How to collect and submit diversion & disposal data for SWIP Reports:

According to the Vermont Materials Management Plan (MMP), Solid Waste Management Entities (SWMEs) are required to do the following:

> "SWMEs will track and report <u>diversion rates biannually</u> and <u>disposal rates annually</u> **for their region** as it pertains to the materials discussed in the subsequent chapters of the MMP."

The Agency of Natural Resources (ANR) is tasked with providing the standard form or method that SWMEs will use to complete this annual and biannual requirement. The benefit of having a standardized method for all SWMEs is twofold. When SWMEs collect disposal and diversion data using the same method year-to-year, comparable datasets are generated that help inform the direction of individual programs. Likewise, having all SWMEs in the State use the same method to collect their data allows ANR to better compare Vermont's regional progress in waste reduction, and evaluate where improved services are needed.

This sheet provides an overview on how SWMEs are expected to compile and submit data for their annual SWIP Reports. Ultimately, the process has been simplified to the following:

1. Disposal rate will be determined using a new analytical report in Re-TRAC. This process will be standard for all SWMEs. The report pulls together regional data. Light manipulation and addition of the aggregated data by SWMEs will be necessary to arrive at a final regional disposal rate.

2. Diversion rate (reported biannually) will be estimated individually by SWMEs using a variety of suggested methods. There is flexibility in how SWMEs choose to report diversion rates because it is more challenging to track than MSW.

It is not crucial for SWMEs to report diversion rates in a standardized manner, because it remains that the **per capita disposal rate is the ultimate measure of waste reduction for a region.** Per capita diversion rates alone do not signify great improvements in materials management. Diversion rates can increase significantly while disposal rates continue to increase. Thus, there will be a **focus on quality disposal rate reporting annually** for each SWME region.

How should my district/alliance/municipality compile necessary data?

Annual Disposal Data
Disposal data will be compiled using a new analytical tool in Re-TRAC. This tool will be made available to SWMEs in February 2015, and ANR will conduct trainings around the state on how to use it (as well as conduct refreshers on other Re-TRAC functions). Detailed instructions on how to use the report will be available in February to those who attend trainings, and available online for those who are unable to attend.

TOOLS NEEDED:
- ✓ Microsoft Excel
- ✓ An account on Re-TRAC Connect

HOW IT WORKS:
Every solid waste facility in Vermont has legal requirements to report the amount and kinds of materials handled, processed, or transferred at their facility each calendar year. This includes transfer stations, drop-off centers, recycling facilities, composting facilities, and asphalt, brick, and concrete processors. All facilities report to ANR using Re-TRAC.

The new analytical tool that will be made available to SWMEs consists of two modules: a "Vermont Material Generation Report" and a "Vermont Material Destination Report." SWMEs will use the first module to filter all data submitted to ANR during a specific calendar year to display results that only show: **municipal solid waste** (material type) **accepted at any facility in Vermont** (all members selected) that came **from a specific town or SWME region** (municipalities served).

The snapshot below shows an example of what part of the report configuration would look like for Addison County Solid Waste Management District (ACSWMD) for CY 2014. MSW is the only material type selected, and the towns/regions selected would be ACSWMD and all individual member towns, like Addison, Bridport, Cornwall, etc.

The resulting report is a filtered set of data that shows all MSW reported as coming from Addison County SWMD and its member towns. The data will then be exported to Excel and manipulated lightly to assure that double-counting does not take place, and tabulated to generate a final disposal tonnage for the region. The population of the SWME region must be obtained from the U.S. Census Bureau estimates and used to calculate a per capita disposal rate for the calendar year.

Note: "Municipal solid waste" does not include special wastes or biosolids.

HOW TO SUBMIT:
Ultimately, ANR will be looking for two numbers to satisfy this portion of the annual SWIP report:
1. Total tons MSW disposed from region
2. Per capita MSW disposal rate from region

These two numbers can be entered into the Annual SWIP Reporting Form (to be supplied at a later date) under *Annual Disposal Data.* The form will likely be made available through Re-TRAC.

TIMING:
The first SWIP Report—which includes annual disposal rate data for the SWME's region—is due July 1, 2016 (or one year after official adoption of a SWIP; whichever is earlier). The data submitted with the report will therefore be 2015 calendar year data.

Biannual Diversion Data

The method for diversion is not standardized across all SWMEs. ANR encourages SWMEs to use the following table as a guide for collecting information and data on diversion activities. Each row represents a main method used for materials diversion in Vermont, including marketing of materials (from solid waste facilities [A] and directly from businesses [B]); reuse of materials in alternative projects [C]; and backyard composting [D]. The total of all four groups [A+B+C+D] represents the approximate diversion tonnage. The diversion tonnage and per capita diversion for a SWME's particular region are the figures that must be submitted bi-annually.

EXAMPLE TABLE FOR DIVERSION REPORTING *Adapted from Vermont Diversion & Disposal Report for CY2013*

(in tons)	Fibers	Containers	Single Stream	Scrap Metal	Organics	Miscellaneous
A- From Reporting Facility to Market						
B- Estimate of Direct to Broker or Market (Economic Recycling)						
C- Reported Reuse Activities						
D – Estimated Household Composting						

Data comes from what is collected at facilities in your area; some data can be found in Re-TRAC, or by direct reports from facilities to SWMEs (if applicable).

Data comes from businesses or manufacturers in region that are willing to share recycling data; some SWMEs have authority in their ordinance to require certain large businesses to report.

Some re-use data can be found in Re-TRAC. Other source is to connect with public works entities for info on re-use of glass in construction projects, etc.

Total Diversion (Sum Row A + B + C + D) **: _____**

HOW IT WORKS:

ANR encourages SWMEs to share methods on best techniques for gathering recycling estimates at the point of generation. Some SWMEs may already have a system in place for gathering data; others may need to make a fresh start. Here is a list of suggested methods for collecting recycling estimates and existing data by diversion group type:

A—From Reporting Facility
- Use the Vermont Material Destination report in Re-TRAC to view recycling tonnages reported as outgoing from facilities in your region (note: make assumption that most source tonnage comes from area of jurisdiction)
- Work with facilities in your area to improve records of the sources of incoming loads/drop-offs of divertible materials (improve source data)

B—Estimate of Direct to Broker or Market (Economic Recycling)
- Phone Survey – Attempt to achieve contact with a certain percentage of businesses in your area; determine who uses a local processor or who contacts a broker directly; collect estimated volumes/tonnage
- License large businesses—As an example, CSWD has a clause in their ordinance that allows the district to require reporting of diverted materials from certain large businesses of their discretion. License fee is $10.
- Many businesses are willing to share their recycling data—make the connection with the large supermarkets, businesses, etc. in your area and maintain the relationship with an annual check-in.
- Bottle bill estimate for your area: use the estimate of diverted containers within the entire Vermont system (approx. **17, 480 tons**) each year, and interpolate an estimate for your area using the population of your region against the population of the entire State. The Bottle Bill estimate is supplied in Table 40 of the Act 148 Systems Analysis Report (2013, DSM Environmental).

C—Reported Reuse Activities
- Use basic facility reporting data in Re-TRAC
- Same methods as group B

D—Estimated Household Composting
- Compost bin sales (likely an underestimate)
- Regional phone survey
- Use results of survey that must be completed in first 6 months of SWIP adoption to estimate percentage of households that compost. CSWD's latest Household Survey (2011) showed that 44% of residents in Chittenden County compost food scraps at home, and 55% compost yard trimmings.
- DSM Environmental made a conservative estimate that average households produce 350 pounds of food waste and 250 pounds of leaf and yard debris annually in this 2001 study (pg. 16). Estimate the percentage of households in your area that backyard compost, and apply that percentage to the number of households in your area (U.S. Census data). Finally, multiply the average pounds of organics diverted per household by the number of households composting.

Scrap Metal Processors:
- Recommendation: Capture scrap metal that has been collected at **solid waste facilities** and through **economic recycling** in your region at minimum. This is currently the philosophy the State is adopting; capture materials that pass through our permitted system.
- If you would like to "get credit" for scrap metal recycling going on salvage yards and other processors in your area, consider these options for collecting data:
    - Compile list of scrap metal processors in region; survey a percentage of them for estimated tons of scrap metal recycled per year (or transported to other scrap metal processing facility

- Alternative approach: reach out for appliance and steel packing recycling from Steel Recycling Institute or EPA (though likely yield a lower estimate)

HOW TO SUBMIT:
ANR will be looking for SWMEs to submit the total diversion estimate for their area (in tons) and the per capita diversion rate, as well as a brief description of the methods used to obtain the data. SWMEs <u>do not</u> need to submit a version of the diversion table presented above; the table is meant to act as worksheet that helps SWMEs develop a total diversion estimate. The figures will be entered into the Annual SWIP Reporting Form under *Bi-Annual Diversion Data* if it is a reporting year for diversion (i.e. 2017, 2019, etc.). Again, the reporting form will likely be made available through Re-TRAC.

TIMING:
The first SWIP Report that will require estimated diversion data for a SWME's region will be due July 1, 2017 (or two years after the official SWIP adoption date). The estimates submitted with the report should reflect calendar year 2015 or 2016.

What if my region already collects and produces these metrics?

If your SWME already collects information for disposal and diversion in your region annually, you may submit those numbers to satisfy the regional disposal and diversion data requirements of the yearly SWIP report. A brief description of the methods used for disposal and diversion will also need to be submitted.

However, for the **first SWIP Implementation Report** (due 2016, one year after SWIP approval), all SWMEs are asked to submit disposal tonnages for their region **using the method prescribed in this document**. This will provide baseline data amongst all SWMEs for Year 1, and allow the State and SWMEs to evaluate gaps in data collection methodologies to continue to improve current systems.

I don't think this is very accurate. What's the point?

There are obvious challenges with regional data collection. However, the main goal of this MMP requirement is to have a method that all SWMEs can use to estimate disposal rates in their area. This method is accessible by all parties, and does not interfere with ongoing efforts. Instead, it builds upon the growing data collection system and seeks to improve our collective understanding of it.

Recognized challenges:
The way solid waste is handled, priced, and transported in different corners of Vermont varies greatly, and materials move fluidly between towns in a landscape of private and public service providers, many of whom are not familiar with which towns are members of which solid waste management entity.

Other recognizable challenges are:
- Haulers do not always report every town that was served on route; generalizations are made
- Franchise fee on trash encourages accurate reporting of MSW; there is no incentive to get diversion right
- SWMEs vary in their ability to compile data depending on number of private facilities in area vs. publicly-owned
- Some MSW gets hauled directly out-of-state by private haulers; not captured on regional-level by Vermont reporting system
- Regions without a district surcharge may see increased tonnage attributed to avoid payment by hauler of surcharge
- Etc.

How do I calculate the population of my town or region?

The U.S. Census Bureau projects population figures by town based on the most recent Census data and predicted growth rates. For updated figures for Vermont, visit the [dataset webpage for Vermont](#) at the U.S. Census Bureau website.

To estimate the seasonal population in your area, visit the [Vermont Housing Finance Agency's database](#) and search for housing stock data by city/town (entering the towns/cities in your region one by one). The database will return information on the number of vacant housing units "for seasonal, recreational, and occasional use" for the town or county typed into the search, based off of most the recent Census data (2010). Multiply this number by the average number of people per household for Vermont (2.24 persons/household) to return the seasonal population for that town/county. Add the seasonal population to base population when calculating per capita disposal and diversion rates.

Additional Resources:

Attached to this document is a downloadable ZIP folder that contains a few resources to help SWMEs with disposal and diversion data collection and reporting. The resource folder can also be downloaded on the [Solid Waste Program web page for municipalities](#). Below is a list of the resources contained in the folder.

- **Sample Cover Letters:** The E.P.A. provides great sample cover letters that can be sent to businesses to ask for voluntary reporting of materials recycling. Copy and paste the text the Word if you like what you see, re-format to meet your needs, and print mailings as needed. The first cover letter (page 145) appears to be the most pertinent to the needs of Vermont SWMEs, since all staff will be able to access facility reporting data.

- **Survey Form for Large Businesses:** The E.P.A. provides a survey form that may be found useful for obtaining voluntary recycling data from large businesses. The form is highlighted to show what SWMEs would fill out, and gray rectangles block out data entry blocks that would not be pertinent to large businesses. Use drawing tools in Adobe Acrobat reader to highlight areas you would want businesses to fill out.

- **Conversion Factor Sheet:** A conversion chart from the E.P.A. showing approximate volume-to-weight conversions for common MSW materials.

- **Vermont Household and Population Data (2010 Census) by SWME Region:** The Solid Waste Program has to organize Census data every few years in order to calculate population and household data by SWME region for grants, HHW/CEG reports, and more. We pass on this information to you since it's already been done!

CONTACT:

If you have any questions or need assistance, please call the Solid Waste Program staff at 828-1138. Please e-mail any SWIP questions to: ANR.DECswip@state.vt.us

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