

Food Recovery Cost Analysis

WasteWise 2017 Spring Forum

we make green make senseSM

ESTIMATING FOOD WASTE

What is Commercial Organic Material as defined by the waste ban?

Food Material

Includes but is not limited to: fruits, vegetables, grains, fish, and animal products and byproducts.

Vegetative Material ¹

Plant material

¹ Leaf and yard waste is covered under a separate existing waste ban.

General Conversions

1 ton = 2,000 lbs

Commercial-industrial waste

1 yd³ (cubic yard) = 300 to 600 lbs

Food scraps

55 gallons = 200 to 450 lbs

Based on EPA's standard volume-to-weight conversions.

ESTIMATING USING INDUSTRY STANDARDS

Restaurants

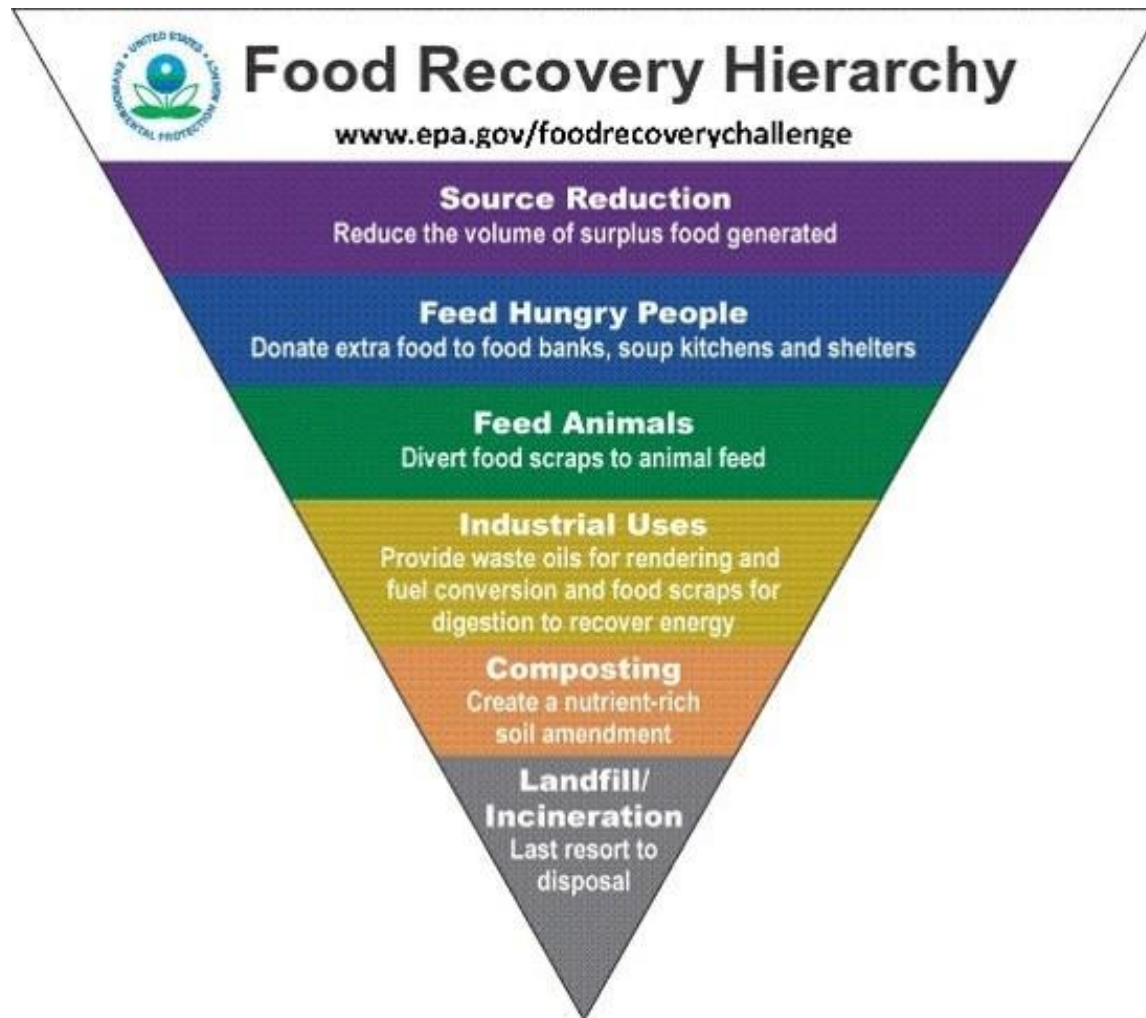
Click [here](#) for a printable, fill-in version of this Commercial Food Waste Disposal Ban threshold estimation guide for restaurants.

	Average Measurement		Material
Meals Served	0.5	lbs/meal	Food waste
Full-Time Employees	1,500	lbs/employee/year	Food waste
Disposed Waste [Full Service]	66	% of disposed waste by weight	Food waste
Disposed Waste [Fast Food]	51	% of disposed waste by weight	Food waste

If you serve **4,000 meals** in one week, then:

$0.5 \text{ lbs/meal} * 4,000 \text{ meals served/week} = 2,000 \text{ lbs/week} = 1 \text{ ton of food waste in one week}$

USING THE EPA HIERARCHY



REDUCTION TECHNIQUES

- Observation
- Measurement
- Stock Rotation
- Menu Planning
 - Just in time cooking
 - Stem to Root/Nose to Tail



FOOD DONATION LAWS



Legal Fact Sheet for Massachusetts Food Donation: Liability Protections - July 2015

Businesses and nonprofits that provide or receive donated food are generally well-protected by laws designed to provide immunity from liability related to such donations. The federal Bill Emerson Good Samaritan Food Donation Act provides liability protection for food donors; and Massachusetts' Good Samaritan law provides additional liability protection to businesses in the state.

The Emerson Good Samaritan Act

The Bill Emerson Good Samaritan Food Donation Act (the Emerson Act) provides a federal baseline of protection for food donors.¹ The Emerson Act covers individuals, businesses, non-profit organizations, and the officers of businesses and non-profit organizations. It also covers gleaners—individuals that harvest donated agricultural crops to a nonprofit organization that distributes to the needy.² These individuals and businesses are protected so long as they donate qualifying types of food in good faith.

- **Qualifying Food:** The donated food must be "apparently wholesome" or an "apparently fit grocery product" and meet "all quality and labeling standards imposed by Federal, State, and local laws and regulations," even if it is not "readily marketable due to appearance, age, freshness, grade, size, surplus, or other conditions."³
- **Exception for Reconditioned Food:** Even if a food does not meet all applicable standards, the donor can still be protected by the Emerson Act as long as (s)he follows all of the Act's reconditioning procedures,⁴ which include:
 - 1) The donor informs the nonprofit of the nonconforming nature of the product;
 - 2) The nonprofit agrees to recondition the item so that it is compliant; and
 - 3) The nonprofit knows the standards for reconditioning the item.⁵

The Emerson Act protects most but not all donations of qualifying food. In order to get protection, the transaction must be structured such that:

- 1) The donor donates to a non-profit organization.⁶
- 2) This nonprofit organization that receives the donated food distributes it to needy populations.⁷ Direct donations from the donor to needy individuals do not seem to be protected by the Act.⁸
- 3) The ultimate recipients do not pay for this donated food.⁹ However, if one nonprofit donates food to another nonprofit for distribution, the Act allows the first nonprofit to charge the distributing nonprofit a nominal fee to cover handling and processing costs.¹⁰

So long as these criteria are met, the Emerson Act is quite protective of donors, and does not hold a donor liable unless the donor acts with gross negligence or intentional misconduct.¹¹

- **Gross Negligence** involves "voluntary and conscious conduct (including a failure to act)" by a person or organization that knew when the donation was made that the donated food was likely to have harmful health impacts.¹²

¹ 42 U.S.C.A. §1791 (West 2015).

² *Id.* §1791(b)(5).

³ There is an exception for mislabeled food products that are "not readily marketable," which can also be protected so long as the donor explains the mislabeling to the donee, and the donee has sufficient knowledge to and does recondition the product to meet applicable standards. *Id.* §1791(b)(1)-(2).

⁴ *Legal Guide to Food Recovery*, U. Ark, L.L.M. Dir't or Asst., & Food Law 10 (2013), available at

<http://law.uark.edu/documents/2013/06/Legal-Guide-To-Food-Recovery.pdf>.

⁵ *Id.*

⁶ The Act defines a non-profit as an incorporated or unincorporated entity that satisfies these requirements: (1) operates "for religious, charitable, or educational purposes" and (2) "does not provide net earnings to, or operate in any other manner for the benefit of any officer, employee, or shareholder." 42 U.S.C.A. §1791(b)(9) (West 2015).

⁷ *Id.* §1791(c).

⁸ *See id.*

⁹ *Id.* §1791(b)(3).

¹⁰ *Id.*

¹¹ *Id.* §1791(c)(3).



Harvard
Food Law and Policy Clinic
A Division of the Center for Health Law and Policy Innovation

Legal Fact Sheets:

- Date Labeling
- Tax Incentives
- Liability Protections

DONATION TAX INCENTIVES

General tax deduction:

Basis Value

Enhanced tax deduction, deduct the smaller of:

(a) Basis Value x 2, or

(b) Basis Value + Expected Profit Margin/2

[expected profit margin = fair market value – basis value]

DONATION TAX INCENTIVES

Example: A grocery store donates potatoes with a fair market value of \$100. The basis value of these potatoes was \$30.

General deduction = Basis Value = \$30

Enhanced deduction, deduct the smaller of:

(a) Basis Value x 2 = \$30 x 2 = \$60, or

(b) Basis Value + Expected Profit Margin/2 = \$30 + (\$100-\$30)/2 = \$65

The enhanced deduction would be \$60.

DIVERSION METHODS

- Animal Feed
- Anaerobic digestion
- Composting



DIVERSION CONTAINERS

- Buckets, carts, small dumpsters, compactors
- Pricing varies- may include cart rental and/or liners



Variables



Tonnage/month
Tip Fee
Haul Charge
Meals Served/Week
Amt. Food Waste/Meal
Compost Rate/Cart
Assumptions: 4.33 weeks/month
201 gallons/yard
Compost weighs about 6lbs/gallon
65 gal cart filled 3/4 full weighs about 275 lbs
1 ton of food waste will fill 7-8 carts

Variables	
Tonnage/month	50
Tip Fee	\$75
Haul Charge	\$150
# Meals Served/Week	4000
Amt. Food Waste/Meal	0.5 lbs
Compost Rate/Cart	\$13
Assumptions:	
4.33 weeks/month	
201 gallons/yard	
Compost weighs about 6lbs/gallon	
65 gal cart filled 3/4 full weighs about 275 lbs	
1 ton of food waste will fill 7-8 carts	

Weekly Compost Diversion Potential Pounds

# meals * lbs. waste/meal	carts/week	cost/week	cost/year
2000	7.3	\$94.55	\$4,916.36
Avoided disposal cost		\$75.00	\$3,900.00
Net savings		-\$19.55	-\$1,016.36

Compost Diversion Potential Savings

# meals * lbs. waste/meal	carts/week	cost/week	cost/year
2000	7.3	\$94.55	\$4,916.36
Avoided disposal cost		\$75.00	\$3,900.00
Net savings		-\$19.55	-\$1,016.36
Compactor Service			
(compost tons/year)/(optimum tons/haul) = # of hauls saved			
7.4			
Annual Haul Charge Saved			\$1,114.29
Total savings including haul charge			\$97.92

VARIABLES

- Different collection methods/cost structures
- Collecting compostable products as well as food
- Additional container cleaning/maintenance

NON MONETIZED BENEFITS

- Cleaner waste area
- More engaged employees and customers
- Reducing food insecurity
- Avoiding failed loads, rejections, or violation notices

www.recyclingworksma.com

(888) 254-5525

info@recyclingworksma.com

** See accompanying pdf, “Food Waste Cost Considerations Handout,” for more information.

we make green make senseSM

Heather Billings | (508) 479-37133 | heather.billings@cetonline.org