Martha's Vineyard Solid Waste Report 2024

MARTHA'S VINEYARD COMMISSION

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Above: Food waste on the way to becoming compost; finished compost at Island Grown Initiative.
Photos by Randi Baird.

Martha's Vineyard Solid Waste Report

August 2024

Introduction

This report seeks to provide information on our current solid waste stream, as well as ideas and thoughts derived from a recent Cape Cod study that can help inform our approach.

The world of solid waste disposal is changing. Studies of our waste stream have been done in the past on the Vineyard and a more recent one was done for the Cape. Gathering decision makers, Island waste experts and haulers together could provide an opportunity to review our present conditions and chart a course to best handle our waste stream now and into the future. Such an approach will allow us to plan for best practices in the handling of our waste from an economic and environmental perspective.

Our Story

Solid waste on Martha's Vineyard is handled by two different entities: the MV Refuse District (Edgartown, West Tisbury, Chilmark, and Aquinnah) and the two-town district, consisting of Tisbury and Oak Bluffs. There are two transfer stations: one at the Refuse District on the West Tisbury-Edgartown Road and one at the Oak Bluffs landfill. There are local drop-offs in each of the six Island towns.

The Refuse District is permitted to process up to 150 tons/day and is regulated by the Massachusetts Department of Environmental Protection (MA DEP). The Oak Bluffs Transfer Station is permitted to process up to 49 tons/day, on average on an annual basis, and is regulated by the Oak Bluffs Board of Health. This limit means that it is no longer regulated by DEP.

It is estimated that in 2023, 852 trucks went off-Island with solid waste and 464 with construction and demolition waste, for a total of 1,316 trucks. According to the Steamship Authority, an additional 794 trucks went off with recyclables.

All of the waste, for both districts, is taken off island by Bruno's Rolloff Inc. The municipal solid waste is taken to an incineration facility that began as SEMASS and is now Reworld Waste. It has been said that if we brought our waste to this facility as one Island, we would get a better rates.

In 2023, an estimated 2,110 trucks went off-Island with waste and recyclables, or the equivalent of about 260 freight boats.

Recycling

Recyclables are a commodity. Demand for materials fluctuates, and therefore the value of the material varies. The one constant is that the better sorted and packaged the materials are, the higher their value is.

- Cardboard and metals, including aluminum cans, are the most valuable; plastics and glass can be difficult to find markets for. We used to ship much of our plastics overseas to Asia, but Asian facilities are no longer interested in our materials and more recycling companies have had to be developed in the US.
- The value of our recyclables is also dependent on what is in the load: if there is too much in the load that is not recyclable, the load will be rejected and we pay full price to dispose of it as solid waste.
- Conversely, we are required to meet a certain standard of recycling by the State. If there are too many recyclables in our municipal solid waste, the staff at the Refuse District must try to pull out recyclable material from the tipping floor.

Right now, it costs more to dispose of recyclables than trash. If we sorted our recyclables, we might get more value.

We separate the following items from the general waste stream for recycling or re-use:

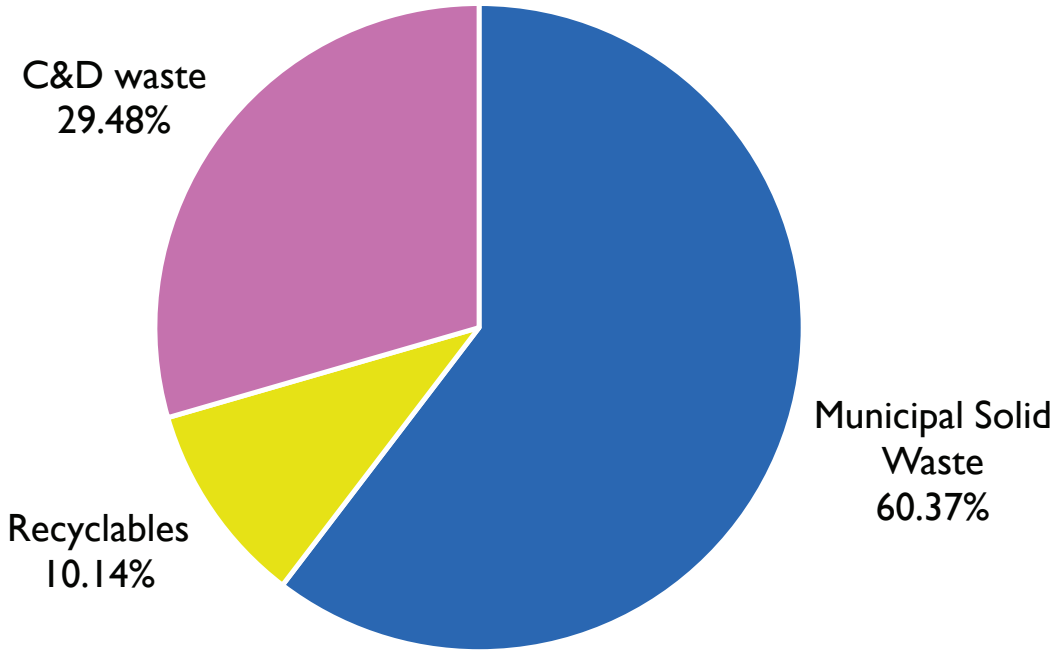
- **Single-Stream Recyclables.** These are taken to a Materials Recovery Facility (MRF) for sorting. They include glass, plastics, aluminum, tin cans, and in the case of the MVRD, mixed paper and cardboard.
  - ◊ The Tisbury and Oak Bluffs District takes its mixed paper and cardboard to other facilities and gets greater value for them. The MVRD is now permitted to expand its facility, which will provide more opportunity to take advantage of such markets in the future.
- **Metal.** This is a very valuable portion of the waste stream and includes plumbing pipe, hot water heaters, lawn mowers, bicycles, and miscellaneous metals.
- **Freon Units (refrigerators and dehumidifiers).** These are shipped off-Island in a special box and the oil and gas are evacuated from them at an off-Island facility.
- **Tires.**
- **Batteries.**
- **Electronics, CRTs, and TVs.** There is also an annual Electronics Disposal Day run by Community Services.
- **Textiles and Clothing.** West Tisbury has the Dumptique; Vineyard Haven has Chicken Alley and the Act Two Second Hand Store; Oak Bluffs has Second Treasures MV; Edgartown has Rags; and Chilmark recently ran a textiles collection effort.
  - ◊ There are Red Cross boxes at the down-Island Cronig's, the West Tisbury School, Oak Bluffs Transfer Station, Tisbury Shell Station, Chilmark Community Center, Airport Laundromat, Your Market in Edgartown, and the Refuse District Transfer Station, also in Edgartown.
- **Food Waste.** Food waste is a significant portion of our waste stream, and it is heavy.
  - ◊ The Island Grown Initiative (IGI) farm on Stoney Hill Road in Tisbury has been a test pilot sire for food waste since 2018. Collection sites for residential food waste are available at each transfer station/local drop-off. Bruno's picks up this waste and delivers it to IGI. Bruno's also has a weekly pickup route of local restaurants, schools, the hospital, and non-profits. To date, IGI has processed more than 1,000 tons of food scraps, but due to equipment failures it will be discontinuing this effort as of September 1, 2024.
  - ◊ Currently, there is no alternative site to compost the food waste, although the MV Organics Recovery Committee (MVORC), which formed in 2014, is working on both long and short-term solutions. Long-term plans are in motion for a specific site that is being evaluated to maximize processing capacity. The next stages will include design, permitting, and construction. In the meantime, and to maintain the momentum built by the MVORC and IGI, a variety of sites and waste food handling technologies that can be deployed more quickly are also being explored.
  - ◊ The MA Dept. of Environmental Protection (DEP) has a regulation that requires the composting of commercial food waste. This applies to restaurants and grocery stores that produce more than a half-ton of food waste per week. In a 2017 study, it was estimated that the Island generates 6,500 tons of food waste annually, of which one third is commercial food waste. There may be a time in the future when the DEP starts regulating disposal from residents as well.
  - ◊ Some food waste is also diverted through Fork to Pork, which collects food scraps from local establishments and feeds it to pigs. Fork to Pork diverted about 30,000 gallons (57 tons) of food waste on the Island in 2023.

Separating and diverting food from the waste stream is a priority for MassDEP.

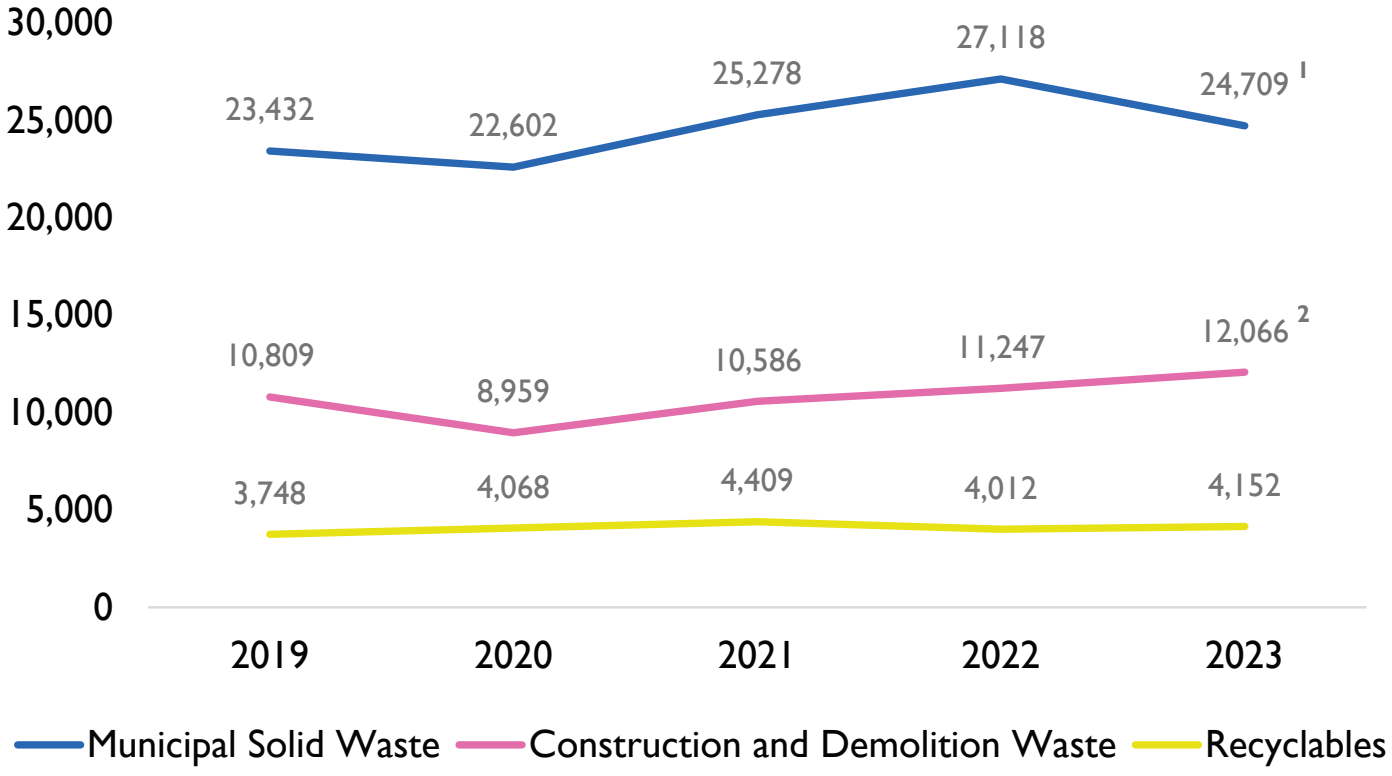
- **Brush and Wood.**
  - ◊ This is collected and brought mostly to John Keene Excavation in West Tisbury for composting.
  - ◊ The MV biochar pilot project funded by the MV Vision Fellowship has begun to process some of this waste to produce biochar, the material left over from burning wood in a controlled environment, which can be added to soil to increase its ability to retain water, nutrients, and carbon.
- **Grass and Leaves.** Landscape companies have various ways of disposing of grass, leaves, and other yard waste. Some goes to farms, some to the Refuse District, and some to other sites that accept them, including John Keene Excavation, Morning Glory Farm, and IGI.
- **Mattresses.** The State now requires that mattresses be separated from the waste stream. Our mattresses are being recycled, with a very small portion upcycled.
- **Construction and Demolition (C&D) Waste.** This is a significant portion of our waste stream. Bruno's handles most of it via roll-offs and dumpsters that are supplied to job sites.
- **Concrete, Asphalt, and Brick (from demolition sites and road projects).** Goodale's and Kenney's Ready Mix take all three of these from demolition sites and chop them up for rap for roadbeds. White Bros/Lawrence Lynch takes asphalt for the same purpose.

Waste Stream (Major Categories) by Weight, 2023

All units in tons.



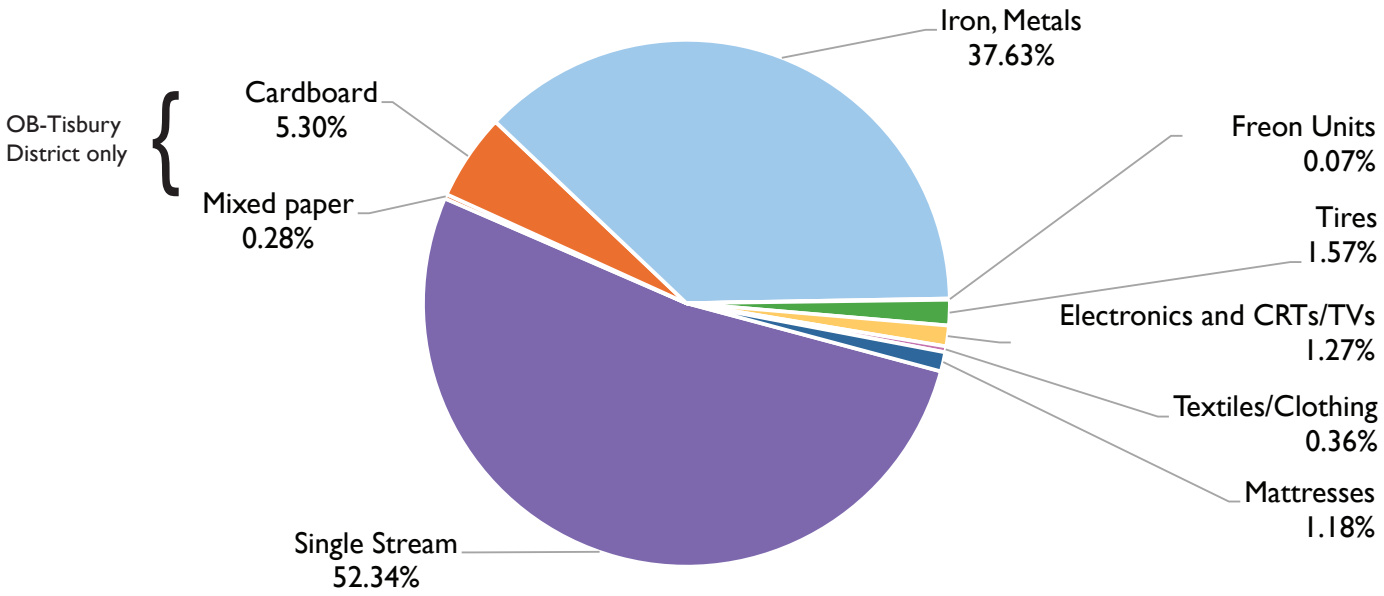
Municipal and C&D Waste, and Recycling 2019-2023



1 Equivalent to 852 29-ton trucks.
2 Equivalent to 464 26-ton trucks.

Recyclables, 2023

(Percent by weight; see page 2 for category descriptions)



Possible Areas of Concern

As options for regional handling of waste diminish, costs will increase.

- **Waste is being hauled to the western and southern parts of the US.** Having to haul waste further away means that the cost of disposing of our waste may increase dramatically in coming years.
- **Big trash companies are moving in.** These companies are looking for places with railcar/haul capacity. They are purchasing supersize landfills as well. There is an issue already with railcars being able to ship trash, and there are just two bridges across the Hudson for shipping trash by rail to the west. Waste Connections has a monopoly on Cape Cod. They have bought Harvey, ABC, and Nauset Disposal; and Harvey and ABC on the Vineyard. There are other big trash companies as well.
- **What effect will this have on our disposal options in the future?** If the future of trash disposal is in transporting materials to different parts of the country, are there infrastructure or other concerns that we should be aware of that could have significant impacts on prices, etc.?

Opportunities

The State is aiming to reduce waste, and is offering grants to support this goal.

We could reduce our waste by:

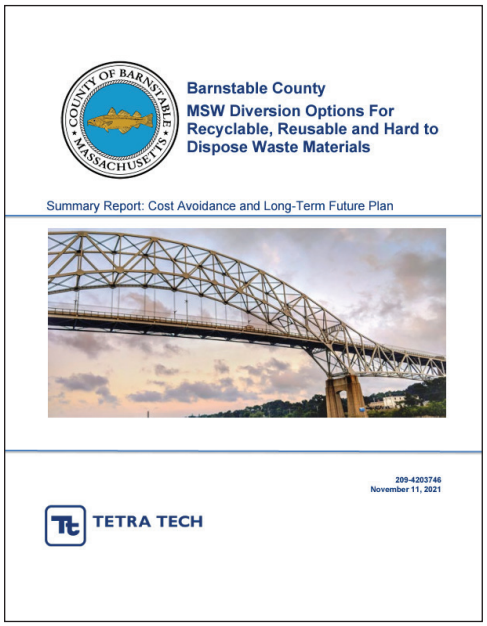
- **Composting**—State regulations currently focus on commercial food waste, and will apply to residential food waste at some point. With IGI closing its operation, another location is needed for composting. This could reduce the number of truckloads that we ship off-Island. Locally produced compost will answer the demands of farmers, landscapers, and gardeners, and reduce our reliance of off-Island sources.
- **Textiles**—The West Tisbury Dumptique has been a successful model for textile re-use. Should we be expanding this model?
- **Glass**—Glass is heavy and currently not very valuable. We have examples regionally of how to re-use it. Dennis crushes and tumbles their glass for use on sub-roadways. Could we do this here?
- **C&D waste**—Should we develop a way to extract valuable components of our C&D waste before shipping the rest off-Island, or should we join a regional effort?
- **Other approaches**—Are there other products that could be separated to make a business for someone?

These questions might result in the need for a more thorough waste stream analysis. This will become more necessary as we try to assess what materials we can divert from the waste stream and what the costs/returns could be by removal/diversion.

Questions to Consider

- **How do we reduce waste?**
  - ◊ **How can we set ourselves up to be prepared for upcoming State mandates with regard to solid waste and reduction of our waste stream?**
- **How can we reduce cost?**
  - ◊ **Can we break down the components in our waste stream in a manner that reduces cost?**
  - ◊ **Can we increase savings using the existing structures that are in place, or do we need to add to what we have?**
- **How can we better handle the separating of materials?**
  - ◊ **We have limited land area in which to process waste, whether for composting or separating various aspects of the waste stream for better and more valuable disposal.**
- **Should we work together?**
  - ◊ **Working together might result in reduced disposal fees and make it possible to concentrate our efforts with different sites handling different materials.**
  - ◊ **Should we explore consolidation of waste collection and hauling to reduce prices? If so, should this be done by the municipalities or by a private business?**
- **Do we need to reclassify lands to allow for things like composting, storage of building materials, or other aspects of the waste stream? Finding sites for these uses right now on the Island is almost impossible.**
- **Are there portions of the waste stream that we should process in collaboration with the Cape?**
- **Is a consultant needed to help us determine the answer to the questions this report raises?**

2021 Cape Study



Barnstable County and the Cape Cod Commission retained Tetra Tech of Pasadena, CA (and GeoSyntec Consultants of Acton, MA) to conduct a high-level analysis of the County's municipal solid waste (MSW) diversion options for recyclable, reusable, and hard-to-dispose waste materials. While mostly about the Cape, Martha's Vineyard was included in some of the analysis, and many of the insights, observations, and suggestions have some relevance to us.

The introduction to Tetra Tech's report (available at https://shorturl.at/oNpws), states: "The regulatory climate is very challenging to permit new or expanded landfill capacity in Massachusetts. Moreover, waste-to-energy facilities are under increasing scrutiny due to air pollution concerns and directives to reduce greenhouse gas emissions. **As a result, there will likely be fewer and fewer disposal options that are accessible to the Cape and Islands communities, which will result in increasingly higher disposal and transportation costs."**

Following are excerpts from the report that are relevant to us. (All of the text is from Tetra Tech, with some reformatting for clarity, and added notes in italics.)

Waste Disposal Opportunities Lessening

Historically, landfilling and waste-to-energy have been the long-term, cost-certain, and environmentally compliant solutions for the management of waste. The regulatory climate moving forward has demonstrated an increasing reluctance to permit new landfill capacity in the Massachusetts region. In addition, waste-to-energy facilities are continuing to be under scrutiny from air permitting and greenhouse gas emission perspectives. Moreover, it is increasingly likely that future state regulations and planning efforts will mandate additional portions of the waste stream, in both quantity and quality, be diverted from disposal.

As a result, it is likely that over the longer-term planning horizon that Cape and Island communities will have fewer final disposal options that will be conveniently located and accessible, and it will become increasingly uncertain if the region will have access to recycling or waste diversion infrastructure sufficient to meet (what is likely to be) ever increasingly stringent diversion mandates. This would result in increasingly higher disposal and transportation costs and challenges in meeting state diversion mandates.

Industry and Regulatory Shifts

Paradigm shifts in solid waste management have occurred over time. While we continue to have landfilling and waste-to-energy as waste solutions, the paradigm for materials management continues to evolve as markets shift and new technologies become available allowing us to realize a larger fraction of value from resources that are discarded, bringing us to a more circular infrastructure and economy.

The Massachusetts Department of Environmental Protection (MassDEP) will continue to set aggressive waste reduction goals and strive towards a zero-waste future in Massachusetts. Moreover, solid waste disposal options and capacity in Massachusetts and throughout the region are increasingly limited, which will result in progressively higher disposal and transportation costs.

Key Points from the Report

- Identifying land to locate potential future technologies will place the Cape and Islands in the best position to take advantage of regional waste management opportunities and potential funding sources.
- The markets are dynamic with current levels of waste generation and market prices fluctuating. The current trend of mergers and acquisitions in the solid waste industry and impacts of COVID-19 make it even more challenging for communities to manage their municipal solid waste stream cost effectively and to plan for the future.
- Climate mitigation and greenhouse gas emissions will be an integral element in infrastructure. Reuse and recyclable content could be a priority in infrastructure projects to help meet environmental, sustainability and climate goals.
- Changes in global recycling markets have led to tight recycling capacity, enhanced commodity quality requirements, depressed prices, and increased recycling costs in the Commonwealth.
- Solid waste disposal capacity in Massachusetts is becoming increasingly limited. As disposal options continue to decrease, it will get more logistically difficult and costly to transport waste to final disposal sites.

- Dwindling disposal capacity has weakened the resiliency of Massachusetts waste disposal infrastructure, and facility outages that were routine in the past are causing frequent operational challenges. Routine maintenance outages at area waste-to-energy facilities are increasingly causing down-stream hauling and disposal challenges as the logistical disposal network scrambles to accommodate these transient shortfalls.

The State Solid Waste Master Plan 2030

[This plan] establishes the Commonwealth's policy framework for reducing and managing solid waste that is generated, reused, recycled, or disposed by Massachusetts residents and businesses, and proposes a broad vision and strategies for how the Commonwealth will manage waste over the next decade and beyond.

In accordance with the requirements of Massachusetts General Law Chapter 16, Section 21, the Massachusetts Department of Environmental Protection (MassDEP) issued the final State Solid Waste Master Plan 2030 with established goals to reduce disposal statewide

- by 30 percent, from 5.7 million tons in 2018 to 4 million tons in 2030 over the next decade.
- 90 percent reduction in disposal to 570,000 tons by 2050.

Longer-Term Future Plan

In the State Solid Waste Master Plan 2030, the MassDEP targets waste reduction goals with significant additional diversion potential on a per ton basis. MassDEP identified priority material categories of recyclables, food material, textiles, mattresses, and bulky materials as opportunities for local market development, and potential use of existing underutilized waste transfer capacity should be considered to manage these materials locally or regionally. This will include phasing out single use disposable products and packaging, while developing local market opportunities through reuse and donation.

Options for Infrastructure

The County *(Barnstable)* should consider becoming more actively positioned to respond to the evolving issue of disposal capacity moratoriums, diversion mandates, and their effects on waste collection and processing costs as towns will be individually at a disadvantage to comprehensively address these challenges. This could apply to us too.

The County should work with Cape and Islands towns to gauge their interest in the potential development of a Waste Diversion Cooperative infrastructure to service all residents, seasonal population, visitors and commercial businesses and entities.

Future recycling/diversion mandates that may be imposed. *Since the report, there appears to have been a shift towards fewer bans. Instead, companies are coming forward to build markets with items that are currently being disposed of. Following are some of Tetra Tech's concerns in the 2021 report.*

- Organics diversion mandates are becoming more common because it typically represents the largest proportion of the waste stream. Important considerations for organics diversion are processing systems, quality of end use product and local market development.

- Material Performance Standards (MPS) on C&D material has been recently codified and is expected to continue evolving in terms of its long-term impact to the existing C&D management infrastructure in Massachusetts. *Organics diversion and C&D management are two of the low-hanging fruits that Massachusetts has identified, and may make the most sense for us.*

- Materials recovery facilities (MRFs) have been in a state of flux since the 2017-2018 upheaval in commodity markets resulting from contamination issues. Moving forward, Material Performance Standards (MPS) may also be targeted to be codified for recyclable materials collected at transfer stations and from curbside collection programs. As a result, there may be a statewide re-evaluation of recyclables collection and processing, such as the re-emergence of dual-stream recycling or other enhanced processing methods, to reduce contamination and promote higher material quality end-use material.

Future implications of landfill/incineration moratoriums:

As in-state landfill or incineration capacity decreases, the towns will have two choices:

1. Develop additional infrastructure to ship waste to more distant disposal facilities, or
2. Identify properties to advance conversion technology alternatives as they become available in the future as a waste disposal alternative to landfilling and incineration.

Lack of Disaster/Emergency debris staging or processing capability:

Disasters along the coast are occurring with greater frequency and intensity. The Cape does not have identified locations to store/process/transport Disaster/Emergency related debris. *Neither does the Vineyard.* This limits the towns' ability to respond to these "black swan" waste generation scenarios.

This is a starting point for the County *(Barnstable)* to coordinate the towns and build early consensus and focus on future solid waste management and zero-waste. The County and towns should work together starting with a review of the management of waste on the Cape and Islands and collaborating on a solution for potential energy generation. Moreover, a Waste Diversion Collaborative opportunity with regional infrastructure to address current and future waste bans is recommended.

Working together to coalesce MSW materials from all the Cape and Island towns may drive collection costs down due to leveraging larger volumes for service providers. Options pursued for municipal solid waste materials management are not only about managing costs, but also positioning Cape and Island towns to respond to regulatory mandates and their intended, and unintended, consequences.

Idea of a vision statement for solid waste management

Developing a vision statement is the first step to defining what Barnstable County's future system will be. A future system may very well cost more than the towns' current system but may be preferable due to environmental or social outcomes. **It is possible that the current system of towns working independently is unable to respond to MassDEP's mandates in the future, and that a new collaborative system can respond to and provide return on investment through shared resources and aggregated material volumes for better pricing.** *This is something for us to consider too.*

Other ideas from the Tetra Tech report

- ***An ECO-park** located at Joint Base Cape Cod where waste is consolidated.*
- ***A Construction and Demolition Materials Recovery Facility.** A building with a tipping floor and an optional wood shredding line, with a processing capacity of perhaps 100 tons per hour.*
- ***A mini Materials Recovery Facility (MRF)** for recyclables collected at the town transfer stations. An approximately 12,000 to 15,000 square-foot building could be designed to process 80 tons per day and potentially increase volume over time.*
- ***Organics Management/Composting.***

Conclusions from an associated Tetra Tech memo on market and estimated program costs

- Individual towns will see cost for managing recyclable and hard to dispose materials increase. However working together as a Diversion Collaborative or a collective approach, the participating municipalities would be in a better position for markets.
- To advance toward resiliency and longer-term waste diversion options, the County could work with Cape and Islands towns to identify options to collaborate on MSW aggregation, processing and diversion.
- [T]he two areas of greatest opportunity for the County *(Barnstable)* are to increase recycling and reuse with C&D materials and organics (food materials and yard waste) because they represent the highest quantity by weight as material categories in the waste stream.
- The County and its member towns should seek ways to reduce the transportation of organic materials and finished compost by managing these materials locally.
- [C]onsider a County-wide organics management program that would encourage both residents and businesses to source separate organics, including all food materials and yard debris, to be managed locally on the Cape.

The full Tetra Tech report can be found here:

https://shorturl.at/oNpws

Additional documents associated with the report, including the memo excerpted above, are available on the Cape Cod Commission Resource page:

https://www.capecodcommission.org/resource-library/results/filter/type/study/year/2021

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