

**RecyclingWorks in Massachusetts  
Year End Report: Fiscal Year 2016 (July 2015 – June 2016)  
Center for EcoTechnology**

The Center for EcoTechnology (CET) is proud to submit the FY16 year-end report for RecyclingWorks in Massachusetts to the Massachusetts Department of Environmental Protection (MassDEP). CET and MassDEP continued waste diversion assistance to the commercial and institutional sector through a robust suite of services. The following represents approximated measureable impacts this fiscal year:

- Approximately 10,725 tons of material diverted from disposal (expected to continue annually)
- Direct assistance to over 1,300 businesses
- Nearly 70,000 visits to [www.recyclingworksma.com](http://www.recyclingworksma.com)
- Surpassed 1,000 hotline calls in a single fiscal year
- 49 speaking engagements/events reaching over 2,000 attendees

**Email / Phone Hotline**

CET staff in the Northampton office operate the RecyclingWorks phone hotline and email service. Inquiries are directed to RecyclingWorks resources on [www.recyclingworksma.com](http://www.recyclingworksma.com), referred to CET field staff for follow up, or processed for continued levels of assistance.

The goal in the work plan for this year was to serve 1,000 businesses through the RecyclingWorks hotline and email. We served 1,061 businesses which exceeded the goal by over 5%. The hotline volume increased by about 25% between FY15 and FY16.

Summary Statistics Fiscal Years 2013-2016:

	<i>FY13 Totals</i>	<i>FY14 Totals</i>	<i>FY15 Totals</i>	<i>FY 16 Totals</i>
Requests from Businesses & Institutions:	213	418	735	988
Requests from Processors & Haulers	88	50	92	92
<b>Total Number of Requests:</b>	<b>301</b>	<b>468</b>	<b>827</b>	<b>1,080</b>
<b>Total Number of Requests Completed:</b>	<b>278</b>	<b>422</b>	<b>842</b>	<b>1,061</b>

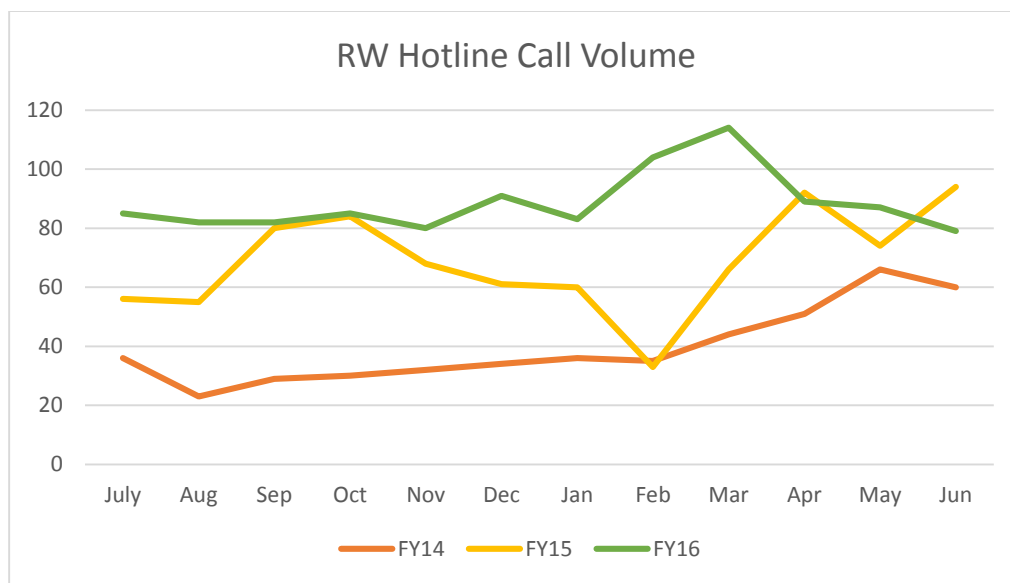
Businesses continue to express great appreciation for this free service. As in past years, the hotline service has fielded a broad array of call/email topics including:

- Food related questions including: the disposal ban, starting a diversion program, estimating generation quantities and food donation.
- General questions regarding the Best Management Practices Food Donation Stakeholder Meetings and Best Management Practices Construction & Demolition Stakeholder Meetings
- How to recycle uncommon materials, especially in the changing markets
- Businesses concerned about receiving, or having received, a failed load letter or enforcement from MassDEP
- Employees wishing to start recycling programs at businesses that don't currently recycle
- Haulers and processors requesting/correcting listings in the service directory
- Surplus materials reuse
- Consultants seeking assistance
- General recycling questions
- Event recycling and composting initiatives
- Compost Site Technical Assistance requests

- Invitations to attend events, engage with media, nominate entities for awards, and find opportunities for potential collaboration
- On-site and off-site technologies and emerging projects
- Issues with compostable ware and contamination in organics diversion programs
- Recycling business development opportunities and Recycling Loan Fund/RBDG parameters

By weight, 59% of the waste diversion initiated from hotline calls in FY16 was composted, 15% was recycled and 26% was reused. The “reused” category includes over 30 tons food that was donated.

The call volume was fairly steady throughout the year with between 80 and 90 calls most months. There was an elevated volume of calls in March and April. Many of the calls during March and April were related to the compost operators workshop that was held in March. The hotline also received a lot of out-of-state calls during this period. We suspect much of this traffic was prompted by preparations for Earth Day initiatives in April.



#### Lessons learned:

- More consultants and haulers have utilized RecyclingWorks resources in working with their clients. A majority of this assistance is directly related to the Commercial Organics Waste Ban and expanding service areas.
- MA policies and the RecyclingWorks program continue to gain national attention and the hotline gets a small but noticeable number of calls from around the country and the world.
- Between the Commercial Organics Waste Ban and national prioritization and coverage of the effect of wasted food, there has been an increase in the number of requests for interviews from students and journalists as well as a significant increase in invitations to present at and attend events.
- It is important for RecyclingWorks to understand changes in materials market conditions, enabling us to provide accurate and implementable guidance to generators as availability, costs, and access evolve.
- Municipalities have initiatives including organics diversion and recycling, and look to RecyclingWorks and Leading By Example for resources and models.
- The compost infrastructure in the state is being expanded upon and many operators and potential site developers are looking to RecyclingWorks as a medium in which to find support and information for expansion.
- C&D continues to be a challenging material type and the topic has great potential for increased awareness and sector growth.

## RecyclingWorks Website

CET staff has worked to maintain and significantly expand the website and database in this past fiscal year. In FY16, 42 haulers and processors have been added or updated to the database for a total of 348.

RecyclingWorks migrated to a new website in FY16. This migration was prompted by the Wordpress template for the old site no longer being supported and thus prone to security issues. In addition, the old site did not function well on mobile devices. Key features of the new mobile-friendly site include:

- Recent case studies and other important content featured on homepage.
- Improved Find-A-Recycler tool that appears on every page and allows for searching by town name.
- Dynamic search results that displays sidebar content (blog posts, case studies, materials information) relevant for each material category.

Examples of other updates made in FY16 include:

- RecyclingWorks developed a list of organizations interested in accepting packaged food material for depackaging and posted it to the website under 'Off-site Options' in July 2015.
- Best Management Practices for Food Donation were posted to the website in September 2015.
- Harvard Food Law & Policy Clinic legal fact sheets were posted to the Food Waste page in September 2015.
- The How to Reduce Food Waste pdf was updated with new EPA links and posted to the website in November 2015.
- RecyclingWorks verified status of carpet recycling vendors and updated database to reflect closed operations.
- RecyclingWorks launched a twitter account in February 2016. For the rest of the fiscal year, RecyclingWorks events, blog posts, and other topics were regularly promoted through this account. As of June 10, this account had 210 followers.
- RecyclingWorks coordinated with Michael Elliot at MassDEP to link the C&D and Building Materials pages from the MassDEP C&D page in February 2016.
- The State Surplus Property Program was added to reuse page on the website in February 2016.
- RecyclingWorks updated the On-Site Systems for Managing Food in March 2016.
- A page about Compost Site Technical Assistance was added to the website in June 2016.

## Case Studies

CET created and posted the following case studies:

- [Boston Public Market video case study](#)
- [Boston Public Market written case study](#)
- [Town of Lenox video case study](#)
- [Town of Lenox written case study](#)
- [Massachusetts College of Art and Design video case study](#)
- [Massachusetts College of Art and Design written case study](#)

CET posted the [Deerfield Academy video case study](#). This video was created in FY15. CET also finalized and posted the [Lenox Hotel written case study](#). This case study was drafted in FY15.

CET also worked with MassDEP to create a video, "[A Success Story: The Massachusetts Commercial Organics Waste Ban](#)," for the Environmental Council of the States (ECOS). This video was posted to the RecyclingWorks website in March 2016.

## RecyclingWorks Newsletters

CET creates and sends a monthly RecyclingWorks newsletter. The email list for this newsletter increased from 1,900 to over 2,600 subscribers in FY16, representing a 37% increase in subscribers over the course of the fiscal year. One upgrade in the site migration process was the addition of a newsletter sign up "button" and 248 of the new subscribers signed up using this new function. Newsletter topics include: features about businesses RecyclingWorks has assisted, new content on the RecyclingWorks website, and promotion of RecyclingWorks and other relevant events. In FY16, a

significant proportion of articles in RecyclingWorks newsletters focused on food donation. The Commercial Organics Waste Ban also continued to be regularly mentioned in the newsletter. In addition to the monthly newsletters, CET sent six E-blasts to the RecyclingWorks email list. Most of these E-blasts promoted events such as WasteWise forums and the BioCycle Refor15 Conference. One promoted the Mass RBDG Program.

### Website Statistics

Comparing FY16 to FY15, overall activity on the RecyclingWorksMA.com website continued to increase. There were approximately 69,752 sessions in FY16 which is a 7% increase over FY15. Approximately 79% of sessions in FY16 were new visitors while 21% were returning to the site.

	Visitors	Sessions	Page Views
FY2013	12,127	16,566	46,621
FY2014	33,068	43,807	108,203
FY2015	54,000	65,000	143,000
<b>FY2016</b>	<b>56,610</b>	<b>69,572</b>	<b>152,243</b>
Percent Change FY2015 – FY 2016	5%	7%	6%

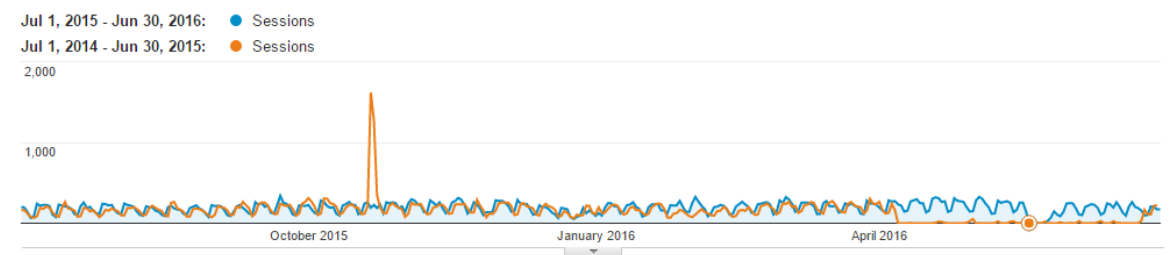
### Audience Overview

Jul 1, 2015 - Jun 30, 2016  
Compare to: Jul 1, 2014 - Jun 30, 2015

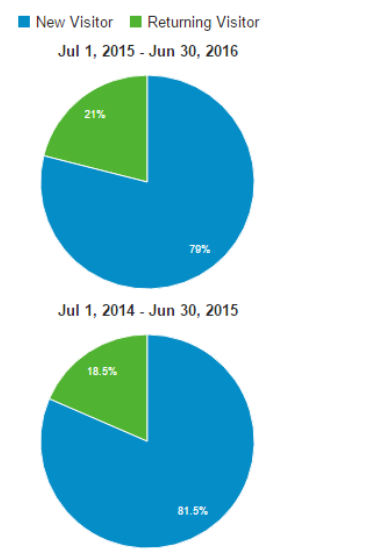
Email Export Add to Dashboard Shortcut

All Users +0.00% Sessions + Add Segment

Overview Sessions vs. Select a metric Hourly Day Week Month



<b>Sessions</b> <b>34.28%</b> 69,752 vs 51,946	<b>Users</b> <b>29.37%</b> 55,521 vs 42,917	<b>Pageviews</b> <b>32.35%</b> 149,315 vs 112,818
<b>Pages / Session</b> <b>-1.44%</b> 2.14 vs 2.17	<b>Avg. Session Duration</b> <b>9.92%</b> 00:01:56 vs 00:01:46	<b>Bounce Rate</b> <b>-2.35%</b> 65.38% vs 66.95%
<b>% New Sessions</b> <b>-3.12%</b> 78.94% vs 81.48%		



## Marketing

In FY16, promotional activities have included press releases, media interviews, articles for publications, articles in association and Chambers of Commerce newsletters, conference tabling, and speaking engagements/presentations.

## Media Engagement & Promotion

CET wrote and distributed five RecyclingWorks-related Press Releases:

Topic	Date	Related Articles
One year anniversary of Commercial Organics Waste Ban	10/5/2016	
Food donation guidance for businesses in Massachusetts	11/17/2016	MetroWest Daily News (2)
MassDEP's EPA Food Recovery Challenge Endorser of the Year Award	11/19/2015	WCVB-Boston
CET's EPA Environmental Merit Award	5/11/2016	BioCycle newsletter, iBerkshires, Berkshire Eagle
CET's Environmental Business Council EBEE Award	6/3/2016	

CET attended and/or presented at the following 34 events to present and promote RecyclingWorks, the Commercial Organics Waste Ban, food donation guidelines, and other topics.

Event Name	Date
Leading By Example	7/14/2015
Commissioner's Summer Speaker Series	7/22/2015
Electronics Recyclers International tour	9/3/2015
Western Mass MRC anaerobic digester tour	9/29/2015
Hampshire Council of Governments meeting	10/16/2015
BioCycle REFOR15 - Source separation	10/21/2015
BioCycle REFOR15 - Tools of the organics diversion trade	10/21/2015
Green Needham - Food Donation BMPs	10/22/2015
Food Day at the State House	10/23/2015
SWAC Meeting	10/27/2015
Barnstable Health Agents meeting - Food donation	10/30/2015
EBC Solid Waste Management Program	11/12/2015
Organics Subcommittee Meeting - Food Donation BMPs	12/1/2015
Organics Subcommittee Meeting - FY15 recap / FY16 preview	12/1/2015
Center for Community Deliberation Food Planning Meeting	12/14/2015
Toxics Use Reduction Institute	1/27/2016
EBC C&D Materials Regional Summit	1/28/2016

Event Name	Date
SWAC Meeting	2/4/2016
American Biogas Council webinar	2/18/2016
EPA Webinar on food recovery in the hospitality sector	2/25/2016
R3 Conference - Food Donation and the Commercial Organics Waste Ban	3/29/2016
MA Hospital Association	4/7/2016
Café de Boston - Earth Day EPA press event	4/20/2016
Northampton CoC Greening Your Business Workshop	4/22/2016
Practice GreenHealth Webinar on Food Waste Assessment & Prevention	5/4/2016
Greening Your Biz for Food Processors workshop	5/5/2016
Western MA MRC	5/5/2016
Western Mass Green Consortium Green Night	5/11/2016
Leading By Example	5/17/2016
Greater Quabbin Food Alliance	6/7/2016
Needham Food Waste Workshop	6/7/2016
Marlborough Food Waste Workshop	6/14/2016
SWAC Meeting	6/24/2016
Harvard Conference - State Policy Implementation Session	6/28/2016

CET conducted outreach to many municipalities, Chambers, and appropriate organizations regarding RecyclingWorks, the Commercial Organics Waste Ban, and the Best Management Practices for Food Donation.

### **Promotional Materials**

CET created a new rack card about RecyclingWorks that is sized to either display on a rack when tabling or fit in an envelope for mailing. These cards are displayed when CET does outreach events. They are shared with Boards of Health and partner organizations upon request to distribute to businesses.

### **Notice of Non-Compliance (NON) Outreach**

RecyclingWorks continued to conduct outreach to waste generators which have received NONs from MassDEP for waste ban non-compliance and those which haven't returned to compliance. In addition, businesses which have been issued warning letters by MassDEP for waste ban material violations have been contacted and encouraged to assess current recycling systems. In all cases, RecyclingWorks assists these businesses in responding to Waste Ban Inspectors and encourages technical assistance. In FY16, RecyclingWorks staff worked with 84 generators through NON outreach. Thirty-five of these generators have been returned to compliance, 38 are still in process, and 11 were not implemented.

### **Consumer Guidance/ Generator Contracting Guidance BMP**

In FY16, CET began working on developing guidance to help generators contract for recycling, organics, and trash services and/or make changes to existing contracts. The dynamic between generator and hauler is key to the success of any diversion program and an important component of technical assistance. In FY16, CET contacted 20 haulers to invite input and completed interviews with eight haulers to get their feedback on the topic. Based on the hauler input, three overlapping themes were identified. This included the importance of building relationships and communications between hauler and generator, training and informing employees, and negotiating contracts. In FY17, stakeholder meetings with haulers, generators, and property managers will gather additional input and feedback to refine these topics. A Best Management Practices for hauler contracting is in process with a completion expected in FY17.

### **WasteWise**

CET continues to promote the Massachusetts chapter of WasteWise as well as the EPA WasteWise program and EPA Food Recovery Challenge. CET conducted outreach to promote and facilitate the WasteWise Fall Forum. Instead of hosting a stand-alone WasteWise Spring Forum, RecyclingWorks offered a workshop on food donation in conjunction with the Harvard Food Law and Policy Clinic's "Reduce and Recover: Save Food for People" Conference.

The WasteWise 2015 Fall Forum was held at the EPA Northeast Regional Offices in November 2015. The topics included depackaging and food donation. The EPA also presented WasteWise and Food Recovery Challenge Awards, including a Food Recovery Challenge Endorser of the Year Award to the MassDEP for the RecyclingWorks program. Approximately 35 people attended. CET posted a survey about the Fall Forum that received 13 responses. All survey respondents reported that the forum was an effective use of their time and 84% of respondents reported the forum was "Very Informative" while the remaining two respondents found it "Somewhat Informative".

In June of 2016, RecyclingWorks hosted a workshop on food donation at the "Reduce and Recover" Conference in Cambridge. The workshop included a networking session geared towards food service businesses in the Greater Boston area, as well as a presentation of Food Donation Best Management Practices for both foodservice businesses and regular conference attendees. Approximately 55 people attended. CET sent a survey about the food donation workshop that received 8 responses. Five respondents worked for foodservice operations. Conversations between RecyclingWorks staff and conference attendees generated three to five TAs and two potential future events on food donation. Attendees commented on the value of networking with local food rescue organizations and learning the facts about food donation.

### College & University Forums:

In FY16, MassDEP transferred responsibility for organizing colleges and universities (C&U) forums to RecyclingWorks. CET worked with MassDEP to merge the MassDEP college and university college contact list with CET's C&U contacts. By the end of FY16, the RecyclingWorks C&U list had nearly 300 contacts representing about 100 different colleges and universities. CET sent seven emails to this list over the course of FY16 promoting C&U forums and other topics relevant to the college and university audience. CET conducted outreach to promote and facilitate a C&U Fall Forum in December and a C&U Spring Forum in May.

The C&U Fall Forum was held at Worcester Polytechnic Institute. The topics for this forum included food donation, mattress recycling, and EPA WasteWise and Food Recovery Challenge Awards. Forty-two people attended and eleven of those attendees completed the survey CET posted about the event. Forty-five percent reported attending, at least in part, because they were receiving an EPA Award.

The C&U Spring Forum was held at Worcester State University. CET coordinated with the Leading By Example Program to schedule the C&U Spring Forum immediately following a Leading By Example (LBE) meeting in hopes of attracting new attendees from the LBE group. CET also presented about RecyclingWorks during the LBE meeting. CET staff made connections at the LBE meeting that may generate future TAs; however, only two LBE attendees stayed for the C&U forum. The main topic for this forum was textile recovery during move-out. Presentations included move-out and textile recovery programs at two universities, and a textile recycling business. Fourteen people attended.

### Technical Assistance

Broadly, Technical Assistance (TA) is focused on helping implement general recycling and/or diversion programs for wasted food at businesses and institutions. There is significant customization for each facility to provide a valued and effective service.

The following summary charts demonstrate the number of facilities receiving various forms of Technical Assistance in FY16, broken down by associated section of the work plans. The attached tracking sheet provides detailed information on a facility-by-facility basis.

With the Commercial Organics Waste Ban in its second year, a significant proportion of generators subject to that ban have implemented programs to divert wasted food from disposal. Hence, the number of generators subject to the ban assisted in FY16 dropped by about 30% in comparison to FY15. As commercial organics transitions towards being an existing rather than a new waste ban category, TA's for diversion of wasted food will no longer have separate goals in FY17.

CET had a goal of providing technical assistance to 212 generators in FY16 (120 through mini TA's and 92 through on-site TA's.) CET assisted 242 generators which surpassed this goal by over 14%. The number of on-site TA's was a bit lower than the goal (84 TA's) while the number of mini TA's was significantly higher than the goal (158 mini TA's).

Type	# In Progress	# Completed	Total Assisted	FY16 Assistance Goal
Hospitality	7	8	15	20
Generators Subject to Ban	10	12	22	30
State Facilities	8	5	13	12
Other On-Site TA's	17	17	34	30
Mini-TA	47	111	158	120
<b>Totals</b>	<b>89</b>	<b>153</b>	<b>242</b>	<b>212</b>

**Lessons learned:**

- Geographic areas that lack infrastructure for hauling and processing organics, such as Cape Cod and Martha's Vineyard, present a more complex challenge when promoting new diversion programs for wasted food. Coordination with local efforts to develop composting operations and organics hauling routes can help create opportunities for generators in these areas to divert wasted food.
- Staff changes at entities receiving Technical Assistance can stall potential waste diversion programs.
- In FY16, we received several requests from food pantries for assistance with unusable or leftover food waste they could not use. As with other foodservice operations, RecyclingWorks technical assistance can help divert inedible food from food pantries from disposal.
- For entities with multiple locations, such as Solar City, implementation of diversion program is only successful at locations where there is a manager committed to overseeing the program.
- Organics collected in front-of-house separation programs tend to include a large proportion of compostable service-ware and can have significant contamination, which are not desirable for all compost sites. RecyclingWorks has been effective at mitigating generator expectations and aligning service provider capabilities to improve program implementation for all stakeholders.
- As AD and depackaging systems become more available to the market, RecyclingWorks will stay informed and receptive to these specs and their potential impact on the overall organics market regarding packaging, contamination, and compostable ware.
- State Facilities continue to be an area of need. The message of Lead By Example could be spread by new means to reach a larger audience. Haulers on State Contract could be more proactive to ensure compliance with Waste Bans.
- State Facility equipment applications have been streamlined and are being more consistently utilized. The timeline averages two months from ordering to delivery which is factored into program implementation.
- Facilities which have requested RecyclingWorks assistance after receiving a NON have generally been working on the correction and are looking for approval that their approach is correct.
- The landscape of hauler relationships and pricing of services is changing rapidly and RecyclingWorks is gathering information to determine cost effective solutions for generators. As haulers initiate and expand their organics collection, understanding end site specifications becomes a relevant and necessary step in streamlining diversion programs.
- We are aware of additional unsuccessful on-site digester installations and continue to navigate carefully to offer alternatives.
- Municipal Recycling Coordinators have been a good conduit for RecyclingWorks leads. Municipal ordinances for mandatory recycling or hauler permitting represent opportunity for RecyclingWorks information sharing.

**Compost Site Technical Assistance**

RecyclingWorks continued to offer a new form of Technical Assistance (TA) developed in FY15, to support food waste composting infrastructure in Massachusetts and to help ensure well operated sites by providing consulting advice on Best Management Practices. Utilizing an operational checklist created in close partnership between CET and MassDEP and vetted by the Massachusetts Department of Agricultural Resources (MDAR), three composting industry experts serve as consultants to the program, conducting site visits for approved facilities and producing a report based on their findings. CET conducted outreach through the Organics Subcommittee and the list of registered compost sites in MA as well as municipal composting facilities and other leads. By the end of FY16, Compost Site Technical Assistance was completed for thirteen facilities, with two TAs in progress. In addition, a second tier of assistance was developed to conduct a further study of issues identified in the initial RecyclingWorks operational review report, not including permitting assistance, ongoing operational activities or other activities outside the Tier 1 Operational Checklist categories. At the close of FY16, three active Tier 2 Compost Site TAs were underway.

In addition to the Technical Assistance offered through RecyclingWorks, Compost Workshops were held in Worcester and Barnstable focused on operator competency in compost management and regulatory compliance, with focus on



composting food materials. The workshops were geared towards food materials composting operations registered with MDAR or MassDEP, municipal operators, small scale site operators, and other interested parties considering starting a compost site. Both Workshops were at capacity, with 52 attendees at the March Workshop in Worcester and 25 attendees at the May Workshop in Barnstable.

### **Food Donation Best Management Practices**

Since the Commercial Organics Waste Ban went into effect in October of 2014 there has been increased interest in food donation programs as a strategy to comply with the waste ban. The RecyclingWorks hotline has seen an increase in inquiries about food donation programs, and in January of 2015 RecyclingWorks, MassDEP, EPA Region 1, and the Harvard Food Law and Policy Clinic began a stakeholder engagement process to develop a set of Best Management Practices (BMPs) around food donation. In parallel with the stakeholder process, CET and MassDEP have been working with Harvard to develop legal fact sheets around date labeling, liability and tax implications. The project has been ongoing since January through the end of FY15, and the work continued into FY16. In October of 2015 the BMPs were posted as a web page on the RecyclingWorks website. In FY16 presentations on the food donation BMPs were given at nine separate events reaching over 240 attendees. These events announced the BMPs' existence and how they can be used to leverage donations. Ongoing work has been done to make edits to the BMPs as new information becomes available to keep the BMPs updated with current information.

### **Construction & Demolition Materials Best Management Practices**

In a process that closely mirrors the Food Donation BMPs and Composting BMPs, CET has begun the stakeholder engagement process to develop Best Management Practices for Construction and Demolition Materials. CET and the MassDEP met internally to discuss potential focus areas within this broad topic and developed an outline to focus attention on materials reuse, source separation, and increasing material quality at comingled sorting facilities. CET conducted outreach to recruit contractors, architects, C&D haulers and processors, salvage outlets, building officials, and others involved in the C&D waste stream to participate in this process.

The first stakeholder session was held in conjunction with the June C&D Subcommittee in Boston. In FY17, stakeholder meetings will be held in Central and Western Mass as well as in conjunction with several trade association meetings. C&D BMPs will be drafted in FY17.

### **MassDEP Green Business Specialist**

The Green Business Specialist (GBS) working out of MassDEP's Boston Office has assisted with conducting RecyclingWorks outreach and recruiting businesses for technical assistance. The GBS has continued to update the On-Site Organics Systems Guide as more companies contact RecyclingWorks looking to be added to the guide. The GBS has coordinated with other MassDEP office staff to place orders for recycling equipment for state facilities. In FY16 two orders were placed for equipment at state facilities. The GBS continued work on the Food Donation BMPs, including presenting at 8 separate events on the Food Donation BMPs. The GBS has been involved with the BMP process that started in FY16 around C&D waste management. The GBS updated the list and map of organics processors and companies interested in providing depackaging services. The updated list and map will be posted to the RecyclingWorks website in early FY17. The GBS has supported the overall Organics Action Plan through various tasks assigned and managed directly by MassDEP.