

# RecyclingWorks in Massachusetts

## Year End Report: Fiscal Year 2021 (July 2020 – June 2021)

The Center for EcoTechnology (CET) is proud to submit the FY21 year-end report for RecyclingWorks in Massachusetts (RecyclingWorks) to the Massachusetts Department of Environmental Protection (MassDEP). CET and MassDEP continued to provide waste diversion assistance to the commercial and institutional sectors through a robust suite of services. The following represents approximated measurable impacts this fiscal year:

- Approximately 965 tons of material diverted from disposal in FY21, contributing to an overall cumulative program impact of nearly 203,000 tons of material diverted since 2013
- 9,236 units of fluorescent lamps
- 1,668 total phone and email hotline inquiries
- In-person or virtual technical assistance (TA) to 81 businesses
- Compost site technical assistance to 11 operations
- Over 138,000 visits to [www.recyclingworksma.com](http://www.recyclingworksma.com), a 25% increase over FY20
- 25 speaking engagements/events, reaching 1,600 attendees
- 9% increase in newsletter subscribers over the course of FY21

In FY22, MassDEP asked CET to create a Public Involvement Plan to describe current activities and potential future efforts to engage businesses in communities with [Environmental Justice populations](#). In Massachusetts, a neighborhood is defined as an Environmental Justice population if any of the following are true

- the annual median household income is not more than 65 per cent of the statewide annual median household income;
- minorities comprise 40 percent or more of the population;
- 25 percent or more of households lack English language proficiency; or
- minorities comprise 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income.

Examples of efforts focused on expanding access to program resources include:

- Enlisting a third-party interpreter service that enables hotline staff to assist non-English speakers as needed.
- Translating existing resources, such as signage templates and waste ban compliance tips into Spanish and other languages.
- Developing outreach content to share with community-based groups that serve environmental justice communities.

- Expanding outreach efforts and tailoring workshop content towards smaller-scale compost operations that could increase capacity to divert food scraps, such as community gardens in environmental justice communities.
- Prioritizing targeted outreach to businesses in municipalities with environmental justice populations.
- Developing a case study featuring a business located in an environmental justice neighborhood that partners with and serves disadvantaged populations.

### Email / Phone Hotline

CET staff operate the RecyclingWorks hotline, phone, and email service. People reaching out to RecyclingWorks are directed to resources on [www.recyclingworksma.com](http://www.recyclingworksma.com), referred to CET field staff for follow up, or processed for continued levels of assistance. Because of ongoing safety concerns in response to COVID-19, we continued serving the phone hotline remotely. At the request of MassDEP, CET implemented the use of a third-party interpreter service during FY21, which enables RecyclingWorks hotline staff to assist non-English speakers as needed.

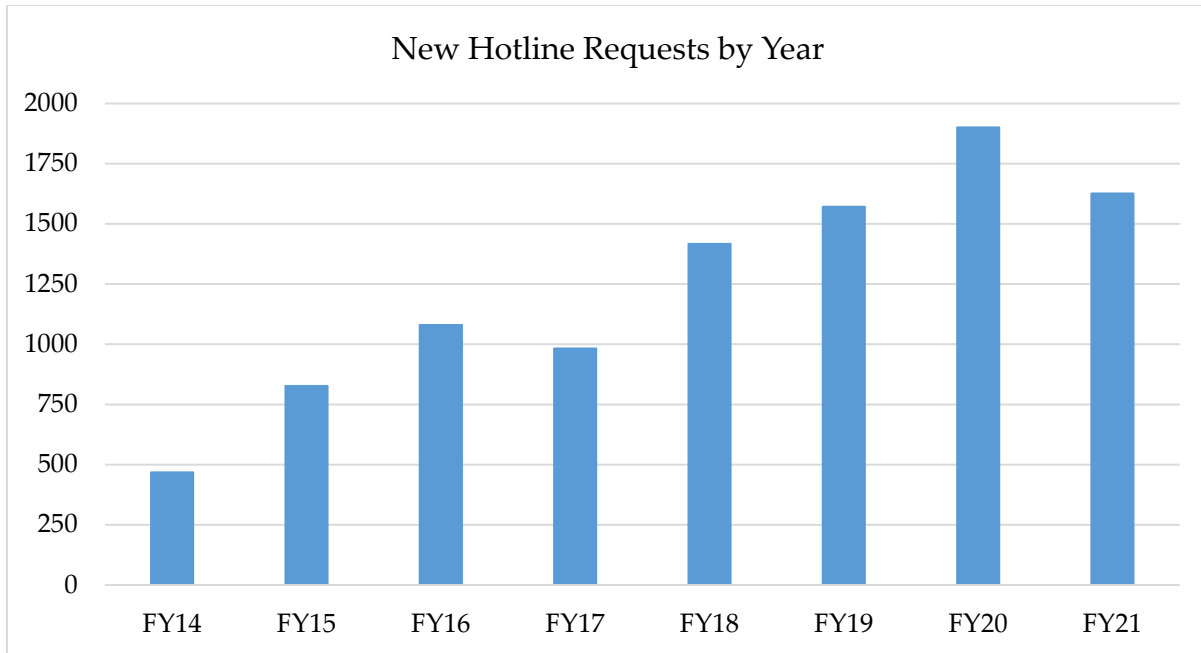
During FY21, RecyclingWorks handled more than 1,668 phone and email hotline inquiries, meeting the work plan goal of 1,650-2,000.

### Hotline Volume

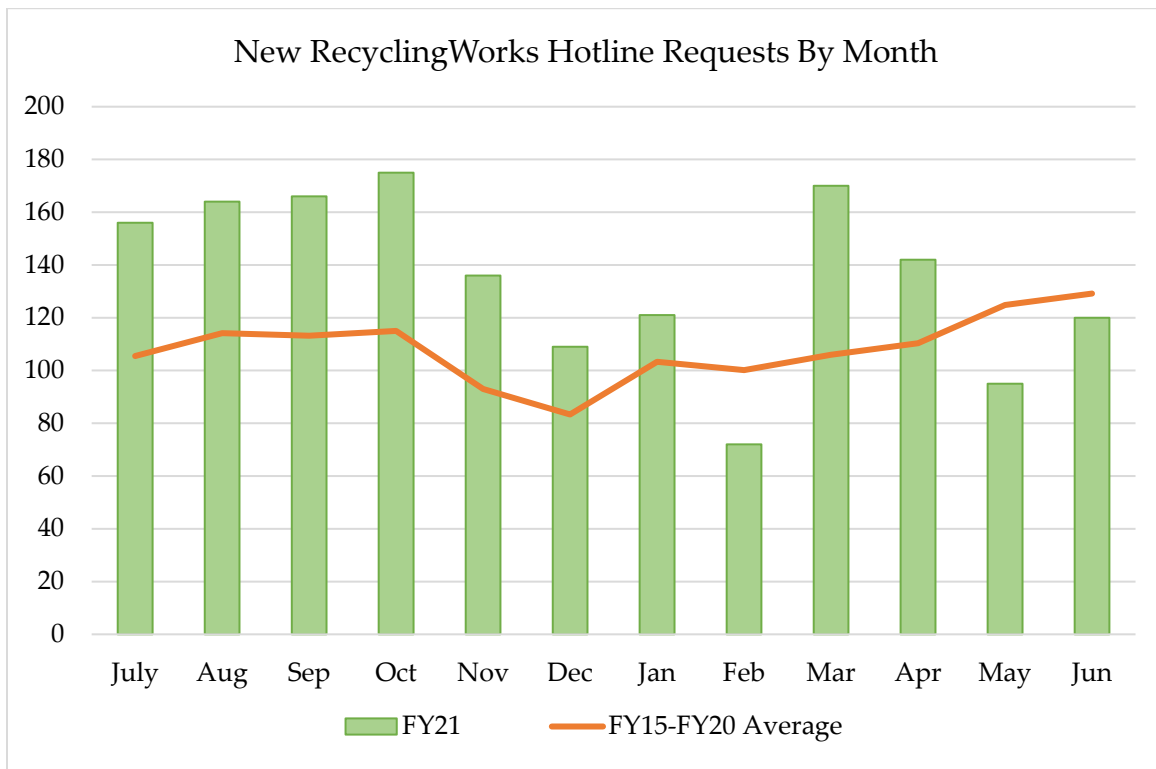
Throughout FY21, many businesses and institutions were impacted by mandatory closures and other restrictions put in place to prevent and mitigate the spread of COVID-19. As a result, the number of new incoming hotline inquiries was slightly lower in FY21 compared to FY20 (a 14% decrease). However, despite the pandemic’s impact on business operations and commercial waste generation, the number of new hotline requests in FY21 was consistent with activity in FY19.

**Summary Hotline Statistics, Fiscal Years 2014-2021**

	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
New Requests from Businesses & Institutions	418	735	988	870	1,371	1,580	1,853	1,574
New Requests from Processors & Haulers	50	92	92	112	46	51	48	52
<b>Total New Requests</b>	<b>468</b>	<b>827</b>	<b>1,080</b>	<b>982</b>	<b>1,417</b>	<b>1,571</b>	<b>1,901</b>	<b>1,626</b>
<b>Total Requests Completed</b>	<b>422</b>	<b>842</b>	<b>1,061</b>	<b>960</b>	<b>1,362</b>	<b>1,631</b>	<b>1,903</b>	<b>1,593</b>



During FY21, hotline volume was consistently high during the first several months, averaging 165 hotlines per month during July-October, 2020. The RecyclingWorks hotline was also very active during March and April 2021, as the state moved into Phase IV of *Reopening Massachusetts*.



## Hotline Trends

Businesses continue to express great appreciation for this free service. As in past years, the hotline staff fielded inquiries on a broad array of topics. Below we list a few examples and identify common themes observed during FY21:

- **Reducing Contamination in Recycling Streams** – We continue to assist businesses and institutions with adapting to the reality of recycling markets, with a focus on preventing contamination in recycling streams.
- **Food Waste & Organics Diversion** – Throughout FY21, we received questions related to the proposed amendments to the MassDEP Commercial Organics Disposal Ban. Additionally, the hotline received several inquiries about diverting clam and oyster shells.
- **Breweries** – This year we observed much interest in recovering plastic beer can carriers, and were contacted about a [new pilot](#) that involves several Boston-area breweries partnering to take back this material for reuse and recycling. We also learned of a new service provider that hauls spent grain generated from breweries to farms for animal feed, which was added to the Find-A-Recycler directory.
- **Construction & Demolition Materials** – We continue to receive a wide variety of questions about recycling and reuse of construction & demolition (C&D) materials, including calls from residents and contractors with smaller quantities of materials.
- **Cannabis Organics and Packaging Waste and Diversion** – In FY21, we continued receiving inquiries from cannabis manufacturers about diverting cannabis plant waste; often these entities learned about the program from the Cannabis Control Commission’s guidance documents. In FY21, we continued to receive questions about managing difficult-to-recycle packaging waste from dispensary retail operations.
- **Hard-to-Recycle Materials** – In particular, we received questions about rubber, smoke detectors, mixed plastics, manufacturing cut-offs, photovoltaic panels, Styrofoam, and mattresses.
- **Managing Potentially Hazardous Materials** – We often receive calls from residents asking about outlets for paint, electronics, thermostats, fluorescent lamps, and lithium batteries. This year, RecyclingWorks helped one business identify a reuse outlet for 9,000 new surplus CFL bulbs.
- **Reuse** – We continued to hear from many businesses and institutions, such as colleges & universities, looking for reuse outlets for surplus materials such as furniture, electronics, building materials, medical equipment, and textiles.
- **External Requests for Information** – As in previous years, we regularly receive inquiries from media, researchers, students, other state agencies, and regional or national organizations focused on waste diversion. We received one interesting inquiry from a student working on a project related to waste increase from the pandemic (single-use masks, test tubes, takeout containers, etc.).

### Tonnage Diversion

As shown in the table below, approximately 965 tons of material were diverted as a result of hotline, Mini TA, and TA activities in FY21. Out of this total, 60% (575 tons) of the material was recycled, 36% (346 tons) was organics diverted for composting, anaerobic digestion, or animal feed, 3% (27 tons) was reused, and 2% (17 tons) was surplus food donated. Material reduction accounted for less than 1% of the total diversion.

There are a few factors contributing to notably lower tonnage diverted in FY21 compared to FY20. Waste generation during the COVID-19 pandemic shifted from the commercial sector to the residential sector, as a large number of people began working and studying from home. Thus, many businesses were generating lower quantities and/or different types of waste during FY21. Additionally, we provided technical assistance to one very large retailer in FY20, which contributed to unusually high tonnage diversion metrics.

**Waste Diversion as a Result of FY21 Hotline, Mini TA, and TA Activities\***

Type of Diversion	Annual Tonnage Diverted	Percentage of Total Diversion
Recycled	575 tons	60%
Reused	27 tons	3%
Reduced	0 tons	0%
Food Donated	17 tons	2%
Organics Diverted**	346 tons	35%
<b>Total</b>	<b>965 tons</b>	<b>100%</b>

\*Tonnage diverted includes only activity that could be quantified and confirmed during FY21.

\*\*Organics includes non-food organics diversion for composting or anaerobic digestion.

### RecyclingWorks Website

In FY21 CET continued to maintain and update the RecyclingWorks website and database, and 26 haulers and processors were updated or added. CET edited and/or removed existing listings when learning new information through hotline inquiries or otherwise encountering out-of-date information in the database. As of the end of FY21, there are 409 listings in the database.

Examples of web content updates made in FY21 include the following:

#### New Content

- Published a new materials webpage for [textile recycling and reuse](#).
- Developed an [instructional graphic](#) for how to easily breakdown cardboard boxes, to be used as a training tool or sign.
- Created a new webpage focused on [resource management contracting](#).
- Developed and posted to the website a Spanish language version of the Waste Ban Compliance Tips for [Property Managers](#) resource.
- Added language to the [organics waste ban](#) webpage reflecting the proposed change

that it would apply to entities generating one half ton or more of food material per week, and drafted language on the proposed waste bans to include on the K-12 sector page.

- Published a new resource for food businesses focused on [reducing waste](#) from single-use packaging, serviceware, and other materials commonly used for takeout and delivery meals.
- Published 32 [blogs](#), including original RecyclingWorks blogs that highlight [top tips from our waste diversion experts](#), [deconstruction](#), [reducing waste from takeout and delivery meals](#), [boat wrap recycling](#), and several spotlights on businesses that received RecyclingWorks assistance.

### Modified Content

- Updated the [Construction and Demolition Materials Guidance](#) webpage to include new maps of reuse outlets and processors, a new cost savings example for deconstruction, and fixes for various broken links.
- Updated the [Hauler Contracting Guidance](#) webpage and printable PDF with additional information and emphasis around understanding service costs and fees, as well as what happens to the material your hauler collects.
- Published updates to the [Source Reduction Guidance](#) webpage to emphasize technical content, draw connections to blogs and case studies, and add relevant third-party resources.
- Updated the [Key Resources](#) and [Single Stream Recycling](#) webpages to include the MassDEP map of materials recovery facilities in Massachusetts.
- Updated the existing [Facility Waste Management Plan Template](#) to make it easier for businesses to customize to their facility.
- Updated the existing [Restaurants](#) sector webpage to include more detailed information on food waste diversion and takeout packaging.
- Evaluated the website for locations where source reduction information can be made more prominent. The [Source Reduction Guidance](#) page was updated to include additional reference to prevention.

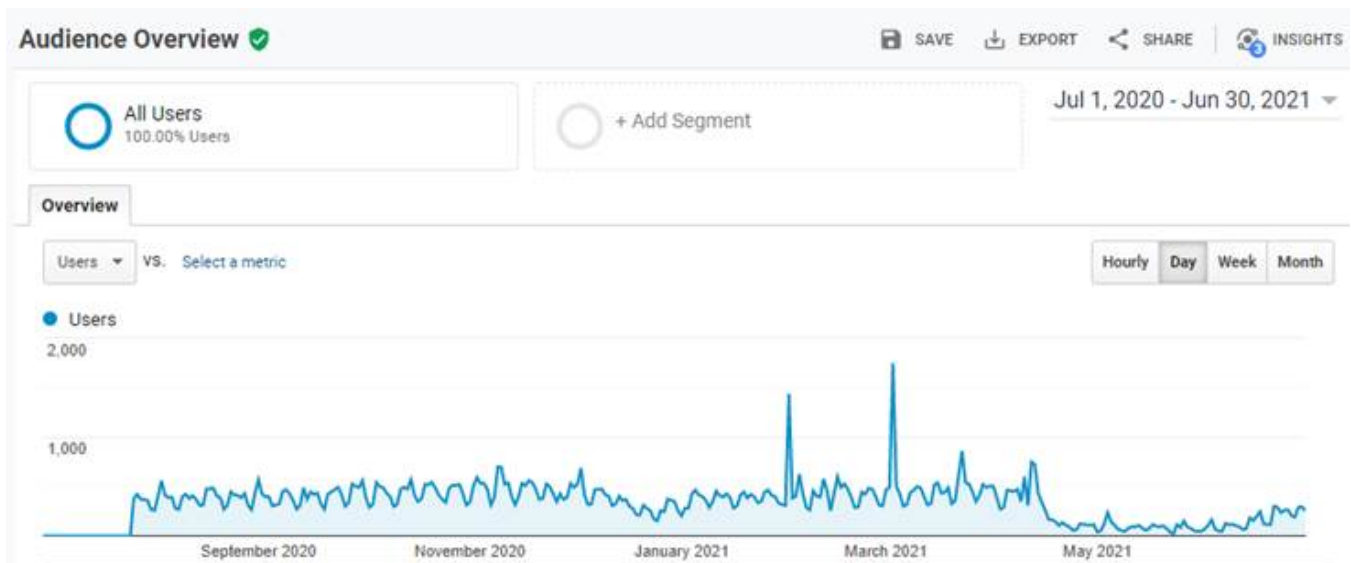
### Website Statistics

Comparing FY21 to FY20, overall activity on the RecyclingWorks website continued to increase. When analyzing annual trends in website traffic, CET discovered that Google Analytics data was artificially low during July 2020, when CET was implementing a filter to block SPAM traffic, and between April and June 2021 (see graph below). CET applied a correction to this data so that it is in line with baseline web traffic observed throughout FY21.

In total, there were 138,645 visitors and 154,473 sessions in FY21, representing a 25% and 11% increase over FY20 respectively. As in previous years, approximately 90% of sessions in FY21 were new visitors, while 10% were returning to the site.

Web Traffic Statistics FY14-FY21			
	Visitors	Sessions	Page Views
FY 2014	33,068	43,807	108,203
FY 2015	54,000	65,000	143,000
FY 2016	55,521	69,572	149,315
FY 2017	57,995	73,186	135,528
FY 2018	72,020	88,896	171,470
FY 2019	88,635	110,347	206,013
FY 2020	110,633	134,585	237,213
<b>FY 2021</b>	<b>138,645</b>	<b>149,895</b>	<b>245,435</b>
Percent Change FY2020 – FY2021	25%	11%	3%

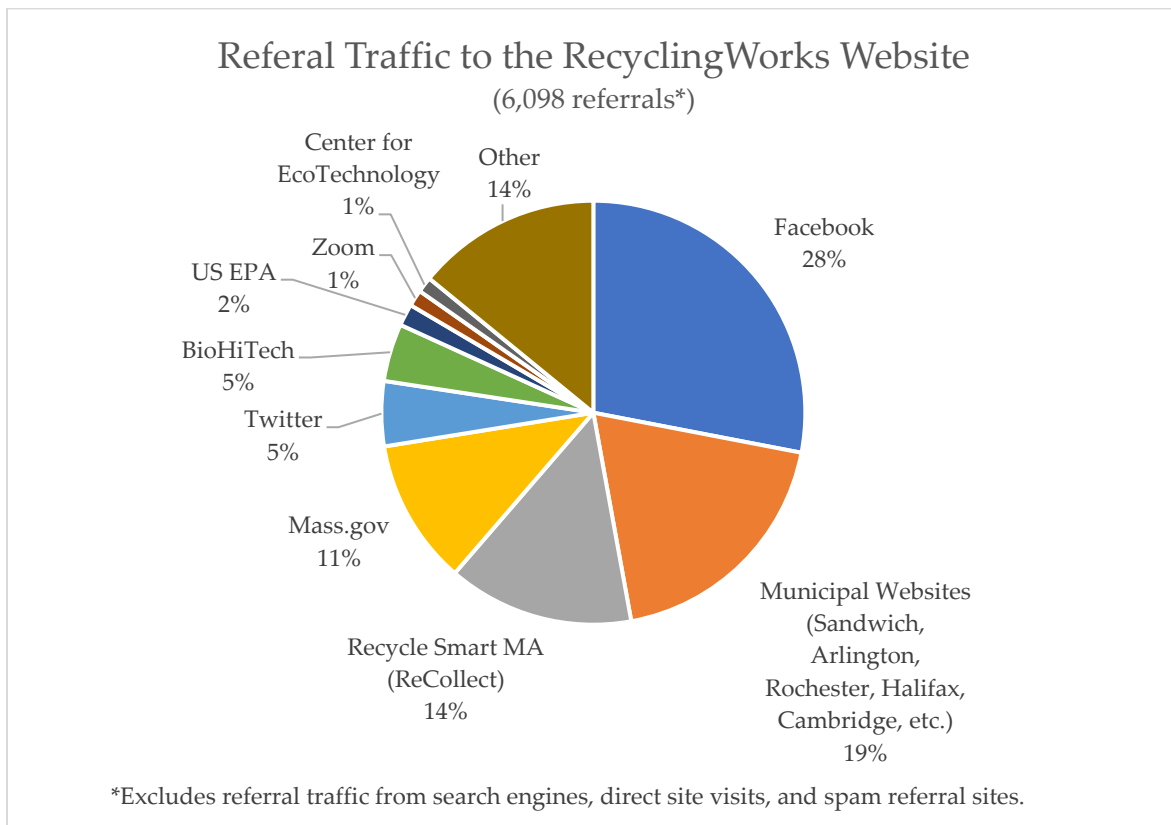
### FY21 RecyclingWorks in MA Website Traffic



Note: Figure does not show web traffic from July 2021 or the correction applied to the April-June 2021 data.

The largest number of users in a single day (1,745 users) visited the website on March 3, which was the date that CET sent the March Newsletter. This newsletter included an announcement of updates to the Restaurants webpage and nearly 60 people clicked on the link in the newsletter to view these updates. New additions to the page included resources related to food waste diversion and reducing waste from takeout and delivery meals. The March newsletter also included an invite to the upcoming RecyclingWorks Compost Site Operators’ workshop, the Home City Development written case study, and an original RecyclingWorks blog focused on deconstruction and reuse.

The majority of users visited the website through a search engine or direct link. For traffic referred from other websites (rather than search engines or a direct link), approximately 30% of visits were referrals from social media (Facebook, Twitter, and LinkedIn). New in FY21, the MassDEP Recycle Smart MA Recyclopeda tool helped drive a notable number of visitors to the RecyclingWorks website (981 visitors). Several listings in the Recyclopeda reference the RecyclingWorks program, including those related to construction and demolition materials. As in previous years, state and municipal websites referred many users to the RecyclingWorks website (30% collectively). The 5 municipalities listed in the figure on the following page account for more than half of the visitors referred from municipal websites.





### Top RecyclingWorks in MA Webpages Visited in FY21

Page	Page Views
Recycling Bottles and Cans	13,752
Blog: Common Causes of and Solutions to Restaurant Food Waste	11,419
Plastics Recycling Guidance	8,285
Construction Material Guidance	6,273
Food Waste Estimation Guide	6,116
Electronics Material Guidance	5,467
Cardboard Material Guidance	5,382
Pallets Material Guidance	3,986

In April 2019 CET launched a pilot Google Ad campaign for RecyclingWorks, leveraging CET funding. Google Ads is a pay-per-click platform that increases website visibility on Google search results. The ads link to the RecyclingWorks homepage and other relevant webpages based on users' search terms, such as "business recycling". CET tested three ad groups: recycling, construction & demolition, and food donation. The food donation ad group was ended in March 2020 due to a low performance rate. The table below summarizes outcomes for the recycling and construction & demolition ad groups. Impressions refers to the number of times that the ad appeared as a search result after someone searched Google for a relevant term, and clicks refers to the number of times that a user clicked the ad to visit the RecyclingWorks website. During FY20, RecyclingWorks ads appeared in Google search results more than 2,053 times, resulting in 177 clicks to visit the website. CET will continue experimenting with using Google Ads in FY22 to increase traffic to the website.

### FY21 Google Ads Outcomes

Google Ad Group	Impressions	Clicks	Click-Through Rate
Recycling	669	48	9.32%
Construction & Demolition	1,384	129	7.17%

### RecyclingWorks Newsletters

As outlined in the work plan, CET creates and sends 10 monthly RecyclingWorks newsletters each year, excepting January and July. The email list for this newsletter increased from about 6,650 to more than 7,270 subscribers in FY21, representing a 9% increase in subscribers over the course of the fiscal year. This increase is more substantial than the increase in subscribers during FY20 (6%). Continued

growth in the RecyclingWorks newsletter audience is a notable success during a year when hotline and TA activity was lower than usual due to the COVID-19 pandemic.

In addition to monthly newsletters, CET sent two E-blasts to the RecyclingWorks email list to promote the Spring and Fall WasteWise Forums and a MassDEP SWAC meeting. Towards the end of FY20, CET updated the existing newsletter design to improve user experience and mobile functionality. This updated newsletter format was implemented for all newsletter communications, beginning in August 2021.

Some of the topics covered in the newsletter during FY21 include:

- Spotlights on businesses assisted by RecyclingWorks.
- New content posted to the website – including top tips from our waste experts, resource management contracting, and waste reduction guidance for takeout and delivery meals.
- Upcoming events, including RecyclingWorks-hosted Forums and external events such as the MassRecycle Virtual Conference.
- MassDEP announcements, including announcements about the Draft 2030 Solid Waste Master Plan public comments, and Recycling Business Development Grant applications.

### **College and University Newsletters**

Over the course of FY21, CET added 40 contacts to the RecyclingWorks College & University (C&U) email list, for a total of 720 contacts representing approximately 165 different colleges and universities. On average, the open rate of newsletters remained consistent at approximately 18% during FY21.

CET sent three emails to this list over the course of FY21, in August 2020, December 2020, and April 2021. These newsletters featured various Massachusetts C&U waste programs, and covered an array of topics, including:

- Adjusting hauling services for changes in waste generation during the pandemic
- Managing surplus property and reducing waste during student move-out
- Reducing food waste in on-campus dining
- Reducing Waste through Improved Procurement Practices
- Joining the Recycle Smart MA Partner program

At the request of MassDEP, the December 2020 C&U newsletter also described the proposed waste ban amendments that would add textiles and mattresses to the list of materials banned from disposal, and lower the threshold for the existing ban on the disposal of commercial organic materials from one ton or more of food material per week, to one-half (1/2) ton or more of food material per week.

### **RecyclingWorks Social Media**

RecyclingWorks has an active presence on Facebook, launched in FY18, and Twitter, launched in FY17.

At the end of FY21, the RecyclingWorks Facebook account had 477 followers, an increase of 18% from FY20. In addition to posting an average of three times per week, CET strategically identified content to boost on Facebook, which effectively creates a paid advertisement with much higher visibility than a basic post. CET boosted case studies, new web resources, select blogs, and RecyclingWorks events, specifically targeting relevant audiences such as business owners and facility managers. Boosted posts achieved a reach of 6,373 users and 108 engagements on average, whereas traditional posts only averaged a reach of 54 users and 4 engagements. The most-viewed post in FY21 was one reaching over 14,500 users that promoted RecyclingWorks' hotline assistance. Other popular posts included one promoting RecyclingWorks' technical assistance services (boosted on 01/19/2021 and run for five days), reaching over 13,000 users, and a post about RecyclingWorks' compost site technical assistance (boosted on 06/25/2021 and run for five days), which reached over 10,000 users.

CET also regularly promotes events and other RecyclingWorks content through Twitter. In FY21, CET posted three tweets per week on average. The engagement rate increased from the previous year to an average of 6.8 engagements per post. At the end of FY21, the RecyclingWorks Twitter account had 723 followers and a total of 191 clicks on Twitter posts. Starting in June 2021, CET also created paid promotions on Twitter for two topics: RecyclingWorks' technical assistance, which reached over 6,500 people with 76 engagements, and Compost Site Technical Assistance, which reached over 8,000 people and received 77 engagements. CET will continue to boost and promote content on both Facebook and Twitter in FY22, and will compare outcomes from the two social media channels.

### **Marketing**

In FY21, promotional activities included media engagement, developing a case study, speaking engagements and other events, and outreach.

### **Media Engagement**

CET staff was interviewed about the RecyclingWorks program, Massachusetts waste bans, and other waste related topics by the following media outlets for articles:

- Greenfield Recorder
- Northwestern Oklahoma State University Newspaper
- MetroWest Daily News (November 2020)
- MetroWest Daily News (January 2021)
- Boston Globe

### **Case Studies**

CET created the following written case studies in FY21, which have been posted:

- Home City Development, Inc. – featuring the Springfield-based non-profit real estate developer's successes reusing and recycling materials during a renovation project that transformed an abandoned school into an affordable housing complex. ([Written](#))
- Brandeis University – featuring the university's robust waste management initiatives, including a focus on sustainability in its dining services contract, recycling and composting education, reuse during student move-out, food waste reduction, and eliminating recycling contamination. ([Written](#))

## **Marketing Materials**

In FY20, CET finalized the decal design and began piloting RecyclingWorks branded window decal offering to recognize TA recipients that implemented one or more recommendations that resulted in food waste diversion. During FY21, the decal offering remained available but was not promoted as many food businesses were closed and/or limiting in-person traffic for a portion of the fiscal year. CET will continue to offer the decal to TA recipients in FY22.

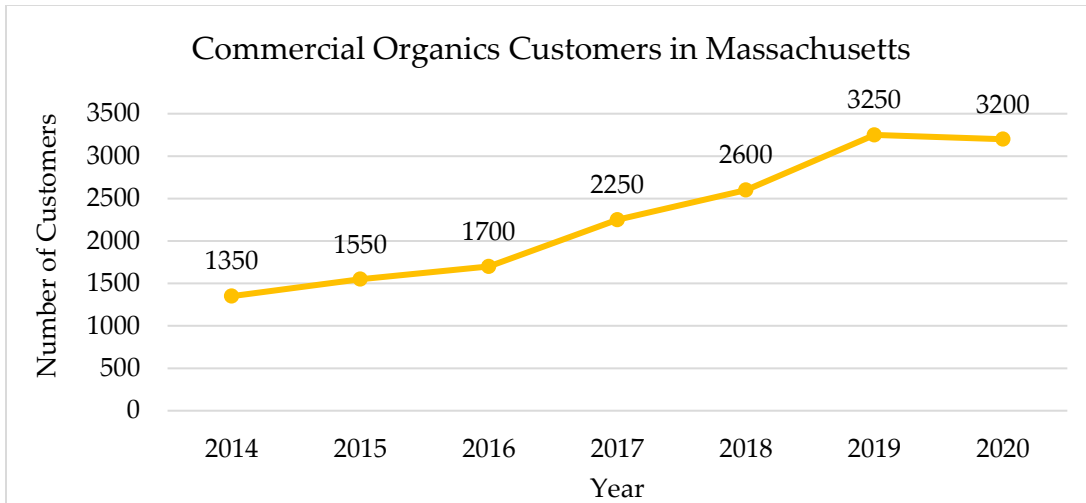
Motivated by the MassDEP Recycling IQ Kit Oops Tag, CET developed a version facilities staff at large businesses and institutions (e.g. multi-tenant buildings, colleges & universities, etc.) could use to communicate that waste ban materials were placed in the trash. CET staff will offer this Waste Ban Materials Oops Tag to entities receiving RecyclingWorks TA and follow up to learn whether it provides additional value for businesses.

During FY21, CET made updates to a few existing marketing materials. For example, one published case study included a reference to recycling a material that does not align with current Recycle Smart MA guidance. The written and video case studies were updated to omit the out of date guidance.

In addition to video case studies, there is a need for ready-to-go training tools that enable CET to more effectively deliver remote technical assistance and more efficiently reach larger audiences. During FY21, CET started working on a pilot training module focused on single stream recycling in a hospitality setting. This training is designed to help communicate recycling guidelines to facilities, custodial, dining, and other staff members to ensure effective programs. During FY22 CET will continue developing training materials for other sectors and recycling streams, as approved by MassDEP, and will consider multiple uses such as posting on the website.

## **Marketplace Data**

To measure growth in the food waste diversion marketplace, CET collects annual data directly from organics haulers on the number of commercial organics customers they serve in Massachusetts. From 2014 to 2020, the number of commercial organics customers in Massachusetts increased from approximately 1,350 to 2,900. This represents a 115% increase in organics customers since 2014. Despite widespread temporary business closures and an overall shift in waste generation from the commercial to residential sector during the COVID-19 pandemic, the number of businesses and institutions contracting for organics hauling declined in 2020 only 1.5% compared to 2019.



In FY19, CET began conducting annual interviews with food waste prevention technology platforms to quantify the collective impact of these technologies in Massachusetts. In the spring of 2019, CET interviewed five platforms and received baseline data that these platforms had 145 customers in Massachusetts and had reduced food waste by 1,025 tons through the end of 2018. Each year, CET follows up with these technology companies to get an update on additional food waste prevented over the course of the previous year.

In the spring of 2021, CET again interviewed the same five companies. Through 2020, collectively these five platforms have prevented 4,140 tons of food waste, reported a total of 296 customers in Massachusetts, and prevented an additional 169 tons of food waste in 2020. New food waste prevented in 2020 was less than in 2019, despite the growth in total number of customers. Based on CET’s interviews we surmise that this is a result of two main factors related to the COVID-19 pandemic:

- Most new customers in 2020 were small, typically restaurants, rather than large institutions.
- Institutional customers, which are most frequently colleges and universities, had significantly disrupted dining operations for much of 2020; because significantly less food was prepared, there was less potential for food waste prevention.

See the table below for a summary of this data.

**Impact of Food Waste Prevention Platforms**

Date Reported	Total MA Commercial Customers	New Annual Food Waste Prevented (tons)	Total Annual Food Waste Prevented (tons)
2018 (all time)	145 customers	1,025	1,025
2019 (1 year)	154 customers	448	1,473
2020 (1 year)	296 customers	169	1,642
<b>Total Food Waste Prevented (All Time)</b>			<b>4,140 tons to date</b>

CET will interview these platforms again in spring 2022 to evaluate changes in their impact over time.

## Outreach

Objectives of proactive outreach during FY21 included generating TAs, creating opportunities for virtual speaking engagements, recruiting event attendees, and adding new entities to the RecyclingWorks newsletter distribution list. As in previous fiscal years, CET prioritized outreach efforts that align with key MassDEP priorities for the year:

- At the request of MassDEP, CET developed language to share with community-based groups that serve environmental justice communities and drafted a work plan to describe current activities and potential future efforts to engage businesses in these communities.
- During the public comment period for the MassDEP 2030 Solid Waste Master Plan, CET conducted outreach to key industry associations regarding the proposed changes to the organics ban, and addition of textiles and mattresses as waste ban materials. Various associations shared information in communications to their members and/or invited RecyclingWorks to deliver virtual presentations.
- CET continued to participate in the MassDEP Source Reduction & Reuse Working Group and attended 6 virtual meetings throughout FY21 on behalf of the RecyclingWorks program.

Outreach activities in FY21 continued to be shaped by the unusual circumstances surrounding the COVID-19 pandemic. For example, as follow up to similar group calls organized during FY20, CET engaged the Massachusetts Food Systems Collaborative to reconvene a group of food rescue and hunger relief organizations in the state to discuss challenges and opportunities to prevent the disposal of surplus food.

At the request of CET, MassDEP facilitated a meeting between CET and the Massachusetts Office of Technical Assistance (OTA). After an initial call to identify synergies, OTA shared RecyclingWorks program information in their April 2021 newsletter and RecyclingWorks shared OTA information in the June 2021 newsletter.

Facilitated by the Leading By Example Council, CET met virtually with a group of representatives from the Department of Conservation and Recreation (DCR) in March 2021 to share information about RecyclingWorks Technical Assistance, and discuss the unique challenges and opportunities for waste management at DCR locations. This conversation resulted in four TAs at representative DCR sites.

Throughout the year, CET continued to conduct sector and geographic-based targeted outreach. This included outreach to supermarkets, breweries, and linen services companies. CET conducted outreach to a list of businesses located in specific areas with Environmental Justice populations, that CET had previously engaged through energy efficiency work. Although this list did not generate significant interest in technical assistance, CET will continue pursuing a variety of strategies focused on reaching

businesses in neighborhoods with Environmental Justice populations, and is anticipating more success in FY22. During the latter portion of FY21, CET had particular success in identifying RecyclingWorks technical assistance candidates through outreach to large businesses that previously received assistance from CET with energy efficiency work.

As noted in the Technical Assistance section below, many Massachusetts municipalities and local organizations are working to engage their business communities in reducing and diverting waste. During FY21 CET supported several municipalities by conducting outreach to local businesses via direct mail and phone, delivering virtual presentations, and providing information about program services to be shared with their business communities.

Throughout FY21, CET continued to provide the City of Boston with input on resources available through the RecyclingWorks program to support the goals in the city's Zero Waste Plan. CET participated in several calls with the City of Boston Zero Waste team to discuss outreach strategies, including the resumed Inspectional Services postcard program, and ways to utilize existing inter-department data to reach new businesses. CET reviewed the city's Greenovate social media waste and recycling posts for consistency with Recycle Smart MA guidance. During FY22, CET will continue to follow up on technical assistance referrals as a result of the City's outreach to businesses and City representatives may participate in RecyclingWorks technical assistance site visits as appropriate. CET continues to serve as a sounding board for the City as they are approached by vendors of waste related products and services.

## **Events**

CET attended and/or presented about the RecyclingWorks program, best management practices, and other topics at the following 25 events, reaching more than 1,620 attendees. Due to the COVID-19 pandemic, all presentations in FY21, were delivered in a virtual format. CET continued to optimize the use of virtual platforms, such as Zoom, to create effective virtual events which encouraged active participation from attendees. The ability to provide virtual events has allowed for broader participation from different geographies in the state, enabling the program to reach nearly twice as many attendees as in FY20 (850 attendees). Given the ongoing evolution around in-person events, CET anticipates continuing to deliver at least a portion of presentations in a virtual format during FY22.

See below for a list of events and presentations. Note that this list does not include WasteWise Forums, College & University Forums, or Compost Site Operators workshops, which are discussed later in this report.

Event Name	Date
CURC Webinar: Managing Surplus Property for Zero Waste	8/20/2020
Dyer Brown Architects C&D BMP Presentation	9/21/2020
US EPA Webinar - COVID Impacts on P2 Technical Assistance	10/6/2020
CURC Webinar: Composting at Institutions	10/15/2020
MassDEP SWAC Meeting Presentation – RecyclingWorks & Green Team FY21 Outcomes	10/22/2020
Northampton City Council Community Resources Committee Meeting	10/26/2020
MassRecycle 2020 Virtual Conference - Organics Session Presentation	10/29/2020
MassDEP School Recycling Webinar	11/18/2020
Boston Bar Association Virtual Presentation	12/1/2020
Club Management Association of America - New England Chapter	12/10/2020
National Pollution Prevention (P2) Roundtable: Food and Beverage Sector	1/6/2021
Plymouth Board of Health Presentation	1/27/2021
Busch Systems Recycling and Waste Management Webinar Series	2/17/2021

Event Name	Date
Department of Conservation and Recreation Presentation Introduction	3/5/2021
Leading By Example Council Meeting	3/9/2021
Berkshire Zero Waste Initiative (BZWI) WasteLess Restaurants Virtual Event	3/23/2021
2021 New England Farm to Institution Summit	4/15/2021
MassRecycle 2021 Spring Conference	4/15/2021
Massachusetts Food System Collaborative Food Waste Reduction Group Meeting	4/29/2021
Massachusetts Environmental Health Association (MEHA) Annual Conference	5/18/2021
Greater Quabbin Food Alliance - Food Waste Solutions for Your Business	5/18/2021
MassDEP Statewide Municipal Recycling Coordinator (MRC) Meeting	6/9/2021
MassDEP SWAC Meeting Presentation – Environmental Justice Engagement Plan	6/9/2021
Medical Academic & Scientific Community Organization (MASCO) Presentation	6/24/2021
Greening Your Bottom Line Food and Beverage Businesses 2021 Webinar Series - Waste Diversion Session	6/25/2021

### WasteWise

CET continues to promote WasteWise participation to businesses in Massachusetts, as well as participation in the US EPA’s Food Recovery Challenge. CET conducted outreach to promote and facilitate one WasteWise Forum in FY21.

The 2020 WasteWise Fall Forum was held virtually on November 12, 2020. Attendance was high compared to previous in-person only forums. Approximately 125 people attended the event, representing businesses from various sectors, the EPA, the MassDEP, universities, and haulers and processors of recyclable materials. The forum focused on strategies for businesses and institutions that



help maximize food waste diversion, with presentations from the Massachusetts College of Liberal Arts (MCLA) and Fruit Center Marketplace. Representatives from the EPA also recognized Signature Breads and Katharine Lee Bates Elementary School as 2019 National Food Recovery Challenge Award winners. CET posted a survey about the Fall Forum, which received seven responses. Of the seven respondents, 86% found the forum to be 'extremely' or 'very' informative. Respondents cited key takeaways, including clear information on the proposed lowered threshold to the commercial organics waste ban, as well as the proposed textile and mattress waste bans.

### **College & University Forums**

At the direction of MassDEP, CET did not host a dedicated College & University Forum this fiscal year. However, all contacts on the college and university list were invited to attend the Fall WasteWise Forum, and representatives from several institutions attended the event.

### **Technical Assistance**

Technical Assistance (TA) is focused on helping implement general recycling and/or food waste diversion programs at businesses and institutions. There is significant customization for each facility, to provide a valued and effective service. Mini TA is provided as a result of hotline calls where the assistance needed is more than can be completed over the phone in a short amount of time, but not expected to exceed three hours of assistance.

CET had FY21 goals of providing Mini TA to 200-325 generators, and on-site TA to 120-150 generators. This Mini TA goal included outreach to MassDEP Warning Letter recipients, which is described further in the following section. During FY21, CET provided 255 instances of Mini TA, including outreach to recipients of 178 Warning Letters.

For on-site TA, CET recommends one of three established tiers to address the waste reduction/recycling opportunity. These are at the 10, 20, and 30-hour levels. The tier recommended is based on several criteria, including interest, complexity, and potential diversion opportunity. In FY21, as a result of the impact of the COVID-19 pandemic, CET delivered both fully remote and on-site TA. In total, 81 entities received RecyclingWorks TA, including four state facilities. This does not include seven entities that were approved to receive TA, but declined further assistance before CET conducted an on-site or virtual visit.

In FY21, 51% of approved TAs (45 total) addressed both recycling and food waste, and another 7% (6 total) focused primarily on food waste. CET noticed an uptick in Tiered TA towards the end of the fiscal year, with 38% of TAs initiated during Q4 (April-June).

The following chart summarizes the number of facilities receiving various forms of TA in FY21, broken down by associated section of the work plan. The number of businesses served through Tiered TA was lower than the FY21 goal due to the significant impacts of the COVID-19 pandemic on business operations. However, CET met the FY21 goal for Mini TA service with 255 instances of assistance. In total, CET delivered 337 Tiered and Mini TAs.

Type	# In Progress	# Completed	Total Assisted	FY21 Assistance Goal
Technical Assistance	46	42	82	120-150
Mini TA	82	173	255	200-325
<b>Totals</b>	128	215	337	

Note: Mini TA numbers include outreach to MassDEP Warning Letter recipients

**Lessons Learned:**

- In FY21 CET continued to provide fully remote assistance when possible, while also resuming in-person activities as restrictions lifted in the state. This included follow-up site visits with entities that were assisted remotely during FY20, but requested an in-person meeting when their typical operations resumed and waste generation increased.
- During this fiscal year, we noticed a trend in municipalities contacting RecyclingWorks because they are interested in engaging their local businesses with regards to waste reduction and diversion. Several businesses were motivated to request technical assistance as they learned of local regulations mandating the use of recyclable or compostable materials. Municipalities and local groups were particularly focused on reaching food businesses in FY21, and CET anticipates an opportunity to make a significant impact in FY22 as these entities connect businesses with RecyclingWorks.
- CET found that many larger businesses receiving technical assistance have cardboard recycling programs in place, but are not recycling bottles and cans. CET typically recommends inquiring with their current hauler about implementing a single stream recycling program or a modified single stream program. Collecting cardboard separately can be more cost effective, and some generators opt to focus on strengthening their cardboard recycling program before collecting additional streams for recycling.
- As in FY20, CET encountered several TA recipients who had been instructed by their waste hauler to collect their recyclables with the trash. These businesses report that their service provider indicated they are complying with waste ban regulations if the waste ban materials are going to waste-to-energy facilities. In these situations, CET clarifies that this is not accurate, and provides resources about the state waste disposal bans and examples of alternative service providers.
- Due to the COVID-19 pandemic, many commercial waste diversion programs were temporarily altered or stopped altogether. As businesses reopen, many are also hiring new staff or temporary workers. This pattern can create challenges related to adjusting hauler services, training new and retraining old staff, locating and redeploying bins, and updating signage. In some instances, businesses are opting to delay restarting programs until they have the operational capacity to do so. CET offers training resources to technical assistance recipients and will continue developing ready-to-go training tools during FY22.

### **MassDEP Warning Letter Outreach**

During FY21, CET continued to conduct outreach to waste generators who received Warning Letters from MassDEP for waste ban non-compliance.

When a generator responds to CET's outreach, CET assists these businesses in replying to Waste Ban Inspectors and encourages RecyclingWorks TA. In FY21, CET contacted recipients of 178 Warning Letters with targeted outreach. This was a decrease compared to 283 letters in FY20. MassDEP reported that COVID-19 closures along with reduced MassDEP inspections due to COVID restrictions resulted in lower inspections and warnings. Out of these 178 Warning Letters, three entities were referred to receive RecyclingWorks TA (often, a single TA recipient has received multiple letters).

CET will continue outreach to MassDEP warning letter recipients during FY22.

### **Compost Site Technical Assistance**

To support food waste composting infrastructure in Massachusetts, and to help ensure well operated compost sites, RecyclingWorks continued to offer both Tier 1 and Tier 2 Compost Site Technical Assistance. CET renewed contracts with two composting industry experts that serve as consultants for the program; these consultants conduct site visits for approved facilities and produce reports based on their findings. CET conducts outreach to compost sites registered through the Massachusetts Department of Agricultural Resources (MDAR) that may be interested in accepting food scraps and promotes Compost Site TA when visiting farms through our work with the Massachusetts Farm Energy Program. In FY21, RecyclingWorks provided Tier 1 TA to 11 sites, with 10 completed within the fiscal year. Nine sites received Tier 2 TA, with all nine completed within the fiscal year. At the close of FY21, there is one active Tier 1 TA, and no active Tier 2 TAs.

CET organized a two-day practical skills compost training for compost site operators, with an emphasis on composting food materials. The virtual workshop was held on the mornings of March 23 and 24, 2021, and 47 people tuned in. RecyclingWorks staff invited smaller sites, such as urban and community gardens in environmental justice communities, through targeted outreach. The workshop focused on compost site planning and operational best management practices geared towards any Massachusetts compost site operators that are currently accepting or considering accepting food materials. The first day of the training highlighted planning, design, and operational considerations for newly established sites of all sizes, ranging from community gardens to large commercial operations. The second day of the training focused on identifying and managing different types of environmental, chemical, and physical contamination.

This was the first virtual practical skills compost training, and according to the seven survey respondents the training was well received, with a rating of 4.6 out of five stars.

### **Construction & Demolition Technical Assistance**

To support increased recycling and reuse of C&D materials in Massachusetts, in FY21 RecyclingWorks continued to offer Construction & Demolition Materials Technical Assistance for construction projects. CET renewed its contract with a construction industry expert that serves as a consultant for this program.

In FY21, RecyclingWorks provided support to three projects: the construction of a green living community, a small tenant interior renovation, and the construction of a ground-up building attached to an existing building. CET, in conjunction with our consultant, held virtual introductory and follow-up meetings with project managers and contractors. The consultant created construction waste management plans for two of the projects and assisted with identifying outlets for items such as reusable building materials, carpet, and ceiling tiles. At the end of FY21, two projects were still under construction and will continue to receive assistance. During FY22, CET will scale back this pilot while serving new projects through Tiered TA.