfer station averaged for 9-years and DEC projected averages) are included as reference in *Appendix 5*. Representation of the state average high-end projection and the 9-year averaged transfer data as low-end projection is found in Section 2, *Table 12*.

The ability to remove organics from the waste stream can significantly reduce the amount of disposed solid waste. In 2019, NYS passed the Food Donation and Food Scraps Recycling law. Effective January 1, 2022, large generators of food scraps (defined as generating an annual average of two tons per week or more) must donate excess edible food and recycle all remaining food scraps if they are within 25 miles of an organic's recycler (composting facility, anaerobic digester, etc.). Generators may petition DEC for a one-year waiver to these requirements
https://www.dec.ny.gov/chemical/114499.html

Washington County is fortunate to have several private composting companies specializing in agribusiness waste. Existing educational programs through Cornell Cooperative Extension and grassroots Clean Air Action Network offer the best potential for increasing voluntary public composting re, is one way this could be explored. It is likely that the New York State Bag Waste Reduction Law will influence reducing the number of plastic shopping bags that enter the waste stream.

## Expected development

Residential development will likely remain weak due to economic conditions, and limited job growth in the area. There is currently no large scale planned commercial development within the planning unit.

Tamarak is a new composting facility that opened in 2019 in Argyle New York. Registered with the DEC, the company specializes in organic composting of farm animals. No new developments involving solid waste management is presently known.

## Neighboring Planning Units

The neighboring planning units are Warren County, Essex County, Saratoga County, and Eastern Rensselaer County Solid Waste Management Authority.

There is no plan to participate with, or to encourage neighboring jurisdictions to participate within the current planning unit. It has been best determined that the county develops its own independent Solid Waste Management Plan and has full authority over it. There are no limitations imposed on neighboring Planning Units.

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# 7. MSW Program Capacities, Impacts Costs & Mechanisms

Reduction in the amount of waste generated in Washington County will primarily occur through existing programs and future actions led by both municipalities and citizen initiatives.

## Availability of Capacity for Planning Unit Waste

When the five transfer/recycling stations were built in the early 1990's they were designed to handle all of the MSW and recycling generated within the county. Private haulers currently handle waste and recycling for a significant portion of the waste generators in the county. The transfer/recycling stations can handle additional quantities of waste and recyclables, up to the entire amount generated within the county should that be necessary.

Much of the MSW received at the transfer/recycling stations is brought to the local ERF. Wheelabrator waste-to-energy plant in Hudson Falls (ERF) has excess capacity and is consistently seeking contracts with other waste haulers to increase the amount of MSW brought to the facility. Due to the ERF's desire to increase MSW processed at the facility, it is reasonable to believe that this resource will be accessible going forward. Capacity data prepared in 2019 for the initial draft SWMP is included as *Appendix 6*.

## Size/capacity of Disposal Facilities and Size/capacity for Recyclables Recovery Program

When the five transfer/recycling stations were built in the early 1990's they were designed to handle all of the MSW and recycling generated within the county. Population has been stable around 60,000 people between 1990 and 2010 and the population is projected to decline, (see section one). The transfer/recycling stations are handling the quantities of waste and recyclables generated by the less than 65,000 people currently residing in the County, and there is no reason to think that the facilities will near or exceed capacity for either disposal or recyclable recovery in the foreseeable future. Should the amount of waste generated decline due to the efforts at the municipal level and through public action groups, the capacity need could be reduced. Recyclables as saleable commodity are unlikely to overwhelm the current capacity and should new local recycling enterprises be established in the county capacity would only be improved.

Should the option to use the ERF in Hudson Falls expire, there are other options outside of the county to dispose of MSW this will be at the discretion of the private waste management companies and haulers. Several municipal landfills exist in the Albany area. Colonie and Albany both operate landfills with existing capacity, *Table 17*.

**Table 17 Approximate mileage from transfer/recycling stations to selected MSW disposal sites**

| Transfer / Recycling Station | Albany Landfill | Colonie Landfill | Hiram Hollow | ERF – Hudson Falls |
|---|---|---|---|---|
| **Kingsbury** | 55 | 47 | 16 | 4 |
| **Greenwich** | 43 | 30 | 15 | 16 |
| **Jackson** | 45 | 36 | 27 | 29 |
| **Whitehall** | 72 | 64 | 37 | 22 |
| **Granville** | 70 | 55 | 32 | 20 |

## Impact of the Recyclable Recovery Effort on Existing Recyclables Recovery Programs

The current recyclable recovery program managed by private business has the infrastructure in place to continue to accept recyclables. In the past this program has served the planning unit well. In recent years materials recovery through comprehensive single stream recycling has been influenced by changes in in international trade agreements and a dramatic reduction in value and buyers of "dirty" single-stream recycled materials. Because of these market forces the capture of all potential recoverable recyclables falls short. This plan recommends education as the best means to increase recycling in the county. This education is best implemented under the direction non-profit organizations, citizen grassroot initiatives, local municipalities and state programming. Expanding the accepted recyclable items based upon markets which exist today, that were absent ten years ago when the previous LSWMP was developed is part of the education process. This plan acknowledges the fact that technology continues to change, and that market conditions continue to impact the rates and quantities at which recyclables can be absorbed. The previous recyclables recovery program has provided a viable foundation on which to existing recyclables recovery program, though now privatized, still stands.

## Financing mechanisms

Washington County does not subsidize solid waste management. Payments to the ERF have ceased, and all debt payments on the transfer/ recycling stations ended in 2018 with the sale of the Transfer Stations to Earth, Waste and Metal. Since the Board of Supervisors passed resolution authorizing the sale of all five County transfer stations and transferred operations to privately owned company Earth, Waste and Metal the budget has been reduced even further, related resolutions *Appendix 2*.

Privatized costs are internal to company management. The County does not currently have access to information about costs associated with waste management, other than existing programs by department and internal recycling contract with EWM. Biosolid waste management remains under the umbrella of the county sewer districts.

## Implementation

The Washington County Solid Waste Plan is a guidance document that reveals the structure and the gaps in countywide local solid waste management, particularly as they relate to waste reduction goals laid out in the state plan, *Beyond Waste*. The document serves as a baseline for future updates. Section 8 presents an inventory of local regulatory structures that impact solid waste management in Washington County. As the County no longer has oversight over waste management an implementation schedule is impracticable at the present time. However, aspects of implementation are addressed both in Section 9 that looks at waste reduction programming and Section 10 that considers the future of solid waste management. Section 10 includes a table of actionable items that could be used as a reference for programs that could progress the goal to move toward waste reduction, *Table 21*. The County will consider supporting initiatives to reduce waste on a case-by-case basis and in consideration of available resources. *Appendix 7*, Public Comment Summary, details the steps involved in adopting the Washington County Local Solid Waste Management Plan. The Department of Public Works Superintendent is responsible for all updates of the LSWMP as required by DEC. Washington County Planning will continue to partner with DPW to execute these updates.

**Table 18 Implementation**

| Event | Date |
|---|---|
| **DEC Adopt LSWMP** | 2020 |
| **Update LSWMP** | 2025 |

## Market Agreements

Volume sales and multi-stream collection of recyclables generally generate more favorable pricing. Market agreements are handled by private collection companies.

## Multi Stream Recycling Program Model

Earth Waste and Metal currently uses a multi-stream recycling model. Transfer/recycling station users are asked to separate their recyclables into specific categories. This is labor intensive for users and costly, which may affect the overall recycling rate. Several private waste haulers have implemented the single stream recycling option. Because of market pressures, dirtier single stream recycling no longer has the market demand it had in the past. However, it is a growing trend to encourage small scale recycling businesses to establish locally. Washington County has several businesses that fall within this category, *Table 15*.

## Organics Program Model

Many residents of Washington County currently use backyard composting. Cornell Cooperative Extension (CCE) currently offers information on backyard composting on their website. washington.cce.cornell.edu/horticulture-gardening/compost-resources. CCE supports composting education through their website offering educational opportunities throughout the year. NYS DEC offers resources to help businesses establish organic composting found at www.dec.ny.gov/chemical/96166.html These types of educational endeavors should continue. Should residents choose to compost their own waste, a significant portion of MSW can be diverted. Washington County is fortunate to have several private composting businesses that specialize in agribusiness waste.

## C&D Program Model

C&D waste constitutes a large portion of the waste collected at the transfer/recycling stations. As such, any beneficial use of C&D materials can greatly reduce disposal costs. For example, other counties have diverted bricks from disposal, crushed them, and used the product for road base. Asphalt shingles can be recycled and added to pavement, reducing asphalt costs. Several private C&D companies operate within Washington County, *Table 15 F*.

## Reuse of Materials

In 2010 the county developed a reuse center at the Jackson transfer/recycling station. Since then reuse centers expanded to other of the five transfer stations in the County now owned and operated by Earth, Waste and Metal. expanded this resource to all county operated transfer/recycling stations. As of Spring of 2018 Washington County through Resolution No. 129 approved sale of municipal transfer stations, *Appendix 2*. All five transfer stations are now privatized owned and operated by Earth, Waste and Metal. (fact check needed)

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# 8. Enforcement

With the sale of the county transfer stations to Earth, Waste and Metal the county currently has no enforcement oversight over solid waste management. Actions taken to reduce solid waste in the county is encouraged.

## Private Sector

According to available data private haulers pick up an estimated two-thirds of all MSW generated within the planning unit. As such, they play a primary role in solid waste management within the county. Looking at the quarterly hauler reports it has been found that the recycling rate among private haulers is significantly lower than that of the transfer/recycling stations. There could be several variables that contribute to this. Among these may be a result of improper reporting, failing to pick up recyclables and violation of the 1992 source separation law.

Because of the amount of MSW handled by private haulers, it is particularly important to ensure that they are following all local laws with regards to recycling and properly educating their customers. Better collaboration with private haulers could result in significant volume in the number of recyclables recovered.

Haulers and solid waste management companies are responsible for completing the authorizations with DEC. Unlike municipalities, private transfer stations do not qualify for registration under GML366-2.3 but are required to obtain a permit through the state. They are responsible for informing their customers of the proper procedures for disposal of MSW and recyclables. Consumers should expect that their paid private haulers are disposing of materials according to their advertisement and contracts with individual households and municipalities. DEC has specific rules and regulations that require inspections, annual reporting, registrations, and is available to contact for questions and complaints.

## Public Sector

Washington County has not managed municipal solid waste since 2018. Earth, Waste and Metal out of Rutland Vermont purchased the five county transfer stations. The County's willingness to work cooperatively with other county departments, community-based organizations, and other local, state, and federal agencies on a case-by-case basis is an economical means to meet community identified goals mutually limited resources. The flow chart featured as *Graph 9* defines the hierarchy of partnerships. Key to this is the valuable partnership with NYS DEC who is both a funder for specific municipal level initiatives and in the best position to regulate the private sector to ensure the fulfillment of the New York State's ambitious and crucial "Beyond Waste" goals.

## Laws/Regulations

### Comply with General Municipal Law section 120-aa

Washington County has compiled with General Municipal Law section 120-aa with the development of the 1992 source separation law that requires that recyclable materials are separated from refuse.

### Develop and Enhance Economic Markets for Recyclables Recovered within the Service Area,

While there are several potentially recyclable materials used within the planning unit, the size of the planning unit directly affects our ability to enhance economic markets for additional recyclables. A means to address this gap is to expand existing public resources, to provide education and through public-private partnerships whenever feasible.

### Identification of New or Modification to Local Laws, Ordinances or Regulations

No new local laws, ordinances, or regulations identified as necessary at this time

### Flow Control

Because Washington County does not own the disposal facilities, flow control is not feasible currently. Should the county become owner of a landfill or ERF, or show interest in pursuing such ownership, flow control should be further explored at that time.

### Hauler Licensing or Districting

All haulers must conform to the current State permitting law which provides the mechanism to track performance toward the stated reduction in MSW and increased recycling goals. Currently haulers are not regulated through districting.

### Interim SWM Measures

There are no interim SWM measures to report.

**Export Certification**

Much of the MSW collected at the transfer/recycling stations goes to the ERF located in Hudson Falls. Because Washington County does not own, operate or manage solid waste facilities the County is not obligated to obtain an export certification. This matter is the responsibility of Earth Waste and Metal who are private owners of the transfer/recycling stations.

**Local Regulations**

In Washington County local regulations related to solid waste management vary from community to community, *Tables 19 and 20*. Most municipalities in Washington County regulate land use via site plan and subdivision review except for five towns and seven villages that have adopted zoning regulations. Three towns fall within Adirondack Planning Agency (APA) jurisdiction.

Local municipal regulations cover a range of controls. Most common are related to solid waste facilities, solid waste disposal, dumping and land clearing. The Towns of Fort Edward and Hartford are two municipalities that have adopted regulation for recycling. The Town of Fort Edward regulates hazardous waste.

A few of the municipally adopted planning documents refer to public interest in environmental goals with the focus tending toward stewardship of lands and water. The Village of Cambridge 2004 amendment to the then Comprehensive Plan, most recently updated in 2009, mentions a Village Green Initiative. In the Town of Putnam's September and October 2019 Board meeting minutes there was recorded comments from one citizen who raised the topic of recycling. The following inventory of local regulatory controls show how local municipal governments in Washington County manage waste and encourage waste reduction via regulatory structures, *Tables 19 and 20*. This inventory may also serve as reference to municipal boards when they are considering revising or developing new solid waste management regulations.

**Graph 9 Administrative Structure Flow Chart**

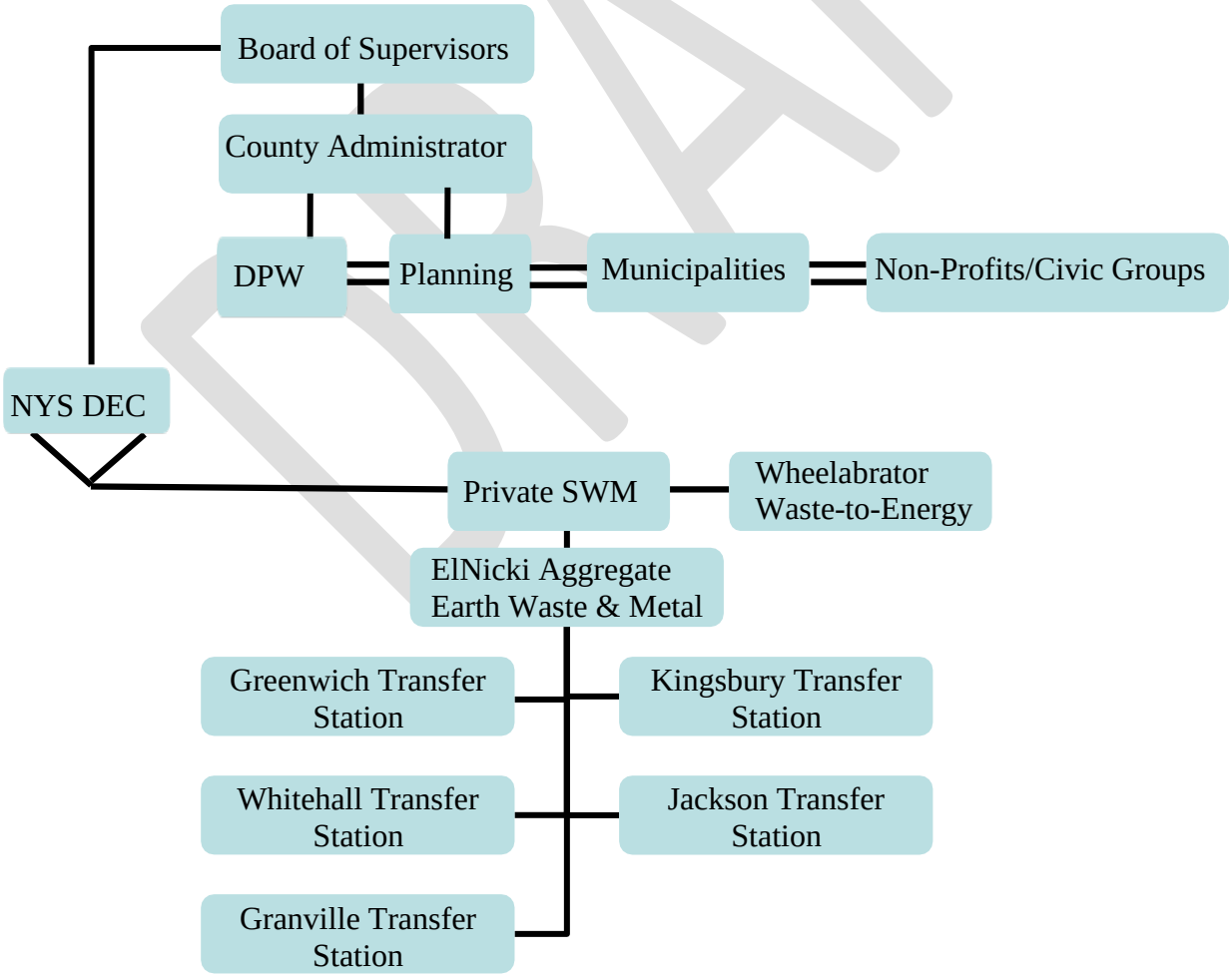

**Table 19 Town Waste Management Regulations**

| Municipal Solid Waste Management Regulations | | | | |
|---|---|---|---|---|
| Municipality | Solid Waste Management Regulation | Type | Other | Zoning Y/N |
| Town of Argyle | *LL1 2012 | Solid Waste Facilities | Master Development Plan 1991 p | N |
| Town of Cambridge | LL2 1987 LL1 2013 | Burning Garbage, Establish Landfill Dumping | | N |
| Town of Dresden | none | | | Y APA |
| Town of Easton | LL1 1964 | Dumping | | N |
| Town of Fort Ann | LL1 2003 LL2 2004 | Land Clearing Debris Moratorium Dumping & Land Clearing Debris Prohibition | | Y APA |
| Town of Fort Edward | LL4 1988, LL2 1991 Ch 82 ecode LL5 1990 Ch 79 ecode | Solid Waste Landfill, Facilities, Hazardous Waste Collection/Disposal Recycling | Comprehensive Plan 2005 p 47 | Y |
| Town of Granville | LL2 1998 | Solid Waste Disposal Facilities | | N |
| Town of Greenwich | LL1 2001 | Dumping | | Y |
| Town of Hampton | none | | | N |
| Town of Hartford | Code Chap 71 Article 1 ecode 115 | Solid Waste Treatment & Disposal (Waste | | N |
| Town of Hebron | none | | | N |
| Town of Kingsbury | Ch 64 Code LL4 1991 (1983 64-3) LL4 2005 CH 222 ecode | Solid Waste Treatment & Disposal (Waste Reduction/Recycling) | | Y |
| Town of Jackson | LL1 1987 | Limit Waste Disposal | Comprehensive Plan 2014 | N |
| Town of Putnam | none | | 9 & 10 2019 Town Board Meeting Notes: Citizen raised | Y APA |
| Town of Salem | none | | | Y |
| Town of White Creek | none | | Comprehensive Plan 2011 public interest in environmental goals | N |
| Town of Whitehall | LL1 2003 | Solid Waste Facility Moratorium | | N |

*LL=Local Law

Source: Washington County Planning Department Inventory

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**Table 20 Village Waste Management Regulations**

| Municipal Solid Waste Management Regulations | | | | |
|---|---|---|---|---|
| Municipality | Solid Waste Management Regulation | Type | Other | Zoning Y/N |
| Village of Argyle | none | | | Y |
| Village of Fort Ann | none | | | N |
| Village of Fort Edward | Ch 71 Code LL1 1988; LL2 2000; LL4 2013 | Solid Waste Disposal Solid Waste Disposal (amended) Solid Waste Collection & Disposal (amended) | | Y |
| Village of Granville | none | | Comprehensive Plan public interest in environmental goals | Y |
| Village of Greenwich | none | | Curbside recycling pick-up available, no regulation found | Y |
| Village of Hudson Falls | Ch 170 Code 1986; 1990's; LL1 2018 | Initial Solid Waste Code Several Amendments Permitting of Haulers | | Y |
| Village of Cambridge | none | | Comprehensive Plan Review 2009 amendment 2004 Village Green Initiative | Y |
| Village of Whitehall | LL2 1996; LL1 2011; LL2 2013 | Disposal of Solid & Liquid Waste; Rubbish & Garbage Law; Brush, Weeds & Grass Control | | Y |

*LL=Local Law

Source: Washington County Planning Inventory

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# 9. Waste Reduction Programming

Municipal Waste Management is no longer under the purview of the County and as such Washington County is without the resources to build, maintain or enforce waste management. Inventory of Waste Management Resources shows that there are currently local and municipal programs that support reduction and removal of waste from the waste stream. The waste management system detailed in this report relies namely both on the infrastructure already in place and the local municipal, non-profits and citizen grass- roots initiatives to advance the state's goals solid waste management.

With this said, it is the County's expectation that innovative programing to reduce and significantly eliminate the amount of waste generation from residential, commercial, industrial public and agricultural sources within the county will continue to grow through municipal, non-profit and citizen initiatives. Ongoing programs and potential improvements to waste management are encouraged. The County relies on partnerships such as the one forged between Washington County DPW and Planning to uphold 5-year updates to the State mandated Solid Waste Management Plan. The County also will continue to act as an intermediary as it has done with specific municipal concerns by helping to connect state resources and municipal need through grant assistance, guidance and research.

The State does not provide grant assistance to counties, not-for-profits or private entities to fund SWM coordinators. However, funding for a Recycling Coordinator through the Municipal Waste Reduction and Recycling Program (MWR&R) grant program is available Under this grant, DEC may reimburse 50% salary of a specific employee of a municipality, whether that be a town of village, who will coordinate planning, educational and promotional activities to increase public awareness of and participation in waste reduction and recycling. Municipalities also may request funding toward costs for recycling coordination, publications, education and outreach for recycling and waste reduction and the writing of a local solid waste management plan (LSWMP). More information about this program is found here: https://www.dec.ny.gov/chemical/105613.html

## Promoted Program Enhancements

Educational campaigns on the benefits of waste reduction, reuse, recycling and closed-loop waste management can be developed by municipalities and citizen groups, likely in partnership with DEC. Local community groups have historically promoted recycling and composting as methods to reduce waste generation within the County. Many of these volunteer community groups are interested in continuing to develop educational campaigns that relay the benefits associated with recycling and composting. Additionally, there is citizen interest in developing what is known as closed-loop thinking (Reference to William McDonough and Michael Braungart's book "Cradle-to-Cradle"). This is a strategy toward waste management that considers the lifecycle of a material. While the unfortunate reality is the County cannot offer fiscal resource to community initiatives; the County may be willing to apply existing resources that require no additional cost to partner on a case-by-case basis. For example, the County will consider creating a dedicated page on their existing website featuring key links to lead interested public to sustainable solid waste management educational resources.

Several schools in the county have developed recycling programs, which are often under the leadership of a designated teacher. With the technology that now exists in education, it is feasible to encourage clubs to develop videos of the recycling efforts that exist in their school that explain why they do it, and the impact that it has had on the school from both an environmental and financial perspective.

The county has hosted an annual household hazardous waste (HHW) disposal collection for residents in the past. With funding HHW events may be possible in the future. Nonetheless, neighboring jurisdictions offer a special day or several days a year where residents can turn in HHW. While this has been a costly event for neighboring planning units, the ability to properly dispose of HHW is much less expensive than the potential remediation costs required should the HHW be improperly disposed of and lead to contamination. The county may be able to provide online information for residents to properly dispose of HHW through other channels. New York State DEC offers guidance how to dispose of Household hazardous waste (HHW). https://www.dec.ny.gov/chemical/8781.html

## Procurement Policy

The County will consider acquisition of materials made of recycled content whenever they are a cost-effective alternative.

## Recycling Program Oversight

Earth, Waste & Metals continues the use of the transfer/recycling stations for collection of recyclables, municipal solid waste, C&D waste, yard waste and sewage sludge. All recyclables and solid waste have associated fees. Earth, Waste & Metals will sell recyclables at market prices.

Private haulers pick-up curbside. Some offer recycling services. Much of Washington County's solid waste is brought to the local waste-to-energy plant, Wheelabrator, to be burned. Wheelabrator recovers some metal.

C&D waste is disposed of at the most cost-effective locations

Biosolids will continue to be composted at facility managed by Washington County Sewer District II, *Tables 12 and 13*.

Oversight and enforcement of local municipal laws that address waste management in towns and villages in Washington County are the responsibility of the respective municipalities. DEC has centralized oversight over private sector haulers, waste management companies and waste generators.

## Organics Program Oversight

Several municipalities offer yard waste disposal and composting. Some yard waste is used as bulking material in the sewage sludge composting process Yard waste and brush is accepted at the transfer/recycling stations for a fee. Private companies such as Booth's Compost in Easton work with the agricultural community. An animal composting facility opened in Argyle in 2019.

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# 10. The Future of Solid Waste Management in Washington County

Washington County recognizes and supports the State's imperative to reach the goals set out in the "Beyond Waste" report. At the same time, lacking facility ownership, the County does not have resources to schedule specific goals and subsequently implement program specific solid waste management and enforcement (with exceptions of the management of sludge composting through Washington County Sewer Districts I and II, county department run programs such as the *Borrow a Bin* program managed by the Youth Bureau and organic composting educational resources provided through the Cornell Cooperative Extension website).

Solid waste management directed at the local municipal level and led by local citizen action groups is likely the most effective and comprehensive means to address solid waste reduction, both in terms of policy and program implementation. The primary mechanism the County could employ to support waste reduction is to serve as consultant to municipalities and citizens who seek grant funding for public education, data collection related to waste reduction.

Since fall of 2019 Washington Planning Department and Department of Public Works have partnered to complete this Solid Waste Management document and will continue this partnership to provide required five-year updates. Washington County Planning Department does offer municipalities support for grant writing and review at the discretion of the Director of Economic Development. Should municipalities choose to pursue waste reduction programs, the County can potentially consult and partner. Partnering will be evaluated on a case-by-case basis and can help local municipalities move forward with New York State goals laid out in its 'Beyond Waste' plan.

*Table 19* serves as public resource. The table itemizes potential actions that if implemented at the local level could advance both municipal and citizen goals to move "Beyond Waste". The table serves as guidance that delves into several potential initiatives that could significantly reduce waste but is by no means exhaustive.

**Table 21Actionalbe Items**

**key: $=potential money generating/saving enterprise**

| Program | Action | Guidance Organization | Funding & Guidance Links |
|---|---|---|---|
| **Organics Recovery** | | | |
| Gleaning | Food Waste Recovery | Comfort Food Pantry<br>Capital Roots | Non-Profit Partnership and Donation |
| Gleaning | Food Recovery<br>School Lunch Program | USDA | USDA funds |
| Gleaning/**$** | Farmers Market,<br>Community Gardens | CCE | Tax credits |
| Food Waste,<br>Reduction/Diversion | Food Donation/Food Scraps<br>Recycling Law | New York State/RIT | Food Waste R&D<br>Reimbursement Program<br>rit.edu/affiliate/nysp2i/collaborations |
| Composting/$ | Municipal Yard Waste Compost<br>Facilities & Equipment Share | Municipalities | NYSDEC Recycling Grant |
| **Public Programing** | | | |
| Educational | Backyard Compost | NYSDEC | dec.ny.gov/chemical/105608.html |
| Reuse/**$** | Flea Market, Consignment,<br>Garage Sales | Varies | Volunteers |
| Reuse | Reuse Swap Events & Sheds | Varies | Volunteers |
| Reuse,<br>Educational/**$** | Makerspace/Maker Club, Repair Cafes &<br>Fix-It Clinics | Varies | Partnership/Volunteers/Not-for Profit<br>repaircafe.org/en/<br>nationofmakers.us/resources.html |
| Advocacy | "Green Initiatives"<br>Sustainability Committees | Varies | Partnership (Public & Private)<br>Volunteers |

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| Program | Action | Guidance Organization | Funding & Guidance Links |
|---|---|---|---|
| **Public Programing (continued)** | | | |
| Educational | Library Programming (Films, Discussions, Recycle Right NY Promotion) | SALS | |
| Educational, Reuse/**$** | PREcycling Faire, Green Holiday Shopping Events | Varies | Partnership/Volunteers |
| Educational | Electronic Disposal | NYSDEC Website | dec.ny.gov/chemical/65583.html |
| Reuse, Educational | Material Exchanges | Non-Profits | dec.ny.gov/chemical/50126.html |
| Educational | NYRecycles | NYSDEC Website | dec.ny.gov/chemical/9110.html |
| **Economic Development** | | | |
| Opportunity/S | Zero Waste Retail | LDC Loans | wcldc.org/ |
| Opportunity/S | Recycle Markets | ESD | dec.ny.gov/about/92815.htm |
| Opportunity/S | Start-Up *Cradle-to-Cradle* Industry | ESD/LDC Loans | esd.ny.gov/innovate-ny-fund esd.ny.gov/innovation-technology-commercialization-fund |
| **Municipal/Public** | | | |
| Incentive/S | PAYT | NYDEC | dec.ny.gov/chemical/8502.html |
| Management | SWM Coordinator | NYSDEC | MWR&R Grants dec.ny.gov/chemical/105613.html |
| Regulatory/**$** | New/Amended SWM/Recycling Laws | Municipalities | |
| Regulatory/**$** | Haulers Permits | Municipalities | |
| Regulatory | Product Stewardship Municipal EPR Resolution | NY Product Steward Council, NYSDEC | dec.ny.gov/chemical/105608.html |
| Management | SWM Webpage | Municipalities | |
| Schools | Green Schools | NYSDEC, NYSAR3 | dec.ny.gov/chemical/8803.html nysar3.org/page/green-school-grant-program-16.html |
| Schools | NYS Green Ribbon | NYSED | |
| **Hazardous Waste** | | | |
| Commercial, Institutional | CleanSweepNY | NYSDEC & DOT | Partnership with Ag & Non-Ag Businesses & Schools http://www.cleansweepny.org/about.cfm |
| Household | Hazardous Waste Collection Events | NYSDEC & DOT | dec.ny.gov/chemical/8778.html |
| **Pharmaceutical Education Program** | | | |

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| | | | |
|---|---|---|---|
| Household | Prescription Take-Back Day | DEA | Partnership with Law Enforcement Agencies deadiversion.usdoj.gov/drug_disposal/takeback/ |
| Program | Action | Guidance Organization | Funding & Guidance Links |
| **Commercial/Retail Programs** | | | |
| Recycling | Retailer Take-Back | NYSAR/NYDEC | dec.ny.gov/chemical/8502.html nysar3.org/page/other-take-back-programs-83.html |
| Business/**$** | Handmade Market | | _ |
| **C&D Waste/Construction Programs** | | | |
| Reuse | Habitat for Humanity Restore | Not-For-Profit | .habitat.org/restores/shop |
| Innovation | LEED Certification (e.g. schools) | USGBC New York Upstate NYSDEC/EPA | usgbc.org/chapters/usgbc-new-york-upstate archive.epa.gov/greenbuilding/web/html/funding.html#national2 |
| Innovation | Green Landscape | NYSDEC | dec.ny.gov/public/44290.html |
| **Agriculture** | | | |
| Business/$ | Ugly Produce | SBA | sba.gov/funding-programs/loans |
| Business/$ | Value Added Products | USDA | ams.usda.gov/services/grants/lfpp rd.usda.gov/programs-services/value-added-producer-grants/ny hnifa.usda.gov/program/small-business-innovation-research-program-sbir |
| Donation | NYS Farm to Food Bank Tax Credit | Tax & Finance | tax.ny.gov/bus/farm-donations-credit.htm |

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## Appendix 1 Earth Waste & Metal (EWM) Washington County Brochure

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# Appendix 2 Washington County Municipal Solid Waste Management Resolutions

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## Appendix 3 Directory of Haulers

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# Appendix 4 Washington County Municipal Solid Waste Management Regulations

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## Appendix 5 DEC Municipal Solid Waste Disposed & Recovered Calculator Results

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# Appendix 6 Capacity Data

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# Appendix 7 Public Comment Summary

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**Appendix 8 Meeting Minutes (**Need to Assemble**)**

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